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UNIVERSITY OF SOUTHAMPTON

FACULTY OF BUSINESS, LAW AND ART

School of Law

**Environmental Science and Article 121(3) of the United Nations
Convention on the Law of the Sea**

by

Suraya Binti Harun

Thesis for the degree of Doctor of Philosophy

March 2017

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ABSTRACT

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**ENVIRONMENTAL SCIENCE AND ARTICLE 121(3) OF THE UNITED NATIONS
CONVENTION ON THE LAW OF THE SEA**

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The impact of Article 121(3) of the United Nations Convention on the Law of the Sea on 'rock' islands is a critical issue, affecting the extent of their maritime entitlement, namely whether they have the right to an exclusive economic zone and a continental shelf, or otherwise. The required criteria for such rocks to be able to sustain human habitation or have an economic life of their own which determine the outcome of their maritime entitlement had triggered the need to ascertain the elements that satisfy these criteria.

An investigation into relevant available sources and materials such as the legislative history of the provision, judicial decisions, State practice and views by maritime legal experts and other scholars has revealed the complexity and difficulties in identifying a common understanding of the matter, with particular regard to States as the directly affected party under this provision which thus calls for other ways that could contribute to address the issue.

This research thus applied environmental science as one of the means to contribute in providing a reasonably acceptable starting point for States that could be used if the need arises. A more serious attitude towards the application of scientific evidence, with primary regard to the relationship between humans and their environment, should thus be given as it can provide a platform for States to initiate negotiations concerning the matter.

Table of Contents

Table of Contents	i
List of Figures	ix
Declaration of Authorship	xi
Acknowledgements	xiii
Table of Abbreviations	xiv
PART 1	
INTRODUCTION	1
<u>CHAPTER 1</u>	
BACKGROUND	1
1. Introduction	1
1.1 A brief understanding of selected maritime features of the seas	4
2. The meaning of 'Island' under the International Law of the Sea	6
2.1 International law definition of 'Island'	6
(a) 1958 Convention on the Territorial Sea and the Contiguous Zone	7
(b) 1982 UNCLOS: Article 121	11
2.2 Maritime boundary concerns affected by the definition	14
3. The Law in its practical application: A Conundrum – Still subpar and 'sans solution'?	15
3.1 The effect of Article 121(3) in its interpretation and application: A snapshot of past, current and potential disputes	15
3.2 The importance of its clear determination: Maritime boundary and related effects	23

PART 2

THE ELEMENTS UNDER ARTICLE 121(3) OF UNCLOS AND LEGAL UNDERSTANDING27

CHAPTER 2

THE VIENNA CONVENTION ON THE LAW OF TREATIES: ARTICLES 31 and 32 27

4.	Introduction: The VCLT and Article 121(3)	27
5.	General rule of interpretation: Article 31	28
5.1	Overview	28
5.2	The terms of the treaty	31
5.3	Special meanings	32
5.4	Ordinary meaning	33
5.5	Context	37
	(a) Article 31(2)	37
	(b) Article 31(3)	40
	(c) Conclusion	48
5.6	Object and purpose	49
5.7	Conclusion for Article 31	53
6.	Supplementary means of interpretation: Article 32	55
7.	Overall Conclusion	57

CHAPTER 3

LEGISLATIVE HISTORY 59

8.	Introduction	59
9.	The 1923 Imperial Conference	59
10.	The 1930 Codification Conference	60
10.1	'Human habitation' or 'economic life'	60
10.2	Physical characteristics of the insular feature	61
10.3	Compromised definition of 'island'	62
11.	The 1958 Geneva Conventions.....	62
11.1	Occupation and Use	63
11.2	The relevance of size of islands	64
11.3	Intention and purpose	65
	Preliminary conclusion	66

12.	The Second United Nations Conference on the Law of the Sea 1960 (LOSC II)	66
13.	The United Nations Sea-Bed Committee (1968-1973)	66
14.	The Third United Nations Conference on the Law of the Sea (1973-1982) (LOSC III)	69
14.1	Before the final session in 1982	70
	(a) States advocating for different legal effects for different types of islands	71
	(i) Habitation, economic life and location	71
	(ii) Physical characteristics / Size and Terminology of 'rock'	74
	(iii) Foreign occupation/powers/dominion	75
	(b) States advocating for the non-discrimination of all islands	76
	(c) States with merely general views	79
	(d) The conjunction "or"	79
14.2	1982: The final session	81
	Summary/preliminary conclusion	84

CHAPTER 4

STATE PRACTICE	87
15. An Overview	87
16. State actions/positions	88
16.1 Domestic laws	88
16.2 Natural physical characteristics and location	89
16.3 Human habitation and economic life	96
16.4 'Of their own'	102
16.5 Other factors	102
17. Preliminary Conclusion	103

CHAPTER 5

VIEWS BY SCHOLARS AND MARITIME LEGAL EXPERTS	107
18. Introduction	107
19. Maritime Legal Experts and Scholars' views	107
19.1 Article 121(3) : General Comments	107
(a) General ideas on the approach to clarify Article 121(3)	108
(b) Other General Views	109
19.2 Definition of the term 'Rock'	111
19.3 Human Habitation	117
19.4 Economic Life	129
19.5 Conjunction "or"	133
19.6 "Of their Own"	135
19.7 Common Heritage of Mankind	138
20. Preliminary conclusion	141

CHAPTER 6

FINDINGS BY INTERNATIONAL ADJUDICATING BODIES	143
21. Introduction	143
22. International Adjudication findings	143
22.1 Cases where Article 121(3) was mentioned	143
22.1.1 The 12 July 2016 Award on the South China Sea Arbitration: Article 121(3)	153
22.1.2 Brief conclusion on cases where Article 121(3) was mentioned...	182
22.2 Other Cases	184
23. Preliminary conclusion	184

CHAPTER 7

OVERALL CONCLUSION: LEGAL ASPECTS CONTRIBUTING TOWARDS THE CLARIFICATION OF ARTICLE 121(3)	189
24. Conclusion	189

PART 3

ENVIRONMENTAL SCIENCE AS AN AID195

CHAPTER 8

ENVIRONMENTAL SCIENCE AND ISLANDS 195

25. Environmental science and Article 121(3) 195

 25.1 Introduction 195

 25.2 Relevant scientific elements applied 197

 25.3 Types of Islands worldwide 202

 (a) True Islands 203

 (b) Habitat Islands 207

26. Scope of application 208

 26.1 Island Category identified 208

27. Preliminary Conclusion 209

CHAPTER 9

HUMAN SURVIVAL VIS-À-VIS NATURAL ISLAND SURROUNDINGS 211

28. Introduction 211

29. Natural survivability and basic human needs 211

30. Accessibility to resources: The intricacies 213

 30.1 Water 213

 30.2 Food 215

 (a) Importance of soil and water 215

 (b) Rocks and weather resistance 221

 (i) Hard rock: Granites 223

 (ii) Decomposed rocks: weathering and its effects 224

 (iii) Preliminary Conclusion 232

 30.3 Shelter 233

31. Island Conditions 233

 31.1 Introduction 233

 31.2 Island physical environment and ecosystem 233

 31.3 Preliminary Conclusion 238

32. Sustainability	239
33. Overall Conclusion	240

CHAPTER 10

INTEGRATING ENVIRONMENTAL SCIENCE FINDINGS AND CURRENT LEGAL

UNDERSTANDING OF ARTICLE 121(3) 247

34. Generally Acceptable Conclusions: The starting point	247
35. The Integration of Environmental Science Findings and current legal Understanding	250
35.1 Rock	250
35.2 Human Habitation	253
35.3 Economic Life	263
35.4 Sustain	268
35.5 ‘Of their own’	272
35.6 The Conjunction “or”	275
35.7 Evaluation of Maritime Features: The appointed time and the effect of possible changes	277
35.7.1 Introduction.....	277
(a) The Challenges	278
(b) Whether the status of a feature can change over time, and whether there are limits to such evolution	281
(c) The Time for Evaluation	285
35.7.2 Overall Conclusion	295
36. Other considerations	296
36.1 Common Heritage of mankind	296
37. Conclusion	299

PART 4

OTHER FACTORS AND CONCLUSION 303

CHAPTER 11

OBSTACLES AND HINDRANCES 303

38. Introduction	303
------------------------	-----

39.	Factual Reality and the Law - An unbridgeable divide?	303
40.	Conclusion: Addressing the Challenges	308
<hr/>		
	CHAPTER 12	313
	CONCLUSION: A SOLUTION?	313
41.	Summary of Findings and Conclusion	313
42.	A Framework towards the Implementation of Article 121(3)	329
	Figure 1: Flowchart	341
43.	Application of the Article 121(3) Framework on Selected Maritime Features	343
	(a) Sala y Gomez	344
	(b) Baker Island	360
	(c) Okinotorishima	372
	(d) Clipperton Island	388
	43.1 Summary	418
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	List of References	421
	❖ Bibliography	421
	❖ Other references	434
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List of Figures

Figure 1 Flowchart for the Article 121(3) test

DECLARATION OF AUTHORSHIP

I, SURAYA BINTI HARUN declare that this thesis and the work presented in it are my own and has been generated by me as the result of my own original research.

Title of thesis:

ENVIRONMENTAL SCIENCE AND ARTICLE 121(3) OF THE UNITED NATIONS CONVENTION ON THE LAW OF THE SEA

I confirm that:

1. This work was done wholly or mainly while in candidature for a research degree at this University;
2. Where any part of this thesis has previously been submitted for a degree or any other qualification at this University or any other institution, this has been clearly stated;
3. Where I have consulted the published work of others, this is always clearly attributed;
4. Where I have quoted from the work of others, the source is always given. With the exception of such quotations, this thesis is entirely my own work;
5. I have acknowledged all main sources of help;
6. Where the thesis is based on work done by myself jointly with others, I have made clear exactly what was done by others and what I have contributed myself;
7. None of this work has been published before submission.

Signed:

31 March 2017

Date:

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TABLE OF ABBREVIATIONS

AB	Appellate Body
CCAMLR	Conservation of Antarctic Marine Living Resources
CCS	Convention on the Continental Shelf, 1958
CFCLR	Convention on Fishing and Conservation of the Living Resources of the High Seas 1958
CHS	Convention on the High Seas 1958
CIA	Central Intelligence Agency
CLCS	Commission on the Limits of the Continental Shelf
CS	Continental shelf
CTSCZ	Convention on the Territorial Sea and the Contiguous Zone, 1958
DOALOS	Division for Ocean Affairs and the Law of the Sea
ECHR	European Court of Human Rights
EEZ	Exclusive Economic Zone
FAO	Food and Agricultural Organization of the United Nations
GATT	General Agreement on Tariffs and Trade 1994
ICJ	International Court of Justice
ICNT	Informal Composite Negotiating Text
IHB	International Hydrographic Bureau
ILC	International Law Commission
IPCC	Intergovernmental Panel on Climate Change
ISA	International Seabed Authority
ISNT	Informal Single Negotiating Text
ITLOS	International Tribunal on the Law of the Sea
LOSC I	First United Nations Conference on the Law of the Sea, 1958
LOSC II	Second United Nations Conference on the Law of the Sea, 1960

LOSC III	Third United Nations Conference on the Law of the Sea (1973-1982)
LTE	Low tide elevation
nm	nautical miles
NOAA	The National Oceanic and Atmospheric Administration
OOALOS	Office of Ocean Affairs and the Law of the Sea
PCA	Permanent Court of Arbitration
UK	United Kingdom
UN	United Nations
UNCLOS	United Nations Convention on the Law of the Sea, 1982
UNEP	United Nations Environmental Programme
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNGA	United Nations General Assembly
US	United States
VCLT	Vienna Convention on the Law of Treaties, 1969
WFC	World Food Council
WHO	World Health Organization
WMO	World Meteorological Organization
WTO	World Trade Organization

PART 1 INTRODUCTION

Chapter 1 BACKGROUND

1. Introduction

The seas which have long served as a vast reservoir of resources and a medium of communication in the past have progressively necessitated the development of legal rules.¹ Although historically only a limited number of States claimed for the exclusive use and enjoyment of the oceans, this has now changed and overall, States worldwide are asserting their interests on the same. Today, there is also great concern that the common interests of the general community as a whole with regard to the seas are also protected and balanced.²

The interest of States began with the freedom of the high seas, a basic principle of international law,³ and had lengthened to concerns related to 'extended' maritime boundaries. Where historically the concern was merely to have a territorial sea divided from the high seas, the present has now observed States' rising determination to expand their respective maritime belts to their exclusive jurisdiction.⁴ This can be attributed to the growing number of fisheries disputes from the late 1950s, impact of marine technology on scientific research and exploration, marine environmental issues and increasing military uses of the ocean.⁵ With the world's increasing population and growing need for food and resources, this is inevitable; hence, a continuous conflict between two fundamental principles - territorial sovereignty and the freedom of the

¹ M.N. Shaw, *International Law* (Cambridge: Cambridge University Press, 2003), p. 490.

² M.S. McDougal and W.T. Burke, *The Public Order of the Oceans, A Contemporary International Law of the Sea* (1987, New Haven: New Haven Press), p.1.

³ Shaw, *supra* n 1, p. 490; See also B.J. Theutenberg, *The Evolution of the Law of the Sea, A Study of Resources and Strategy with Special Regard to the Polar Regions* (Dublin: Tycooly International Publishing Limited, 1984), at pp. 1-2: The principle of the freedom of the seas was founded by Hugo Grotius' work *Mare Liberum* in 1609 whilst the idea of 'continental shelf jurisdiction' (wherein a coastal state also has sovereignty over the sea bed beyond its territorial seas to the extent of the resources contained therein) was established by President Truman in 1945, thus setting off the greatest revolutions of international law since Hugo Grotius' theory.

⁴ Shaw, *supra* n 1, p. 491.

⁵ P.W. Birnie, "The Law of the Sea Before and After UNCLOS I and UNCLOS II", in R.P. Barston and P.W. Birnie (eds), *The Maritime Dimension* (London: George Allen & Unwin, 1980) pp. 1-3.

seas.⁶ Thus, international tension may continue to persist for the likely reasons of 'security, threats to the marine environment and the pursuit for resources'.⁷ States have become ever more anxious to protect their access to reliable food and energy resources; and claims to potentially rich seabed hydrocarbons and offshore zones have become associated with the politics of energy security. In short, maritime matters have intensified due to States' concern relating to sovereignty, sovereign rights and jurisdictional issues.

International law has thus progressed rapidly since the last century to deal with concerns raised by States worldwide. The development of international law in the use of the seas is thus of no surprise with a series of conferences taking place addressing States' needs, in particular the United Nations (UN) Conferences on the Law of the Sea held in 1958 (LOSC I), 1960 (LOSC II) and from 1973 to 1982 (LOSC III) - resulting in the four 1958 Conventions on the Law of the Sea⁸ and subsequently the 1982 UN Convention on the Law of the Sea (UNCLOS)⁹.

At this juncture, it is important to note that there are a number of factors that can affect the maritime entitlement of coastal states. One crucial factor is the legal status of relevant maritime features, such as whether a feature is a 'full-fledged' island that can generate maritime zones in accordance with Article 121(2) or merely a 'rock' island that would fall under Article 121(3) of UNCLOS. In this regard, UNCLOS provides for the regime of islands as follows:

"1. An island is a naturally formed area of land, surrounded by water, which is above water at high tide.

⁶ *Ibid.*, p. 8; See also E.D. Brown, "Maritime Zones: A survey of claim", in Churchill *et al* (eds), *New Directions in the Law of the Sea* (New York: Oceana, 1973) Vol. III, p.157.

⁷ Barston and Birnie, *supra* n 5, p. 6.

⁸ UN website, <<http://untreaty.un.org/cod/avl/ha/gclos/gclos.html>>, [accessed 18 September 2013]. These Conventions are a result of the first UN Conference on the Law of the Sea held in Geneva from 24 February to 27 April 1958. These Conventions which were done at Geneva on 29 April 1958 are the Convention on the Territorial Sea and the Contiguous Zone 1958 ("CTSCZ 1958") - entered into force on 10 September 1964, Convention on the Continental Shelf 1958 ("CCS 1958") - entered into force on 10 June 1964, Convention on the High Seas 1958 ("CHS 1958") - entered into force on 30 September 1962, Convention on Fishing and Conservation of the Living Resources of the High Seas 1958 ("CFCLR 1958") - entered into force on 20 March 1966; It may also be noted that the Optional Protocol of Signature concerning the Compulsory Settlement of Disputes 1958 was also done at Geneva on 29 April 1958 and entered into force on 30 September 1962.

⁹ This is due to the Third Conference which commenced in 1973; UNCLOS was opened for signature at Montego Bay, Jamaica on 10 December 1982 whilst the Agreement relating to the Implementation of Part XI of the Convention was adopted by the General Assembly of the United Nations on 28 July 1994.

2. Except as provided for in paragraph 3, the territorial sea, the contiguous zone, the exclusive economic zone and the continental shelf of an island are determined in accordance with the provisions of this Convention applicable to other land territory.

3. Rocks which cannot sustain human habitation or economic life of their own shall have no exclusive economic zone or continental shelf.”¹⁰

As a matter of public international law, a rock is not distinct from an island but forms a particular category of island. However, Article 121(3) does not allow for islands which are categorized as ‘rocks’ to have exclusive economic zone (EEZ) or continental shelf (CS) if they cannot sustain human habitation or economic life of their own. On this note, various views have arisen amongst States, maritime scholars and judicial bodies in relation to the many relevant maritime features throughout the world. Although scholars have ventured into interpreting as to the type of rock that would actually be caught under Article 121(3), there has yet to be a thorough and in depth study as well as a consensus as to what is meant by **“sustaining human habitation”** or **“economic life of their own”**.

Accordingly, this thesis will deal with this particular concern which includes not only identifying the various legal understandings of Article 121(3) but also vis-à-vis other relevant data obtained from various non-legal, scientific and technical aspects such as from the geological and ecological perspectives. The conclusion has led to some reasonable and useful interpretations of the terms and has provided some insight as to the approach and way forward that may be undertaken in addressing such circumstances.

It may however be noted that an Award by the Tribunal in the recent South China Sea Arbitration was announced on 12 July 2016;¹¹ and the Tribunal in this case had amongst other things directly dealt with Article 121(3) of UNCLOS. Nevertheless, it may be pointed out that there are some findings by the Tribunal relating to Article 121(3) that have been argued to be questionable and would require further clarification, the full discussion of which will be seen in Chapter 6.

¹⁰ Article 121 of UNCLOS.

¹¹ In the Matter of the South China Sea Arbitration before an Arbitral Tribunal Constituted under Annex VII to the 1982 UNCLOS between The Republic of the Philippines and The People’s Republic of China (PCA Case No 2013-19) - Award 12 July 2016 (“South China Sea Arbitration Award”).

1.1 A brief understanding of selected maritime features of the seas

In order to address this crucial factor, namely the criteria that would determine whether a feature conforms to Article 121(3) or otherwise, the basic physical attributes of some of the relevant maritime features in the seas first need to be understood since this aspect can have legal significance on the maritime boundaries of a State.¹² In this respect, the seas consist of an immense range of features and natural resources that constitute its make-up, a combination of the seabed and subsoil as well as its water column. The elevations contained therein have numerous terms denoting them as reefs, atolls, cays, banks, shoals, islands, islets, rocks and so forth.¹³

Taking into consideration the maritime features that are specifically mentioned in Article 121(3), the physical description of 'island' and 'rock' would be of paramount importance. On this note, an **island** has been physically described as a mass of land that is surrounded by water and is smaller than a continent.¹⁴ They can exist in seas, oceans, rivers, or lakes and a group is known as an archipelago.¹⁵ Relatedly, an **islet** is a very small island.¹⁶ Whereas a **rock** in the context of earth sciences or geological science means, 'any aggregate of minerals that make up part of the earth's crust. It may be unconsolidated, such as sand, clay or mud, or consolidated, such as granite, limestone or coal'.¹⁷

Nevertheless, since other maritime features may also be considered as an 'island' or a 'rock' in the context of Article 121, a brief description of some of these features are also necessary. For example, a **reef**¹⁸ is a 'rocky outcrop lying in shallow water, especially one

¹² D.W. Bowett, *The Legal regime of Islands in International Law* (New York: Oceana Publications, Inc., 1979), p.1.

¹³ *Ibid.*, p.1.

¹⁴ The American Heritage Dictionary of the English Language, 5th Edition (Houghton Mifflin Company, 2011), <<http://www.ahdictionary.com/word/search.html?q=island&submit.x=30&submit.y=18>> [accessed 1 October 2013]. The regime of islands have been described in Article 121 of UNCLOS (*supra* n 10) and Article 10 of Convention on the Territorial Sea and the Contiguous Zone 1958.

¹⁵ Encyclopaedia Britannica - accessed on 26 June 2013 at <<http://www.britannica.com/EBchecked/topic/295958/island>>.

¹⁶ The American Heritage Dictionary, *supra* n 14, <<http://www.ahdictionary.com/word/search.html?q=islet&submit.x=-1091&submit.y=-210>> [accessed 4 June 2013]; Collins English Dictionary, Complete and Unabridged (HarperCollins, 2003), <<http://www.thefreedictionary.com/islet>> [accessed 4 June 2013]; See also Robert L. Bates and Julia A. Jackson (eds), *Glossary of Geology* (American Geological Institute, 1980) 2nd Edition, p. 329.

¹⁷ Collins English Dictionary, *ibid.*, <<http://www.thefreedictionary.com/rock>> [accessed 4 June 2013]; See also similar definition in Bates and Jackson, *ibid.*, p. 542; G.K. Walker (Gen. ed), *Definitions for the Law of the Sea, Terms Not Defined by the 1982 Convention* (International Law Association, American Branch: Martinus Nijhoff, 2012), p.286; Also, 'rock' has been referred to in Article 76 and Article 121(3) of UNCLOS.

¹⁸ Reefs have been specifically mentioned in Article 6 of UNCLOS.

built up by corals or other organisms',¹⁹ 'the top of which lies close to the surface of the sea,'²⁰ 'or is exposed at low tide'.²¹ In ecology, it is additionally described as a 'rigid, wave-resistant structure that is built up by carbonate organisms.'²² Comparatively, an **atoll**²³ is 'a ring-shaped group of coral islands that are surrounded by deep ocean water' which encloses a shallow lagoon.²⁴ However, an atoll has also been described to be 'with or without an island situated on it'.²⁵ In ecology, its description includes being 'built of coral and/or calcareous algae on an existing structure such as an extinct, submerged volcano'.²⁶

A shoal however has been described as a sandbank or sandbar that makes the water shallow,²⁷ or one that is visible at low water,²⁸ or a sandy elevation of the bottom of a body of water, constituting a hazard to navigation;²⁹ whilst a **cay** is a 'small, flat, marine island formed from coral-reef material or sand'.³⁰

¹⁹ World Encyclopedia (Oxford Reference: Phillip's, 2004), <<http://www.oxfordreference.com/view/10.1093/acref/9780199546091.001.0001/acref-9780199546091-e-9754?rkey=vps2SO&result=3&q=reef>> [accessed 5 June 2013].

²⁰ Collins English Dictionary, *supra* n 16, <<http://www.thefreedictionary.com/reef>> [accessed 4 June 2013].

²¹ Y. Tanaka, *The International Law of the Sea* (Cambridge University Press, 2012), p.68; See also H.W. Jayewardene, *The Regime of Islands in International Law* (Dordrecht: Martinus Nijhoff, 1990), p.95: Jayewardene however adds that although reefs come under the category of low tide elevations (LTEs), 'some elements may be permanently elevated above sea level'; See also similar definition in Walker, *supra* n 17, pp. 279-280.

²² M. Allaby, *A Dictionary of Ecology*, 4th Edition (Oxford University Press, 2010), <<http://www.oxfordreference.com/view/10.1093/acref/9780199567669.001.0001/acref-9780199567669-e-4719>> [accessed 26 June 2013].

²³ Although 'atoll' has been mentioned in Article 6 of UNCLOS, there is however no specific definition of the same.

²⁴ Geology.com, *Geology Dictionary: Geology and Earth Science Terms and Definitions* (2013), <<http://geology.com/dictionary/gloss//ary-a.shtml>> [accessed 26 June 2013]; See also similar definition in the context of earth sciences or physical geography from Collins English Dictionary, *supra* n 16, <<http://www.thefreedictionary.com/atoll>> [accessed 1 October 2013].

²⁵ Division for Ocean Affairs and the Law of the Sea, Office of Legal Affairs, *The Law of the Sea (DOALOS), Baselines: An Examination of the Relevant Provisions of the United Nations Convention on the Law of the Sea, Appendix I (Glossary of Technical Terms)*, (New York: United Nations, 1989)(UN Sales No.E.88.V.5*), p. 50.

²⁶ Allaby, *supra* n 22, <<http://www.oxfordreference.com/view/10.1093/acref/9780199567669.001.0001/acref-9780199567669-e-462?rkey=nefVgb&result=2&q=atoll>> [accessed 26 June 2013; See also The American Heritage[®] Dictionary, *supra* n 14, <<http://www.ahdictionary.com/word/search.html?q=atoll&submit.x=-1091&submit.y=-210>> [accessed 1 October 2013].

²⁷ Merriam-Webster, *Online Dictionary* (Merriam-Webster, Incorporated, 2013), <<http://www.merriam-webster.com/dictionary/shoal>> [accessed 26 June 2013]. There is no mentioning of this feature in UNCLOS.

²⁸ Additional description in the context of earth sciences or physical geography at Collins English Dictionary, *supra* n 16, <<http://www.thefreedictionary.com/shoal>> [accessed 4 June 2013].

²⁹ The American Heritage[®] Dictionary, *supra* n 14, <<http://www.ahdictionary.com/word/search.html?q=shoal&submit.x=-1091&submit.y=-210>> [accessed 2 October 2013].

³⁰ M. Allaby (Ed), *A Dictionary of Earth Sciences*, 3rd Edition (Oxford University Press, 2008), <<http://www.oxfordreference.com/view/10.1093/acref/9780199211944.001.0001/acref-9780199211944>>

Notably, some of these maritime features have been mentioned in the Law of the Sea Conventions in which legal attributes have been ascribed to them for their respective legal effects.³¹ However, for the purpose of clarifying Article 121(3) of UNCLOS, this thesis will focus more significantly on islands or more specifically 'rock' islands in the following chapters.

2. The meaning of 'Island' under the International Law of the Sea

2.1 International law definition of 'Island'

Throughout the years, the main legal documents that have emerged and been generally accepted by states worldwide as part of international law of the sea are the 1958 Geneva Conventions and UNCLOS.

In this respect, the 1958 Convention on the Territorial Sea and the Contiguous Zone (CTSCZ 1958) and UNCLOS have defined 'island' which term was first put forth as one of the bases of discussion in the 1930 League of Nations Conference for the Codification of International Law ('1930 Codification Conference'). The Preparatory Committee for the 1930 Codification Conference met at Geneva in 1929³² and had examined the replies made by Governments to the request put to them for feedback on amongst other things, questions pertaining to 'territorial waters'.³³ Under this subject matter, feedback regarding the definition of 'island' was received.³⁴ Consequently, the report of the 1930 Codification Conference defined an island to be 'an area of land, which is permanently

e-1332?rkey=1n13F8&result=2&q=cay> [accessed 26 June 2013]; This term has not been mentioned in UNCLOS; See also similar definitions in *supra* n 27, <<http://www.merriam-webster.com/dictionary/cay?show=0&t=1372243416>> [accessed 26 June 2013]; The American Heritage® Dictionary *supra* n 14, <<http://www.ahdictionary.com/word/search.html?q=cay&submit.x=-1091&submit.y=-210>> [accessed 2 October 2013]; and Collins English Dictionary, *supra* n 16, <<http://www.thefreedictionary.com/cay>> [accessed 4 June 2013] from the earth sciences or physical geography context.

³¹ e.g. Article 10 of the 1958 CTSCZ - defining 'island'; Articles 1 and 5 of the 1958 CCS - where islands have been referred to; Article 6 of UNCLOS for the legal effect of a reef, the provision of which has also encompassed islands and atolls in explaining the legal attributes of a reef; Article 13 of UNCLOS for LTEs; and Article 121 of UNCLOS for islands and rocks.

³² S. Rosenne (ed), *League of Nations, Conference for the Codification of International Law (1930)* (New York: Oceana Publications, Inc., 1975) Volume II, pp. 223, 225 – i.e. 28 Jan - 17 Feb 1929 and 6-11 May 1929.

³³ *Ibid.*

³⁴ *Ibid.*, p. 270.

above [the] high-water mark'.³⁵ Its commentary however did not exclude artificial islands from the definition.³⁶

(a) 1958 Convention on the Territorial Sea and the Contiguous Zone

At the outset, as between State parties to both the Conventions, the legal definition of 'island' under the CTSCZ 1958 is applicable only before UNCLOS came into force as the latter now prevails over the former.³⁷ However, State Parties to the CTSCZ 1958 who have yet to become party to UNCLOS should still be bound by the provisions contained in the CTSCZ 1958. Regardless, it is equally important to understand the meaning of 'island' in the 1958 Conventions in order to identify what was then understood as 'island' for purposes of contributing to today's analysis.

Herein, Article 10(1) of CTSCZ 1958 provides that an island is '*a naturally formed area of land, surrounded by water, which is above water at high tide*' and its territorial sea '*is measured in accordance with the provisions of these articles.*' Hence, to be considered as an 'island' therein, a feature has to be **naturally formed** and **surrounded by and above water at high tide**; and as a consequence, capable of having a territorial sea of its own.

For purposes of clarity, a number of observations may be made in determining what '**naturally formed**' signifies in this context. A simple reading of the phrase shows that 'naturally formed' means being formed in a natural state and not man-made. Some views on the phrase included one who finds that 'naturally' or 'natural island' may refer either 'to the material composing the island under consideration' or 'to the way the island is formed'; meaning that, the artificiality of an island may depend on 'the nature of the material composing it' for instance, being 'constructed by concrete' or the way it is formed such as land being artificially placed on the sea-bed.³⁸ Article 10(1) was viewed to encompass both these situations in that an island has to be 'by natural process, without

³⁵ S. Broder and J. Van Dyke, *Ocean Boundaries in the South Pacific*, 4 U Hawaii Law Review, 1 (1982), p. 30 - referring to the League of Nations Conference for the Codification of International Law, League of Nations Document C230. M.117.1930.V (1930), at 219.

³⁶ *ibid.*, p. 30 – referring to the comment made on Article 9 (Islands); See also comment made by the then Special Rapporteur, Mr. François as contained in the Yearbook of the International Law Commission, 1954 Vol. I - See A/CN.4/SR.259, p.90.

³⁷ Article 311 of UNCLOS.

³⁸ N. Papadakis, *The International Legal Regime of Artificial Islands* (Leyden: Sijthoff International, 1977), p. 93.

human intervention, as in the case with dumping of sand and stones in shallow waters', and excludes 'any human construction like building up with concrete, installations, etc.'³⁹

Prior to this, there were also other artificial installations not considered 'natural' as identified by the then Special Rapporteur, François in 1954 as drafted in his third report when discussing the definition of islands;⁴⁰ namely, an island which is 'formed artificially by accumulation of sand or rubble', a lighthouse built on an area of land which was only above water at low tide', other technical installations used for the exploitation of the seabed such as a meteorological station, and dwellings built on piles erected in the sea and groups which constituted actual villages, such as those found in South East Asia.⁴¹

However, it is a well-established doctrine today that artificial islands or installations cannot generate a territorial sea of its own.⁴² Article 5(4) of the 1958 Convention on the Continental Shelf (CCS 1958) also provides that installations do not possess the status of islands. Thus, an artificial island or installation is not an island.⁴³ This includes floating natural formations which are detached from the seabed and liable to move such as icebergs;⁴⁴ although coral islands, not geologically part of the seabed since their formation are in fact by the 'gradual accretion of skeletons of the coral polyp in temperate waters', forming first reefs and subsequently islands, are still 'naturally formed' and should thus generate a territorial sea.⁴⁵

Nevertheless, it can sometimes be challenging to decide whether an island is natural or artificial especially when a natural island is progressively disappearing due to the natural environment and man-made earthworks are being carried out to ensure that the island remains above sea level at high tide.⁴⁶ However, there is doctrinal opinion that has suggested that 'the artificial enhancement of an existing 'rock' so as to make it habitable or capable of sustaining an economic life of its own does not transform it into a 'full-

³⁹ *Ibid.*

⁴⁰ Yearbook of the International Law Commission 1954 Vol. I ("ILC Yearbook 1954") Summary Record of the 260th meeting - 2 July 1954: A/CN.4/SR.260, p.91.

⁴¹ *Ibid.*

⁴² Bowett, *supra* n 12, p.2; see also Article 60(8) of UNCLOS.

⁴³ Tanaka, *supra* n 21, p.63-64: Tanaka had however stated this when referring to Article 121 of UNCLOS rather than the CTSCZ 1958.

⁴⁴ C.R. Symmons, *The Maritime Zones of islands in International Law* (The Hague: Martinus Nijhoff, 1979), p. 22.

⁴⁵ Bowett, *supra* n 12, pp. 4-5.

⁴⁶ Papadakis, *supra* n 38, pp. 93-94.

fledged' island, but the artificial maintenance of an island to prevent it from becoming a 'rock' under Article 121(3) might be permissible'.⁴⁷

In short, it may be deduced that man-made features should not be considered as naturally formed and thus could not be an island within the meaning of Article 10 of the CTSCZ 1958.

The other criterion which has to be met, namely being surrounded by and above water at high tide is also in its simple language clear that low tide elevations (LTE)s should not be considered as an island and thus would not have the maritime entitlement of an island. Despite that a number of delegations at the 1930 Hague Conference had different views, such as the preference for high tide, low tide or even no elevation at all provided navigation is impossible above it⁴⁸ for it to still be considered an island, the International Law Commission (ILC) decided to follow the compromise recommended in the report of the Second Committee at the 1930 Conference which differentiates the entitlement to be given to high tide elevations from LTEs.⁴⁹ Thus, Article 10 of the CTSCZ 1958 requires a feature to be surrounded by and above water at high tide before it can be considered as an island.

There appear to be no further criteria specifically required by the 1958 Geneva Conventions. This causes every island, islet or rock, regardless of its size to have a territorial sea, as was also the customary international law position before 1958.⁵⁰ Consequently, there is '*per se no bar to using uninhabited rocklets which meet this criterion as a basepoint for the territorial sea.*'⁵¹

However, apart from the entitlement of a territorial sea as provided by the CTSCZ 1958, islands are also entitled to a CS.⁵² There was no disagreement over the principle of

⁴⁷ D. Freestone and J. Pethick, "Sea Level Rise and Maritime Boundaries, International Implications of Impacts and responses" in G.H. Blake (ed), *Maritime Boundaries: World Boundaries volume 5* (London, New York: Routledge, 1994), p.76 - citing A.H.A. Soons, *The Effects of Sea Level Rise on Maritime Limits and Boundaries* 37 *Netherlands International law Review*, (1990) pp.207-32 at 223.

⁴⁸ Bowett, *supra* n 12, p.7.

⁴⁹ *ibid.*, p.6.

⁵⁰ R.R. Churchill & A.V. Lowe, *The Law of the Sea, 3rd Edition* (Manchester: University Press, 1999), p. 49; See also D.P. O'Connell and I.A. Shearer (ed), *The International law of the Sea* (Oxford: Clarendon Press, 1984) Volume II pp. 715 – 723 at 714 – 716: During the work of the ILC on the subject of the continental shelf, those who spoke at the 1953 debates agreed that islands would cover all sizes.

⁵¹ Birnie, *supra* n 5, p. 16.

⁵² Bowett, *supra* n 12, p.139; See also UN Doc. A/CN.4/SER.A/1956 – i.e. Commentary to Article 67 para 10 of the Yearbook of the International Law Commission 1956 Vol. II ("ILC Yearbook 1956"), i.e. 'The term

entitlement of islands on this when proposed during the Fourth Committee meeting of the 1958 LOSC.⁵³ The CCS 1958 reflected customary international law in the drafting of the general principle on the entitlement of islands⁵⁴ and provides in Article 1 that ‘... *the term ‘continental shelf’ is used as referring... (b) to the seabed and subsoil of similar submarine areas adjacent to the coasts of islands.*’ The International Court of Justice (ICJ) had referred to Articles 1 to 3 of the CCS 1958 ‘as reflecting, or as crystallizing, received or at least emergent rules of customary international law relative to the continental shelf’.⁵⁵ Furthermore, State practice on CS entitlement for islands is also common, be it regarding ‘island-states’ or ‘offshore islands’ of continental states.⁵⁶

In addition, by implication, Article 24(2) of the CTSCZ 1958 also meant that an island is entitled to a contiguous zone.⁵⁷ Noticeably, the 1958 Geneva Conventions have not made any distinction on the legal effects of further criteria for a maritime feature to be an island, such as its capability to sustain human habitation or have an economic life of its own. Such distinction was only formally discussed in the debate of the Informal Composite Negotiating Text (ICNT)⁵⁸ at the Third UN Law of the Sea Conference (LOSC III) in which further criteria were later embedded as in Article 121(3) of UNCLOS 1982. The EEZ was also not referred to in relation to an island under the 1958 Geneva Conventions, understandably so, since such concept only appeared as a formal proposal much later.⁵⁹

In summary, under the 1958 Geneva Conventions, an island may simply be defined as a maritime feature which is naturally formed, surrounded by water and above water at high

"continental shelf" does not imply that it refers exclusively to continents in the current connotation of that word. It also covers the submarine areas contiguous to islands.’; See also D.E. Karl, *Islands and the Delimitation of the Continental Shelf: A Framework of Analysis*, *The American Journal of International Law*, Vol. 71 No. 4 (Oct 1977), pp. 642-673 at 642.

⁵³ Bowett, *supra* n 12, p.139 referring to 1958 UN Conference on the Law of the Sea, *Official Records* Vol. VI: Fourth Committee, A/CONF.13/42, p.47 and A/CONF.13/C4/L26.

⁵⁴ North Sea Continental Shelf, Judgment, I.C.J. Reports 1969 (“North Sea Continental Shelf Cases”), p. 3, at para 63; see also *supra* n 12, p. 139.

⁵⁵ North Sea Continental Shelf Cases, *supra* n 54, para 63.

⁵⁶ e.g. New Zealand’s Continental Shelf Act 1964, s. 9; Australia’s Continental Shelf (Living Natural Resources) Act 1968, s.5; See also Bowett, *supra* n 12, p. 140.

⁵⁷ Churchill & Lowe, *supra* n 50, p.49; Article 24(2) of the CTSCZ 1958 provides that the coastal State’s contiguous zone may not extend beyond twelve miles from the baseline from which the breadth of the territorial sea is measured.

⁵⁸ UN Doc. A/CONF.62/WP.10.

⁵⁹ W.C. Extavour, *The Exclusive Economic Zone – A Study of the Evolution and Progressive Development of the International Law of the Sea*, 2nd Edition (Institut Universitaire de Hautes Etudes Internationales, 1978), p.171-172. The concept first appeared during the deliberations within the United Nations as a direct result of the introduction by the Ambassador of Malta to the Organisation regarding the fate of the oceans and their resources in 1967.

tide. These attributes enable it to generate its own territorial sea, contiguous zone as well as CS.

It is now necessary to look at current international law in which as at 23 September 2016, a total of 168⁶⁰ States including the European Union have ratified or acceded to UNCLOS.

(b) 1982 UNCLOS: Article 121

Subsequent to the 1958 Geneva Conventions, UNCLOS emerged as the prevailing legal documentation over the former where State Parties are concerned.⁶¹ Its regime originated in 1967 when the General Assembly first deliberated on the concept of common heritage of mankind regarding the preservation of the seabed and ocean floor to be exclusively used for peaceful purposes.⁶² The first out of a total of 11 sessions of the LOSC III was held in New York in 1973.⁶³ After a number of deliberations, a significant procedural step followed thereafter in 1977, at the seventh session⁶⁴ where a procedural act of consolidation, namely the ICNT represented a significant step towards a single comprehensive and unified international regime for the law of the sea. The ICNT was later revised and became the official Draft Convention⁶⁵ of the Conference in 1981.⁶⁶ After long deliberations over the same, the Draft Convention after its final amendments became UNCLOS in the final meetings of the Conference held at Montego Bay, Jamaica from 6-10 December 1982. UNCLOS was opened for signature on 10 December 1982.⁶⁷ The regime of islands is now reflected in Article 121 of UNCLOS.⁶⁸

⁶⁰ United Nations, *Oceans & Law of the Sea, Chronological lists of ratifications of, accessions and successions to the Convention and the related Agreements*, <http://www.un.org/Depts/los/reference_files/chronological_lists_of_ratifications.htm> [accessed 3 February 2016]. As of 6 November 2017, the total number of State Parties remained as 168.

⁶¹ UNCLOS, *supra* n 37.

⁶² Division for Ocean Affairs and the Law of the Sea, Office of Legal Affairs, *The Law of the Sea (DOALOS), United Nations Convention on the Law of the Sea and of the Agreement relating to the Implementation of Part XI of the United Nations Convention on the Law of the Sea with Index and Excerpts from the Final Act of the Third United Nations Conference on the Law of the Sea* (New York: United Nations, 1997) (UN Sales No. E.97.V.10), p.2.

⁶³ Tanaka, *supra* n 21, p.26. i.e. 3-15 Dec 1973.

⁶⁴ DOALOS, *supra* n 62, p.3.

⁶⁵ UN Doc A/CONF.62/L.78; See also <<http://untreaty.un.org/cod/diplomaticconferences/lawofthesea-1982/lawofthesea-1982.html>> [accessed 18 September 2013].

⁶⁶ DOALOS, *supra* n 62, p.5.

⁶⁷ *ibid.*, p.6.

⁶⁸ UNCLOS, *supra* n 10.

Notably, Article 121(1) of UNCLOS is identical to Article 10(1) of the CTSCZ 1958 whilst Article 10(2) of the CTSCZ 1958 which refers to only the territorial sea of islands has now been modified as in Article 121(2) of UNCLOS to also include the contiguous zone, the EEZ and the CS. Nonetheless, the basic 'physical' understanding of what constitutes an island under Article 121 of UNCLOS (apart from its entitlement to generate maritime zones) is obviously the same as in the CTSCZ 1958, namely that it has to be 'naturally formed', has 'an area of land', 'surrounded by water' and 'above water at high tide'.⁶⁹

However, another crucial point to note, namely the very core of the discussion in this thesis, is Article 121(3), which requires an additional criterion compared to Article 10 of the CTSCZ 1958. Therein, apart from having to be 'naturally formed' and 'surrounded by and above water at high tide', islands which are rocks must also be able to 'sustain human habitation or economic life of their own' before they can be entitled to an EEZ and a CS.

Evidently, due to State practice and State observations ever since the 1958 Conventions, Articles 121(1) and (2) can somewhat be considered as customary law⁷⁰ especially so since Article 121(1) reflects Article 10(1) of the CTSCZ 1958 precisely, whilst Article 121(2) reflects the intention and meaning of Articles 10(2) and 24(2) of the CTSCZ 1958 as well as Article 1 of the CCS 1958.

However, there are differing views on whether Article 121(3) also reflects customary international law.⁷¹ It has been viewed that '... there is at least prima facie evidence that Art 121(3) has been recognised as customary international law'.⁷² It was also believed otherwise, mainly due to the lack of extensive and virtually uniform State practice and

⁶⁹ Article 121 of UNCLOS; See also C. Schofield, "The Trouble with Islands: The Definition and Role of Islands and Rocks in Maritime Boundary Delimitation" in J.M. Van Dyke, *Publications on Ocean Development, Volume 65: Maritime Boundary Disputes, Settlement Processes, and the Law of the Sea* (Leiden: Martinus Nijhoff, 2009), pp.24-25.

⁷⁰ Y-h. Song, *The Application of Article 121 of the Law of the Sea Convention to the Selected Geographical Features Situated in the Pacific Ocean*, (Oxford University Press, 2010) *Chinese Journal of International Law*, pp. 663–698 at p.678; See also R. O' Keefe, *Palm-fringed benefits: island dependencies in the new law of the sea*, *International & Comparative Law Quarterly* (1996) 408, at p. 409: O' Keefe referred to Judge Evensen in the Jan Mayen case at p.84, expressly stating that Article 121 reflect customary international law.

⁷¹ Shaw, *supra* n 1, p. 502 - Shaw views that it is unclear whether this provision is a rule of customary law.

⁷² D. Freestone, *Maritime Boundary Delimitation in the eastern Caribbean* (1990) IBRU Conference Proceedings, September 14 -17, 1989, Durham, UK, 195-209 - as cited by Freestone and Pethick, *supra* n 47, p.76.

opinio juris.⁷³ Article 121(3) was argued as ‘not of the necessary fundamental ‘norm-creating’ character and thus has not become customary international law’.⁷⁴ Another opined that ‘all support the conclusion that Article 121(3) should be considered as general international law applicable to the entire continental shelf regime’⁷⁵ and that since ‘the continental shelf regime is also an inherent part of the regime of the EEZ, Article 121(3) is binding on States that are not party to UNCLOS with respect to the EEZ and continental shelf regimes’.⁷⁶ Nevertheless, in the **Nicaragua/Colombia case**, both States agreed Article 121 to be declaratory of customary international law.⁷⁷ The ICJ observed that -

*“[b]y denying an exclusive economic zone and a continental shelf to rocks which cannot sustain human habitation or economic life of their own, paragraph 3 provides **an essential link between** the long-established principle that ‘islands, regardless of their size, . . . enjoy the same status, and therefore generate the same maritime rights, as other land territory’ ... **and** the more extensive maritime entitlements recognized in UNCLOS and which the Court has found to have become part of customary international law (emphasis added).”*⁷⁸

Herein, the ICJ considered that -

*“the legal régime of islands set out in UNCLOS Article 121 forms an indivisible régime, all of which (**as Colombia and Nicaragua recognize**) has the status of customary international law.”*⁷⁹

Regardless of the views, there are now two categories of islands under the legal regime; one that is considered to be ‘**full-fledged**’ which is entitled to a territorial sea, an EEZ and a CS, and the other a **mere rock island** that is ‘immature’ and only entitled to a territorial sea.

⁷³ Song, *supra* n 70, p. 678 - referring to Churchill and Lowe, *supra* n 50, p. 164 and J.I. Charney, *Notes and Comments: Rocks That Cannot Sustain Human Habitation*, 93 *American Journal of International Law* (1999), p. 872; see also Tanaka, *supra* n 21, p. 68.

⁷⁴ Churchill & Lowe, *supra* n 50, p.164; See also B. Kwiatkowska and A.H.A. Soons, *Entitlement to Maritime Areas of Rocks Which Cannot Sustain Human Habitation or Economic Life of Their Own* 21 *Netherlands Yearbook of International Law* (1990) 139-81 at 174-81; Ian Brownlie, *Principles of Public International Law* (Oxford University Press, 2003) 6th Edition, p.183.

⁷⁵ Charney, *supra* n 73, p. 872 - referring to <<http://www.un.org/Depts/los/los94st.htm>>.

⁷⁶ Song, *supra* n 70, p. 679.

⁷⁷ ICJ, *Territorial and Maritime Dispute (Nicaragua v. Colombia)*, Judgment 19 November 2012 (ICJ General List No. 124) (“Nicaragua/Colombia case”) para 138.

⁷⁸ *Ibid.*, para 139.

⁷⁹ *Ibid.*

2.2 Maritime boundary concerns affected by the definition

It is thus clear that there are islands that can generate maritime zones alike the mainland, whilst others generating only a territorial sea and a contiguous zone at most. This has raised major concerns amongst States worldwide notwithstanding that the States that were then involved in the discussion and the drafting of UNCLOS have agreed to the final formulation of Article 121 in 1982;⁸⁰ and of which the majority of them have become party to UNCLOS.⁸¹ This is because, the acceptance of Article 121(3) appears to be a compromise amongst States. The legislative history of Article 121(3) only shows that despite its proposed formulation at the third session in 1975, which is identical to what is reflected today, many proposals by various States to amend the aforesaid paragraph 3 in subsequent sessions even up to 1982, were not accepted.⁸² The formulation that was drafted in 1975 is now Article 121(3) of UNCLOS.

Hence, it is unsurprising that affected States would endeavour to ensure that any such maritime feature under their sovereignty would be categorized as an island that would not be caught by Article 121(3) at the first instance; including before proceeding to any maritime delimitation process that may be carried out in accordance with Articles 15, 74 and 83 of UNCLOS.

This is of utmost importance since its categorization could lead to different maritime entitlement which would affect States' sovereign rights, jurisdiction, safety, security and economy, crucial to their survival. However, rocks which form part of a baseline from which maritime areas under national jurisdiction are measured do not come under Article 121(3).⁸³ A different maritime delimitation procedure⁸⁴ is applied to such situation in accordance with UNCLOS. Further, although a feature is categorized as a full-fledged island, it may not necessarily be accorded full effect in maritime boundary delimitation.

⁸⁰ UNCLOS, *supra* n 10; DOALOS, *supra* n 62, p.6.

⁸¹ UN website, *supra* n 60.

⁸² See M.H. Nordquist (ed in chief), S.Y. Nandan and S. Rosenne (eds), *United Nations Convention on the Law of the Sea 1982, A Commentary, Volume III* (The Hague: Kluwer law International, 1995), p. 335-339; Proposals to amend, delete or even amend Article 309 to allow reservations to be made to paragraph 3 were made by various States - e.g. Colombia, Libyan Arab Republic, Tunisia, Turkey, Romania, Ireland, United Kingdom, Venezuela as well as the Chairman of the Group of Islamic States. These proposals were however not accepted.

⁸³ Tanaka, *supra* n 21, p.64.

⁸⁴ Articles 15, 74 and 83 of UNCLOS 1982, namely with regard to the delimitation of the territorial sea, exclusive economic zone and continental shelf respectively.

This would be the second step that would have to be addressed, if a delimitation exercise is required between affected States. This thesis will merely address the first step which is to determine at the first instance whether a feature is indeed a full-fledged island or a rock under Article 121(3).

3. The Law in its practical application: A Conundrum – Still subpar and ‘sans solution’?

3.1 The effect of Article 121(3) in its interpretation and application: A snapshot of past, current and potential disputes

The definition of the term ‘island’ has thus evolved from being able to generate maritime zones without any discrimination as to whether it is a rock that can sustain human habitation or economic life of its own or otherwise, to a more restrictive approach as in UNCLOS. Islands that fit the criteria in Article 10(1) of the CTSCZ 1958 or Article 121(1) of UNCLOS are no longer automatically entitled to generate maritime zones beyond the territorial sea and contiguous zone. Rock islands which meet the criteria of being naturally formed and surrounded by and above water at high tide would now also need to be able to sustain human habitation or economic life of their own before they can generate maritime zones beyond the territorial sea and contiguous zone. Hence, where rock islands are concerned, these two conditions play an extremely crucial role when determining their entitlement to those extended maritime zones.

On whether Article 121(3) of UNCLOS has been really effective in its application to actual circumstances, it is necessary to highlight some of the effects that had arisen when applying the criteria therein to actual situations worldwide.

Globally, ever since this provision emerged as law, many States have fought to ensure that maritime features under their sovereignty would not be caught by Article 121(3). This is understandable since States would certainly seek to protect their interests. Nevertheless, the problem that arises is the fact that, with the exception of the recent South China Sea Arbitration,⁸⁵ adjudicating bodies have yet to address what exactly is meant by ‘cannot sustain human habitation or economic life of its own’ under Article

⁸⁵ See text at *supra* n 11 and relevant texts thereafter; see also Chapter 6 which deals with this in detail.

121(3).⁸⁶ There are also too many diverse interpretations amongst States and scholars regarding the same.

This in effect has resulted in various disputes or misunderstandings amongst States, be it at the negotiating stage or in the midst of third party adjudication, with one party asserting that an island does not fall under Article 121(3), and another contending otherwise.

Amongst some scenarios that may be observed is **Clipperton Island** over which sovereignty lies with France. Mexico had strongly objected to France's 200 nautical miles (nm) EEZ claim for the feature.⁸⁷ In 2010, France deposited a list of geographical coordinates defining the outer limits of the EEZ of Clipperton Island.⁸⁸ The issue is whether Clipperton Island is entitled to generate such maritime zones being an uninhabited coral atoll, 1120 km southwest of Mexico with a mere area of 6 square km⁸⁹ and 'one volcanic rock rising at one end'.⁹⁰ Moreover, it has little vegetation⁹¹ and the only economic activity is tuna fishing in its adjacent waters.⁹²

⁸⁶ It is to be noted that even in the two recent relevant ICJ cases, namely, the *Maritime Delimitation in the Black Sea (Romania v. Ukraine)*, Judgment, I.C.J. Reports 2009 ("Romania/Ukraine case"), p. 61 and the *Nicaragua/Colombia* case (*supra* n 77) the ICJ had not specifically addressed as to what exactly constitutes the capacity to 'sustain human habitation' and having an 'economic life of their own' under Article 121(3). In both judgments, the ICJ did not consider these issues necessary to be dealt with: See *Romania/Ukraine* case, para. 187; See also the *Nicaragua/Colombia* case, para. 180 & 183 - The ICJ observed that for the maritime feature *Quitassueño*, it has not been suggested by either party that the feature is anything other than a rock, and thus, the ICJ had decided that this maritime feature does not generate any EEZ or continental shelf. For the other maritime features (i.e. Roncador, Serrana, the Albuquerque Cays and East-Southeast Cay), the ICJ decided that it is not necessary to determine their status since any entitlement to maritime spaces which they might generate outside the territorial sea would entirely overlap with the entitlement to a continental shelf and EEZ generated by other maritime features (i.e. the islands of San Andrés, Providencia and Santa Catalina).

⁸⁷ Song, *supra* n 70, p. 667; France's claim was by Decree No. 78-147 of 3 February 1978 - <http://www.un.org/Depts/los/LEGISLATIONANDTREATIES/PDFFILES/DEPOSIT/fra_mzn80_2010.pdf> [accessed 13 September 2013].

⁸⁸ M.Z.N.80.2010.LOS (Maritime Zone Notification) dated 6 December 2010 (UN doc), <http://www.un.org/Depts/los/LEGISLATIONANDTREATIES/PDFFILES/mzn_s/mzn80ef.pdf> [accessed 13 September 2013]; See also UN Law of the Sea Circular Information No. 33, dated May 2011, <<http://www.un.org/Depts/los/LEGISLATIONANDTREATIES/losic/losic33ef.pdf>> [accessed 13 September 2013].

⁸⁹ Central Intelligence Agency (CIA), *The World Factbook*, <<https://www.cia.gov/library/publications/the-world-factbook/geos/ip.html>> [accessed 9 June 2013]; See also Song, *supra* n 70, pp. 667-668.

⁹⁰ J.M. V. Dyke, and R.A. Brooks, *Uninhabited Islands: Their Impact on the Ownership of the Oceans' Resources* (1983) *Ocean Development and International Law Journal*, Volume 12, No. 3-4, p.269.

⁹¹ *Ibid.*

⁹² CIA, *supra* n 89; Song, *supra* n 70.

The island status of Douglas Reef (**Okinotorishima**) and Marcus Island (**Minamitorishima**) which are under the sovereignty of Japan were also questioned. Japan has termed Okinotorishima an island for years⁹³ and had publicized charts and lists of the geographical coordinates which were deposited with the UN Secretary General showing its 200 nm EEZ claim for both features.⁹⁴ China disputed this and regarded Okinotorishima as rocks and not islets which should fall within Article 121(3),⁹⁵ with the Republic of Korea having similar views.⁹⁶ Okinotorishima was viewed as ‘an incredibly barren place, completely unsuitable for human habitation and unable to support economic activity’,⁹⁷ never having human habitation,⁹⁸ having no signs of economic life,⁹⁹ failing to satisfy the requirements set by UNCLOS,¹⁰⁰ and thus falling under Article 121(3).¹⁰¹ Whereas, Minamitorishima is a small isolated island with no permanent population but merely ‘30 officials from the Japan Meteorological Agency, the Maritime Self-Defense Force and the Japan Coast Guard... engaged in observation and other activities there.’¹⁰²

Another feature, **Rockall** which is 160 km from the Northwest coast of Scotland¹⁰³ was also debated, its entitlement to maritime zones as was initially claimed by the United Kingdom (UK) being questioned by interested States, namely Ireland, Iceland and

⁹³ People’s Daily Online, *A Japanese Claim that Does Not Hold Water* (June 23, 2005), <http://english.peopledaily.com.cn/200506/23/eng20050623_191916.html> [accessed 15 June 2013].

⁹⁴ Division for Ocean Affairs and the Law of the Sea, Office of Legal Affairs (DOALOS), *Deposit of Charts*, <<http://www.un.org/depts/los/LEGISLATIONANDTREATIES/STATEFILES/JPN.htm>> [accessed 9 June 2013]; See also Song, *supra* n 70, p. 669.

⁹⁵ China’s Note No. CML/2/2009 of 6 February 2009, <http://www.un.org/Depts/los/clcs_new/submissions_files/jpn08/chn_6feb09_e.pdf> [accessed 16 June 2013]; See also R.C. Beckman and T. Davenport, *CLCS submissions and claims in the South China Sea*, 16 August 2011, <<http://southchinaseastudies.org/en/conferences-and-seminars-/second-international-workshop/608-clcs-submissions-and-claims-in-the-south-china-sea-by-robert-c-beckman-a-tara-davenport>> [accessed 16 June 2013]; Song, *supra* n 70, p. 693; L. Diaz, B.Hart Dubner and J. Parent, *When Is A "Rock" An "Island"?-Another Unilateral Declaration Defies "Norms" Of International Law* (Michigan State University College of Law) *Journal of International Law*, Vol. 15, No.3, 2007, pp.520-521.

⁹⁶ Republic of Korea, Note No. MUN/046/09 of 27 February 2009, <http://www.un.org/Depts/los/clcs_new/submissions_files/jpn08/kor_27feb09.pdf> [accessed 16 June 2013]; See also Tanaka, *supra* n 21, p.65.

⁹⁷ Y-h. Song, “Okinotorishima: A ‘Rock’ or an ‘Island’? Recent Maritime Boundary Controversy between Japan and Taiwan/China”, in S-Y Hong and J.M. Van Dyke (eds), *Maritime Boundary Disputes, Settlement Processes, and the Law of the Sea* (Leiden and Boston: Martinus Nijhoff Publishers, 2009) p. 149.

⁹⁸ Diaz, Hart Dubner and Parent, *supra* n 95, p.523 - citing M. Fackler, *A Reef or a Rock? Question Puts Japan in a Hard Place*, WALL ST. J., Feb. 20, 2005, at A1.

⁹⁹ *Ibid.*, Diaz, Hart Dubner and Parent referred to N. Onishi, *Japan and China Dispute a Pacific Islet*, N.Y. Times, July 10, 2005, at 4.

¹⁰⁰ *Ibid.*, p.522.

¹⁰¹ Song, *supra* n 70, p. 694.

¹⁰² *Ibid.*, pp. 691-692.

¹⁰³ *Ibid.*, p. 684; See also Diaz, Hart Dubner and Parent, *supra* n 95, p. 537; Schofield, *supra* n 69, p.28.

Denmark. The UK had 'established a continental shelf and an exclusive fishery zone' around it in 1974 and 1977 respectively.¹⁰⁴ This tiny isolated rocky pinnacle¹⁰⁵ has an estimated area of 624 square metres,¹⁰⁶ and was viewed to be 'a classic example of a rock that fails the tests of habitation and economic life'.¹⁰⁷ Rockall was in fact cited as an example of a 'rock' during the LOSC III,¹⁰⁸ the deliberation of which brought about UNCLOS including Article 121.¹⁰⁹ The UK gave up its claim of 200nm for Rockall when it acceded to UNCLOS in 1997,¹¹⁰ and did not use it as a base point for defining its 200 nm fishery limits.¹¹¹

Baker Island and Howland Island whose sovereignty comes under the United States (US) was also discussed.¹¹² Up to 50 nm from the "mean water lines" have been attributed to Howland Island and Baker Island to be managed by the Director of the United States Fish and Wildlife Service.¹¹³ Although the US is still not party to UNCLOS, the question as to such entitlement beyond a maximum territorial sea of 12 nm under UNCLOS has arisen in view of Howland Island being an uninhabited coral island with a total land area of 1.62 sq. km¹¹⁴ and Baker Island being an uninhabited atoll with an area of 1.24 sq. km¹¹⁵ and with no economic activity for both islands.¹¹⁶ These features have no indigenous inhabitants,

¹⁰⁴ Tanaka, *supra* n 21, p. 65.

¹⁰⁵ Schofield, *supra* n 69, p.28.

¹⁰⁶ A.G. Oude Elferink, *Clarifying Article 121(3) of the Law of the Sea Convention: the Limits Set by the Nature of International Legal Processes*, 6 *Boundary and Security Bull* No.2, 58-68 (1998), at 59.

¹⁰⁷ C. Symmons, *Ireland and the Rockall Dispute: An Analysis of Recent Developments*, 6 *Boundary and Security Bull.* No. 1 at 78-93 (1998), at 83.

¹⁰⁸ D. Anderson, *British Accession to the UN Convention on the Law of the Sea*, (1997) 46 *I.C.L.Q.* pp.761-86 at 778.

¹⁰⁹ Schofield, *supra* n 70, p. 29.

¹¹⁰ R. Churchill, *United Kingdom Accession to the UN Convention on the Law of the Sea*, 13 *International Journal of Marine and Coastal Law* 263 (1998), pp. 271-273.

¹¹¹ Fishery Limits Order. S. I. 1997 No. 1750; See Charney, *supra* n 73, p. 866 footnote 21.

¹¹² Song, *supra* n 70, p. 667.

¹¹³ The Secretary of the Interior, Washington DC, Order No. 3284, (16 January 2009), Sec. 4 (Delegation and Administration) p 2: The term 'mean water lines' was used in the legislation. Basically, they were to be managed by the Director of the Service, the responsibilities of whom were delegated by the Secretary of the Interior by the President (over the emergent and submerged lands and waters of the Monuments) through the Assistant Secretary for Fish and Wildlife and Parks.

¹¹⁴ Song, *supra* n 70, p. 689; CIA, *supra* n 89 at <<https://www.cia.gov/library/publications/the-world-factbook/geos/hq.html>> accessed on 15 June 2013 – This website also adds that the maritime claims by the US include a territorial sea of 12 nm and an EEZ of 200 nm.

¹¹⁵ Song, *supra* n 70, p. 690; CIA, *supra* n 89, <<https://www.cia.gov/library/publications/the-world-factbook/geos/um.html>> [accessed 5 October 2013].

¹¹⁶ CIA, *supra* n 89, <<https://www.cia.gov/library/publications/the-world-factbook/geos/um.html>> [accessed 15 June 2013]. Although the US is not party to UNCLOS, it should still be bound by Article 121 which provision has been considered as general international law (texts at *supra* nn 75-76) as well as customary international law (texts at *supra* nn 78-79).

no natural fresh water and no economic activity¹¹⁷ yet the US claimed a 200nm EEZ for the same.¹¹⁸

There is also **Snake Island (or Serpents' Island)** whose legal attributes under Article 121(3) were disputed between Romania and Ukraine. Before the ICJ, the two parties disagreed on the status of Serpents' Island with regard to Article 121(3).¹¹⁹ Whilst Romania viewed Serpents' Island as a rock incapable of sustaining human habitation or economic life of its own and thus should not be entitled to an EEZ or a CS,¹²⁰ Ukraine viewed otherwise.¹²¹ However, the ICJ did not consider these issues necessary to be dealt with when delivering its judgment.¹²²

Another example is **Heard Island and the McDonald Islands**, a volcanic group of barren islands in the Southern Ocean, uninhabited, and with no indigenous economic activity except for limited fishing in the surrounding waters allowed by the Australian government.¹²³ Australia had claimed a 200nm EEZ,¹²⁴ and made a submission to the Commission on the Limits of the Continental Shelf (CLCS) claiming a CS beyond 200 nm in the Kerguelen Plateau Region, which extended seawards from the baselines of Heard Island and the McDonald Islands.¹²⁵ Interestingly, Judge Vukas in The "Volga" Case¹²⁶ between Australia and Russia, had in a separate Declaration viewed many of the elements of Article 121(3) 'obviously present in this group of Australian islands/islets/rocks'¹²⁷

¹¹⁷ CIA, *supra* n 89, <<https://www.cia.gov/library/publications/the-world-factbook/geos/um.html>> [accessed 10 June 2013].

¹¹⁸ Song, *supra* n 70, p. 665-667.

¹¹⁹ *Romania/Ukraine case*, *supra* n 86.

¹²⁰ *Ibid.*, para 180.

¹²¹ *Ibid.*, para 184.

¹²² *Ibid.*, para 187. It may be noted however that in effect the ICJ gave Serpents' island no weight at all; although this was in relation to maritime delimitation rather than entitlement. On this note, the ICJ concluded that the island's '*presence does not call for an adjustment of the provisional equidistance line*'.

¹²³ CIA, *supra* n 89, <<https://www.cia.gov/library/publications/the-world-factbook/geos/hm.html>> [accessed 10 June 2013]; See also See Geoscience Australia, *Heard and McDonald Islands*, <<http://www.ga.gov.au/education/geoscience-basics/dimensions/remote-offshore-territories/heard-and-mcdonald-islands.html>> [accessed 10 June 2013].

¹²⁴ Song, *supra* n 70, p. 685.

¹²⁵ Executive Summary of the Submission by Australia, 15 November 2004, <http://www.un.org/depts/los/clcs_new/submissions_files/aus04/Documents/aus_doc_es_web_delivery.pdf>; <http://www.un.org/depts/los/clcs_new/submissions_files/submission_austr.htm>; <http://www.un.org/depts/los/clcs_new/submissions_files/aus04/Maps/ker_map_es2.pdf>; and <http://www.un.org/depts/los/clcs_new/submissions_files/aus04/Maps/ker_map_es1.pdf> [all accessed 10 June 2013]; See also Song, *supra* n 70, p.685-686.

¹²⁶ The "Volga" Case (Russian Federation and Australia)(Prompt Release) I.T.L.O.S. Case No. 11 (2002) ("*The Volga*" case").

¹²⁷ *Ibid.*, Declaration of Vice President Vukas, para 6.

although notably, Australia's aforesaid maritime claims were not challenged by way of any third-party notifications.¹²⁸ Another feature which has been viewed as 'plainly... not a rock' under Article 121(3) is **Scott Reef**¹²⁹ even though it is 'an isolated coral reef system.'¹³⁰

There are still many maritime features that could trigger disputes or disagreements amongst States with regard to their ability to generate maritime zones as a 'full-fledge' island. These include Brazil's **St. Peter and Paul Rocks** (São Pedro and São Paulo) which comprise 15 small islands or rocks located in the Atlantic Ocean about 945 km from Rio Grande do Norte State, said to be the 'most inhospitable place for the human life according to fishermen, scientists and visitors.'¹³¹ Fresh water and vegetation are absent, with its main economic activity appears to be fishing.¹³² In 2004, Brazil made a submission to the CLCS on amongst other things a claim for a CS for St. Peter and Paul Rocks.¹³³ Brazil's Executive Summary for the submission showed a 200nm EEZ surrounding the aforesaid maritime features.¹³⁴ However, there were no third party notifications sent to the UN Secretariat to challenge Brazil's claim in relation to Article 121(3) of UNCLOS.¹³⁵ Although the US had sent a notification on 25 August 2004 regarding Brazil's submission, there was no reference made to the legal status of Saint Peter and Paul Rocks.¹³⁶ Hence,

¹²⁸ Song, *supra* n 70, p. 686.

¹²⁹ V. Prescott, *The Problems of Completing Maritime Boundary Delimitation between Australia and Indonesia* (1995) 10 *International Journal of Marine and Coastal Law* 389 at 394; See also A. Serdy, *Is there a 400-mile rule in UNCLOS article 76(8)?*, *International & Comparative Law Quarterly* 2008, footnote 24.

¹³⁰ J. Gilmour, L. Smith, K. Cook and S. Pincock, *Discovering Scott Reef – 20 years of Exploration and Research* (Perth: Scott Print, 2013), Woodside, Australian Institute of Marine Science, Australian Government, <http://www.aims.gov.au/en_GB/publications/discovering-scott-reef> and <<http://www.aims.gov.au/documents/30301/908847/Discovering+Scott+Reef.pdf/9bcf1997-e949-4e9a-b594-d28fb49042e4>> [accessed 5 October 2013]; The website informs that Scott Reef which consists of 'North Reef, South Reef and Seringapatam cover some 650 square kilometres of potential coral reef habitat, at depths down to 70 metres.'

¹³¹ C.E. Alvarez, J.E. Melo and R.L. Mello, *The scientific station of São Pedro and São Paulo Archipelago - Brazil*, (Washington State University, Civil and Environmental Engineering paper), <<http://timber.ce.wsu.edu/Resources/papers/P74.pdf>> [accessed 10 June 2013].

¹³² *Ibid.*

¹³³ UN website, <http://www.un.org/depts/los/clcs_new/submissions_files/submission_bra.htm> [accessed 10 June 2013].

¹³⁴ UN website, <http://www.un.org/depts/los/clcs_new/submissions_files/bra04/bra_exec_sum.pdf> [accessed 10 June 2013].

¹³⁵ Song, *supra* n 70, p. 684 - 685.

¹³⁶ United States of America, *Notification regarding the Submission Made by Brazil to the Commission of the Limits of the Continental Shelf*, CLCS.02.2004. LOS/USA, dated 9 September 2004, <http://www.un.org/depts/los/clcs_new/submissions_files/bra04/clcs_02_2004_los_usatext.pdf> [accessed 19 Sept 2013]; see also Song, *supra* n 70, p. 685; The US notification concerns more on the issue of sediment thickness and the Vitoria Trindade feature.

in 2007, the CLCS adopted its recommendations on Brazil's submission for the proposed outer limits of a CS beyond 200 nm.¹³⁷

There is also the uninhabited **Sala y Gomez** 1.2 km by 152 metres island, located at more than 1790 nm from the Chilean coastline. Chile's claim for a 350 nm CS for the feature was protested by the US although based on the reason of failing to meet Article 76(4) of UNCLOS instead of referring to Article 121(3).¹³⁸ Furthermore, there is **Clarion Island (Santa Rosa)** which is uninhabited and merely about 8 km long and 3 km wide. Mexico claims a 200 nm zone surrounding the Revilla Gigedo Island group which included the aforesaid feature.¹³⁹ Other features are the **South Georgia and South Sandwich Islands** which have raised the query on whether the 200 nm¹⁴⁰ maritime zone claimed around them conforms to Article 121(3) or otherwise, since some of them are 'so small and inhospitable that they may fall into the category of uninhabitable rocks'.¹⁴¹

In addition, Malaysia and Thailand have yet to delimit beyond the approximate point of 29 nm offshore since the status of **Ko Losin** - an insular feature whose sovereignty lies with Thailand which is a 'tiny, barren, unpopulated feature, located at a considerable distance offshore' - remains unresolved; as Malaysia views the feature to be merely a rock under Article 121(3) whilst Thailand claims otherwise.¹⁴²

Other disputes are in the South China Sea in which there are various types of maritime features scattered throughout such as the **Spratly Islands, Paracel Islands, Pratas Islands and Scarborough Reef**.¹⁴³ Amongst these islands, there are those which may undoubtedly

¹³⁷ UN website, *supra* n 133.

¹³⁸ K. Ramakrishna, R.E. Bowen and J.H. Archer, *Outer Limits of Continental Shelf: A Legal Analysis of Chilean and Ecuadorian Island Claims and U.S. Response*, 11 *Marine Policy* 1 (1987), at p. 63; See also J.M. Van Dyke, J.R. Morgan and J. Gurish, *Exclusive Economic Zone of the North western Hawaiian Islands: When Do Uninhabited Islands Generate an EEZ*, 25 *San Diego L. Rev.* 425 (1988), at p. 462.

¹³⁹ Van Dyke, Morgan and Gurish, *ibid.*, p. 458.

¹⁴⁰ CIA, *supra* n 89, <<https://www.cia.gov/library/publications/the-world-factbook/geos/sx.html>> [accessed 16 September 2013]; See also R.R. Churchill, *Falkland Islands – Maritime jurisdiction and co-operative arrangements with Argentina*, (1997) *International and Comparative Law Quarterly* 463, pp. 473-475.

¹⁴¹ Churchill, *ibid.* - However, the UK has yet then to be a party to UNCLOS and hence Article 121(3) was not relevant then.

¹⁴² C. Schofield, "No Panacea? Challenges in the Application of Provisional Arrangements of a Practical Nature" in M.H. Nordquist and J.N. Moore (eds), *Maritime Border Diplomacy*, (Leiden, The Netherlands: Martinus Nijhoff Publishers, 2012) pp. 160-161.

¹⁴³ China treats Scarborough Reef, also claimed by the Philippines, as part of partially drying Macclesfield Bank (Zhongsha Qundao) – See *The U.S. Energy Information website*, <http://www.eia.gov/countries/analysisbriefs/South_China_Sea/south_china_sea.pdf> [accessed 12 June 2013]. By a Notification and Statement of Claim dated 22 January 2013, the Republic of the Philippines

be caught by Article 121(3)¹⁴⁴ in view of their nature. For example, where the **Spratly Islands** are concerned, six States claim either all or part of the Spratly Islands or the maritime area within the same. China, Taiwan and Vietnam claim sovereignty and jurisdiction over all of the Spratly Islands whilst the claims of Malaysia and the Philippines are limited to parts of the Spratly Islands. Brunei claims only certain parts of the maritime area north of Borneo. These features are situated in ‘the southern part of the South China Sea and extend for approximately 460 nautical miles from southwest to northeast and 220 nautical miles from east to west’.¹⁴⁵

Indeed today there has been dramatic change in the situation regarding the claims by the States on the maritime features in relation to their entitlement to the maritime zones compared to prior to 2009.¹⁴⁶ Nevertheless, it is only very recently, that some of these features were determined their status vis-à-vis Article 121(3) as may be observed in the recent South China Sea Arbitration.¹⁴⁷ However, the Tribunal’s determination was regarding specific islands and there has yet to be clear determination on its interpretation and the extent of its effective applicability where all other relevant maritime features of the world are concerned. In addition, as argued in Chapter 6, the Tribunal’s reasonings are questionable, necessitating further clarification.

instituted arbitral proceedings against the People's Republic of China pursuant to Annex VII to the Convention (See <http://www.itlos.org/fileadmin/itlos/documents/press_releases_english/PR_191_E.pdf>) seeking to invalidate China’s ‘nine-dash line’ demarcating the maritime features and area it claims in the South China Sea. This in itself is an example of a State’s disagreement on a maritime area claimed by another due to various reasons amongst which would be that some of the maritime features therein do not qualify as a ‘full-fledged’ island that can generate maritime zones within the meaning of Article 121. As of July 2016, this has resulted in the *South China Sea Arbitration Award* (*supra* n 11); see also Chapter 6.

¹⁴⁴ A.G. Oude Elferink, *The Islands in the South China Sea: How Does Their Presence Limit the Extent of the High Seas and the Area and the Maritime Zones of the Mainland Coasts?*, Ocean Development & International Law, 32:169–190 (2001, Taylor & Francis), pp. 169-170.

¹⁴⁵ J.R.V. Prescott and C.H. Schofield, “The Asian Rim in the Pacific Ocean” in *The Maritime Political Boundaries of the World* (Leiden/Boston: Martinus Nijhoff Publishers, 2005), p. 456; See also Beckman and Davenport, *supra* n 95; The U.S. Energy Information website, *supra* n 143; Taiwan is officially known as the ‘Republic of China’ and is an island as opposed to the ‘People’s Republic of China’ which is a separate government governing mainly mainland China.

¹⁴⁶ Beckman and Davenport, *supra* n 95 i.e. Amongst the changes are (i) Philippines’ 2009 Archipelagic Baselines Law which is in conformity with Part IV of UNCLOS 1982 and for which Philippines had deposited a list of its geographic coordinates at the UN and circulated the same to all UN members on 21 April 2009; (ii) Malaysia and Vietnam’s Joint Submission to the CLCS on their respective coordinates for a portion of the continental shelves done on 6 May 2009 and 7 May 2009 respectively; and (iii) China’s first official communication to the UN on its infamous ‘nine dashed line 1947 map’ attached to its Note Verbale (of 7 May 2009) to Joint Submission of Malaysia and Submission of Vietnam – hence clarifying its position to a certain extent; see also the most recent South China Sea Arbitration Award, *supra* n 11 and Chapter 6.

¹⁴⁷ See text at *supra* n 11 and relevant texts thereafter; see also Chapter 6.

Basically, ‘many of the detached or isolated islands of the world are either uninhabited or are populated by nonindigenous populations’.¹⁴⁸ Article 121(3) has indeed triggered arguments amongst States regarding its interpretation including the actions taken in defence of their respective asserted rights over the maritime area generated from the maritime features.

3.2 The importance of its clear determination: Maritime boundary and related effects

Article 121(3) has frequently been invoked as an argument to deny an island any weight in establishing a maritime boundary which can have a serious impact on the economy and security of a State due to the loss or gain of an EEZ and the CS. Such invocation by States reflects the importance of addressing the provision, as is also seen in the very recent emergence of the South China Sea Arbitration as aforementioned.

Needless to say, the determination of what constitutes the factors that satisfy the elements under Article 121(3) is highly important. These factors would determine whether a maritime feature would indeed be caught by Article 121(3) and thus would lead to whether it can generate those additional maritime zones. A State’s maritime entitlement surrounding a feature can be very much affected, from a possible 200 nm EEZ and CS measured from the baselines of the feature, to a mere maximum of 12 nm territorial sea and an additional contiguous zone of up to 24 nm measured from the baselines. This would mean that the sovereign rights and jurisdiction in the CS and EEZ of the affected State and hence whatever benefits that may be derived therein, be it economically, politically or security-wise, also depends on the status of its maritime feature. The larger the surrounding waters an island is entitled to, the more resources it will be able to gain and the more security and control a State will be able to carry out.

In addition, control over islands and their surrounding waters is especially appealing to States especially where such location is strategically located such as the Spratly Islands which seems to be a ‘*strategic waterway of global significance*’ linking East Asia to the

¹⁴⁸ R.D. Hodgson, “Islands: Normal and Special Circumstances”, in J.K. Gamble and G. Pontecorvo (eds), *Law of the Sea: The Emerging Regime of the Oceans* (Cambridge: Balinger Publishing Company, 1973) 137, p. 146.

Chapter 1

Indian Ocean.¹⁴⁹ There is so much at stake such as hydrocarbon resources, strategic sea lanes, fisheries, the environment as well as national security and prestige.

There is thus a lot to gain or lose for the affected State whose maritime feature is being questioned. Therefore, the necessity for such determination would have to be undertaken since it is not only the rights of the State whose has sovereignty over a questioned maritime feature that needs to be considered, but equally so, the interests of all other affected States who could have freely enjoyed the benefits of the maritime area that would have been the high seas or the seabed beyond national jurisdiction, including the Area and its resources which are the common heritage of mankind.¹⁵⁰ Coastal States have been and still are facing maritime disputes with its neighbouring countries. Certainly the impact of Article 121(3) may be limited by the existence of other provisions under UNCLOS such as those regarding archipelagic and straight baselines; and the provisions regarding such baselines would have to be considered although this will not be discussed at this juncture.

Having observed the importance of determining the factors that constitute the elements under Article 121(3), it now brings forth the necessity to scrutinise current legal understanding in relation to the aforesaid elements before proceeding to the possible ways of resolving such issue. Legal understanding concerning this provision will be elaborated in the following chapters by firstly considering the provision in the light of Articles 31 and 32 of the 1969 Vienna Convention on the Law of Treaties (VCLT) (CHAPTER 2), and continued with the provision's legislative history (CHAPTER 3), state practice (CHAPTER 4), views by maritime legal experts and other scholars (CHAPTER 5) and findings by international adjudication bodies (CHAPTER 6).

Subsequent thereto, some conclusions are arrived at (CHAPTER 7), thus causing the necessary research on environmental science aspects to aid in the clarification of Article

¹⁴⁹ Schofield, *supra* n 69, p.21; see also R. Emmers, *Maritime Disputes in the South China Sea: Strategic and Diplomatic Status Quo* (Institute for Defence and Strategic Studies, Singapore) Working Paper No. 87, September 2005, pp. 7-9; Hart Dubner, *The Spratly "Rocks" Dispute - A "Rockapelago" Defies Norms of International Law*, (1995) 9 Temple Int'l & Comp. L.J. 291, at p. 295; M. Bennett, *The People's Republic of China and the Use of International Law in the Spratly Islands Dispute*, 28 Stanford Journal of International Law (1992) 425, p. 431.

¹⁵⁰ One of the main principles of the law of the sea is the principle of common heritage of mankind: See Tanaka, *supra* n 21, pp.16-19 - These principles are three, namely the principle of freedom, the principle of sovereignty and the principle of common heritage of mankind.

121(3) (CHAPTERS 8 and 9). Both the legal understanding and environmental science aspects are then integrated and analysed (CHAPTER 10). Having also addressed the possible challenges in the implementation of Article 121(3) in CHAPTER 11, the final chapter shows some useful conclusions and recommendations including in the form of a framework and a flowchart (Figure 1) (CHAPTER 12).

Part 2 THE ELEMENTS UNDER ARTICLE 121(3) OF UNCLOS AND LEGAL UNDERSTANDING

Chapter 2 THE VIENNA CONVENTION ON THE LAW OF TREATIES: ARTICLES 31 and 32

4. Introduction: The VCLT and Article 121(3)

The very question as to what is understood by the terms contained in Article 121(3) of UNCLOS triggers to mind, the word ‘interpretation’. Consequentially, Articles 31 and 32 of the 1969 VCLT are of relevance concerning the steps that may be undertaken to decipher those terms, and whether other methods outside what has been stated in the aforesaid provisions of the VCLT could also be employed.

Notably, not all parties to UNCLOS are parties to the VCLT. Nevertheless, they should still be caught by at least Articles 31 and 32 of the Convention which are beyond question rules of customary international law,¹⁵¹ which thus make the provisions applicable to the interpretation of Article 121(3) of UNCLOS regardless of whether a State is a party to the VCLT or otherwise. This is so, even though the VCLT itself is not retroactive.¹⁵²

Notwithstanding this, ‘parties are masters of their own treaty relations subject to a few peremptory rules of international law’ and thus, where parties have arrived at a clear

¹⁵¹ *Affaire Concernant L’apurement des Comptes entre le Royaume des Pays-Bas et la République Française en application du Protocole du 25 septembre 1991 Additionnel à la Convention Relative à la Protection du Rhin contre la Pollution par les Chlorures du 3 décembre 1976, Décision du 12 mars 2004* (French only)(“**Rhine Pollution (Netherlands/France) case**”), para 59. Para 59 states:

“59. ...The Tribunal further notes that the International Court of Justice and other tribunals have affirmed on a number of occasions that these provisions [Articles 31 and 32] are a codification of customary law.” (Unofficial English Translation, <http://www.pca-cpa.org/showpage.asp?pag_id=1156> [accessed 10 March 2015]).

See also Award in the Arbitration regarding the Iron Rhine (“Ijzeren Rijn”) Railway between the Kingdom of Belgium and the Kingdom of the Netherlands, Decision of 24 May 2005, Reports of International Arbitral Awards, Volume XXVII pp. 35-125, at p. 62 para 45.

¹⁵² *Ibid.*, “Ijzeren Rijn” case at p. 62 para 45 which provides that-

“...Articles 31 and 32 of the [VCLT] reflect pre-existing customary international law, and thus may be... applied to treaties concluded before the entering into force of the [VCLT] in 1980.”

See also R. Gardiner, “The Vienna Convention Rules on Treaty Interpretation” in D.B. Hollis (Ed.), *The Oxford Guide to Treaties* (2014, Oxford University Press), p. 493.

interpretative agreement, they do not require adjudicating bodies to interpret such treaties.¹⁵³

Thus, it is important to address Articles 31 and 32 of the VCLT to ensure that whatever method used would not be contrary to the provisions given their customary international law status. The salient points of Articles 31 and 32 of the VCLT will be focused upon vis-à-vis Article 121(3), with some preliminary conclusions based on available information. The significant points will be highlighted in relation to Article 121(3) of UNCLOS by firstly understanding what the general rule is, and followed by whether there are any supplementary means of interpretation that could be used.

5. General Rule of Interpretation: Article 31

5.1 Overview

The general rule of interpretation is governed by Article 31 of the VCLT. Whilst Article 31(1) lays down the overall rule of interpretation, Article 31(2) and (3) elaborates on the meaning of 'context' in Article 31(1), and Article 31(4) explains the special meanings that may be given to a term of a treaty.¹⁵⁴ Herein, Article 31(1) provides that -

“[a] treaty shall be interpreted in good faith in accordance with the ordinary meaning to be given to the terms of the treaty in their context and in the light of its object and purpose.”

Gardiner suggests that it is the *“terms [of the treaty] whose ordinary meaning is supposed to be the starting point, their context moderating selection of that meaning, and the process being further illuminated by the treaty’s object and purpose.”*¹⁵⁵ He finds that the formulation finally adopted by the ILC clearly reflects the intention that a treaty should be read as a whole with respect paid to its object and purpose.¹⁵⁶

¹⁵³ Gardiner, *ibid.*, p. 497.

¹⁵⁴ Article 31 of the VCLT.

¹⁵⁵ R.K. Gardiner, *Treaty Interpretation* (2008, Oxford University Press) p. 144.

¹⁵⁶ *Ibid.*, p. 145. The work on the law of treaties was undertaken by the ILC with four successive Special Rapporteurs, namely Brierly, Lauterpacht, Fitzmaurice and Waldock respectively (pp. 69, 71). However, the first draft of the ILC’s articles concerning treaty interpretation itself appeared only during Sir Humphrey Waldock’s time in his ‘Third Report on the Law of Treaties’ (3 March, 9 June, 12 June and 7 July 1964) – Doc A/CN.4/167 and Add. 1-3 [1964] Yearbook of the ILC, vol. II, p. 5. The articles (with commentaries) were then Articles 70-75.

Taking into account Article 31(2) and (3) which elaborated on the context requirements, Gardiner also describes the general rule as-

“progression from terms to context, through any agreements at the time of the conclusion of the treaty, to subsequent agreements, subsequent practice, and thence to relevant rules of international law.”¹⁵⁷

Further, since there is generally no single ordinary meaning to a word, it needs to be directly linked to the context and the object and purpose.¹⁵⁸ Despite this, Article 31(4) of the VCLT allows parties to ascribe special meanings to the terms of their treaty in question if they elect to do so.

Hence, the general rule in deciphering Article 121(3) seems to call for the following questions to be answered in the following order, namely:

- (i) What are the **terms** in Article 121(3) that are in consideration;
- (ii) Is there a **special meaning** to any of the terms that has been intended by the parties;
- (iii) Otherwise, what is/are the **ordinary meaning** to these terms;
- (iv) What is then the **context** of these terms that would moderate such meaning; and
- (v) What is the **object and purpose** of Article 121(3) that would help to further illuminate its meaning.

When answering these questions, **good faith** which is clearly spelled out in Article 31(1) of the VCLT is a key aspect to be taken into consideration. The tribunal in the **Rhine Pollution (Netherlands/France) case** referred to a 1928 case which had stated that-

*“2. Insofar as the text is **insufficiently clear, recourse to the intentions** of the contracting parties is permissible. If, in such a case, their **intentions are clear and unanimous, they must prevail** over any other possible interpretation. **If, on the contrary, they differ or are not clear, the interpretation must be sought** which, in the framework of the text, corresponds most closely either to a reasonable solution to the dispute, or to the impression that the offer by the*

¹⁵⁷ *Ibid.*, p. 251.

¹⁵⁸ Gardiner, *supra* n 152, p. 480.

*party who took the initiative **must reasonably and in good faith** have made on the other party (emphasis added).*"¹⁵⁹

This suggests that where texts are unclear, the intention of all parties regarding Article 121(3) should prevail above all else. Nevertheless, if the intention too is unclear, the 'vague' text needs to be clarified without invoking good faith in a way that will end up imposing additional obligations.¹⁶⁰ Good faith has also been linked to reasonableness and its test appears to focus more on obtaining the object and purpose for individual States rather than concentrating on the consequence of relations between the parties.¹⁶¹

There must also be a **balancing of treaty elements**. For example, the context of trade treaties involve the balancing of invoking an exception under Article XX of the General Agreement on Tariffs and Trade (GATT) 1994 and the rights of other Members under varying substantive provisions such as Article XI.¹⁶²

The **principle of effectiveness** is also important. The ILC viewed that "[w]hen a treaty is open to two interpretations one of which does and the other does not enable the treaty to have appropriate effects, good faith and the objects and purposes of the treaty demand that the former interpretation should be adopted."¹⁶³ Herein, all applicable provisions must be read in a way that gives meaning to all of them harmoniously; and that such principle extends to the interpretation of related treaties.¹⁶⁴

In conclusion, when answering the aforesaid questions for Article 121(3), the general rule under Article 31 requires 'good faith' to be taken into account. This is understood to include recourse to the parties' intentions, the reasonableness of such interpretation, the aim of securing the object and purpose of individual States, the balancing of treaty

¹⁵⁹ *Rhine Pollution (Netherlands/France) case*, supra n 151, para 74 – The Tribunal quoted *Georges Pinson (France) v. United Mexican States* (Decision No. 1 of 19 October 1928, RSA, vol. V, p. 422, para. 50).

¹⁶⁰ Gardiner, supra n 155, p. 155.

¹⁶¹ *Ibid.*, p. 158.

¹⁶² *United States Import Prohibition of Certain Shrimp and Shrimp Products*, WTO Report of Appellate Body (AB) AB-1998-4 (12 October 1998) WT/DS58/AB/R, para 159.

¹⁶³ Commentary on the 'Draft articles on the law of treaties' [1966] Yearbook of the ILC, Vol II, ("ILC Yearbook 1966 Vol. II") p. 219, para 6. (A/CN.4/SER. A/1966/Add. 1); see also *Japan-Taxes on Alcoholic Beverages*, AB-1996-2, WT/DS8, 10 & 11/AB/R (1996), p. 11; see also *Argentina-Safeguard Measures on Imports of Footwear*, AB-1999-7, WT/DS121/AB/R, p 27, para 81 (1999); see also *Korea – Definitive Safeguard Measure on Imports of Certain Dairy Products*, WT/DS98/AB/R, circulated 14 December 1999, para 81.

¹⁶⁴ *Argentina-Safeguard Measures on Imports of Footwear*, AB-1999-7, WT/DS121/AB/R, p 27, para 81 (1999); see also *Korea – Definitive Safeguard Measure on Imports of Certain Dairy Products*, WT/DS98/AB/R, circulated 14 December 1999, para 81.

elements as amongst parties to the treaty, as well as the appropriate effectiveness which takes into consideration all applicable provisions of UNCLOS in a harmonious way.

5.2 The terms of the treaty

Berglin explained that the importance of the principle of textuality is recognized by international tribunals, as follows:

*“**First**, ...an interpretation that **does not emerge** from the text **cannot be accepted**, however plausible it may be in view of the circumstances, **unless failure to do so would lead to an obviously unreasonable result**. **Second**, interpretations suggested by means of interpretation not derived from the text cannot be justified by referring to general custom, usage or even recognized rules of international law unless sufficiently supported by the text. **Last**, when two or more reasonable interpretations exist, all of which are consistent with the text, the one that appears to be the most compatible with the text should prevail **in the absence of persuasive evidence** in support of another interpretation (emphasis added).”¹⁶⁵*

Clearly in the first and second situations, interpretation needs to emerge from the text itself although ‘outside assistance’ may be allowed if failure to do so would cause an unreasonable result of the interpretation. General custom and even recognized rules of international law may only be referred to if sufficiently supported by the text.

Hence, interpretations regarding Article 121(3) will have to be clearly derived from the text itself. Nevertheless, as will be seen in the next Chapters, there are many interpretations stemming from the text therein, be it from scholars or State practice, and this raises the question as to which of them should be accepted, if States are adamant in their stand in particular where the ‘rock’ island(s) in question comes under their respective sovereignty, which could even be self-serving, although indeed this is understandable. It can have undesirable effects if States are entitled to decide how Article 121(3) should be interpreted to the detriment of other States without proper consideration on all relevant aspects, simply because it concerns an island which they have sovereignty over.

¹⁶⁵ R.H. Berglin, *Treaty Interpretation and the Impact of Contractual Choice of Forum Clauses on the Jurisdiction of International Tribunals: the Iranian Forum Clause Decisions of the Iran-United States Claim Tribunal*, (1986) 21 Texas International law Journal 39 at 44.

Certainly, the last situation highlighted by Berglin seems to a certain extent provide a solution to this predicament, requiring the interpretation most compatible with the text to prevail *'in the absence of persuasive evidence in support of another interpretation'*. Nonetheless, which interpretation may be considered to be most compatible with its text? Thus, evidence does play an important role to determine which interpretation would be the best in the given context; making it necessary if a situation needs to be resolved or clarified further. Accordingly, if interpretations are not helpful due to no common understanding, further evidence supporting their respective contentions is essential to assist in the situation. Yet, what sort of evidence would be admissible in this respect?

At this juncture, it is first essential to see whether there are any special meanings given by the parties to Article 121(3).

5.3 Special Meanings: Article 31(4)

Article 31(4) clearly reflects the freedom of parties to ascribe special meanings to the terms of their treaty in question if they choose to do so.

According to Gardiner, 'special meaning' includes two distinct categories which are **firstly**, fundamentally an ordinary meaning in the particular context leaving no doubt that the term is recognized as such; and **secondly**, a particular meaning that is different from the more common meaning although some indication from the one who interprets such is required to show that such meaning differs from the expected one.¹⁶⁶

Thus, subject to any *jus cogens*, parties could design their own rules and principles on how to interpret their own treaty without being confined to Articles 31 and 32;¹⁶⁷ although the burden of establishing a special meaning falls on the party urging the same.¹⁶⁸

Hence, if a State wishes to assert a special meaning to those identified terms in Article 121(3), the onus falls upon that State to establish that that special meaning was indeed

¹⁶⁶ Gardiner, *supra* n 155, p. 291.

¹⁶⁷ *Ibid.*, p. 298.

¹⁶⁸ *Land, Island and Maritime Frontier Dispute (El Salvador/Honduras: Nicaragua intervening)* [1992] ICJ Reports 351 ("*El Salvador/Honduras: Nicaragua intervening*"), para 377. The ICJ found the onus to be on Honduras who argued that "*a special meaning... was intended by the Parties...*".

intended by the parties to UNCLOS, a burden that appears to be quite impossible to be lifted given the background as discussed in Chapter 3. Evidence has yet to be seen on States succeeding in establishing that there is any special meaning intended by all the parties to the terms contained in Article 121(3).

It is therefore necessary to first understand what the ordinary meanings of those identified terms are; namely, 'rock', 'sustain', 'human habitation', 'economic life', and 'of their own'.

5.4 Ordinary Meaning

Adjudicating bodies have also opined on the matter. These include, when interpreting and applying the provisions of a treaty, a tribunal must as its first duty, endeavour to give effect to them in their **natural and ordinary meaning** in the context in which they occur; and if the interpretation makes sense, that is the end of the matter.¹⁶⁹ However, if the words still appear ambiguous or lead to an unreasonable result, only then must the Court seek to determine what the parties really did mean by resorting to other matters of interpretation.¹⁷⁰ Regardless, no reliance can be validly place on a method of interpretation that results in a meaning incompatible with the spirit, purpose and context of the questioned or relevant clause or instrument.¹⁷¹

Notably, in situations where a term had **more than one meaning**, the ICJ purported to apply all the criteria tendered by the parties.¹⁷²

Dictionaries and similar sources have often been resorted to, to understand a particular word in a treaty, although the meanings may result in many interpretative questions

¹⁶⁹ *Competence of the General Assembly for the Admission of a State to the United Nations*, Advisory Opinion of March 3rd 1950, I.C.J. Reports 1950, p. 8.

¹⁷⁰ *Ibid.*

¹⁷¹ *South West Africa cases (Ethiopia v. South Africa; Liberia v. South Africa) Preliminary Objections, Judgment of 21 December 1962, (Reports of Judgments, Advisory Opinions and Orders)* I.C.J. Reports 1962, p. 336.

¹⁷² *Kasikili/Sedudu Island (Botswana/Namibia)* [1999] ICJ Reports 1045 ("*Kasikili/Sedudu Island case*") - There were differing dictionary definitions of the term 'main channel'. Judge Higgins however declared that this was not with the intention to discover a mythical 'ordinary meaning' but more so due to the fact that the general terminology chosen by the parties in 1890, falls to be decided only today (Declaration of Judge Higgins at 1114, para 3).

unanswered.¹⁷³ They however provide for “*the basic discovery of ordinary meanings of a term.*”¹⁷⁴

In this regard, some of the dictionary definitions for those terms in Article 121(3) are for example, ‘**rock**’ defined as a “hard mineral substance that makes up part of the earth’s crust” or a “stone”¹⁷⁵ or in the context of earth sciences or geological science, “any aggregate of minerals that make up part of the earth’s crust. It may be unconsolidated, such as sand, clay or mud, or consolidated, such as granite, limestone or coal”.¹⁷⁶

‘**Sustain**’ has been described as “maintain or prolong” or “keep up the vitality or strength of”.¹⁷⁷ ‘**Human**’ is defined as “human being”;¹⁷⁸ ‘**habitation**’ as “a dwelling place”;¹⁷⁹ and ‘**economic life**’ as “the period during which an economic good retains its utility”.¹⁸⁰ The exact phrase ‘**of their own**’ has yet to be found described in dictionaries although another phrase closest to its meaning, ‘**on one’s own**’ has been described as “on one’s own resources or initiative: for or by oneself”;¹⁸¹ whilst the word ‘**own**’ has been described amongst others as “done or produced by the person specified.”¹⁸²

Certainly, these definitions appear to be very straightforward and are easily understood. Despite this, as will be observed in the following chapters, the meaning of the terms still appear ambiguous or unresolved for Article 121(3), with various interpretations or actions from scholars and States, including the lack of any discussion in their meanings in the preparatory work of the provision.¹⁸³ Apart from the recent South China Sea Arbitration¹⁸⁴ which is argued as questionable and requiring further clarification, a concrete understanding by adjudicating bodies has also yet to surface.¹⁸⁵ The problem is

¹⁷³ Gardiner, *supra* n 155, p. 166.

¹⁷⁴ *Ibid.*

¹⁷⁵ Collins, English Dictionary, Complete and Unabridged (2013, HarperCollins Publishers, Great Britain), p. 235.

¹⁷⁶ Collins English Dictionary, accessed at <<http://www.thefreedictionary.com/rock>> on 4 June 2013.

¹⁷⁷ Collins, *supra* n 175, p. 273.

¹⁷⁸ *Ibid.*, p. 135.

¹⁷⁹ *Ibid.*, p. 125.

¹⁸⁰ Philip B. Gove (Ed-in-chief), *Webster’s Third New International Dictionary of the English Language Unabridged with Seven Language Dictionary* (1993, Encyclopaedia Britannica Inc. (Merriam-Webster), Chicago), Vol. I, p. 720.

¹⁸¹ *Ibid.*, Vol. II, p. 1612.

¹⁸² A. Stevenson & M. Waite (Eds.), *Concise Oxford English Dictionary* (2011, Oxford University Press Inc., New York), p. 1023.

¹⁸³ See Chapters 3, 4 and 5.

¹⁸⁴ See text at *supra* n 11 and relevant texts thereafter; see also Chapter 6.

¹⁸⁵ See Chapter 6.

in fact no longer what is meant by those identified terms, but what constitute the criteria that make up those terms. For instance, if the crucial phrase ‘cannot sustain human habitation or have an economic life’ is understood from the merging of the aforesaid dictionary definitions to mean ‘cannot maintain or sustain a dwelling place for human beings or does not have retainable utilities’, this still does not solve the problem. The issue seems to be not what the phrase means anymore, but what are the criteria that satisfy the phrase, namely what are the criteria that makes the ‘rock’ island a sustainable dwelling place for human beings, what sort of rock island can be regarded as having retainable utilities, and who decides on this. Indeed, such ordinary meanings for purposes of Article 121(3) do not assist in this challenge.

There is also the question of whether any of these terms can be considered as ‘**generic terms**’ that will thus lead to the presumption that their meaning were “*intended to follow the evolution of the law and to correspond with the meaning attached to the expression by the law in force at any given time.*”¹⁸⁶

Thus, if it could be argued that those terms identified in Article 121(3) are generic terms, their understanding should thus have to follow the law of today, and hence, the current circumstances of the day could be argued to be of relevance when determining what those terms mean. Consequentially, any understanding on what is fit to be a sustainable dwelling place for human beings, or what can be regarded as having retainable utilities may have to be in accordance with today’s laws. Regardless, what are the laws of today that govern such meanings and who decides which law would be applicable? The preamble of UNCLOS however provides for matters not regulated by UNCLOS to be governed by the rules and principles of general international law. Nevertheless, this is specifically for matters not regulated by UNCLOS whilst Article 121(3) is certainly a matter governed by UNCLOS, although it may be argued that general international law still applies in situations surrounding the provision on issues where the rules and principles are unclear.

In an English court case relating to the interpretation of an extradition treaty, Lord Chief Justice Widgery said that “[t]he words used in a treaty of this kind are to be given their general meaning, general to lawyer and laymen alike. They are to be given, as it were, the

¹⁸⁶ *Aegean Sea Continental Shelf (Greece v Turkey)* [1978] ICJ Reports 3, para 77.

meaning of the diplomat rather than the lawyer, and they are to be given their ordinary international meaning and not a particular meaning which they may have attracted in England, or in certain branches of activity in England."¹⁸⁷ This statement signifies taking into consideration the 'kind of treaty', requiring a method of interpretation that appears to be consistent with the approach in Articles 31 and 32, namely that the ordinary meaning must be linked to the context and the object and purpose of the treaty. This means that the test is actually what a **person reasonably informed in that subject matter or has access to relevant evidence** would make regarding the terms as a starting point rather than what an ordinary person would reasonably think regarding it.

If this understanding is applied to the Article 121(3) situation, those identified terms contained in the provision should be interpreted according to what a person 'reasonably informed' on the subject understands them to be. Thus, surfaces the question as to whether the scholars or States as may be seen in the next chapters would indeed fall into the category of those people reasonably informed of the subject matter or at least have relied on some evidence provided by those having reasonable knowledge to support their contentions.

A brief look at the terms such as 'rock' and 'sustain human habitation' in the context of Article 121(3) would certainly prompt the need to look at what those well versed in the field understand them to be such as ecologists and geologists or more broadly, those who are skilled in the environmental science discipline. Consequentially, if interpretations by scholars and States have yet to achieve common grounds, perhaps it is time to look at those experts' understanding as a starting point to aid in the interpretation of the provision.

Having basically determined that the ordinary meanings of such identified terms have not assist much in the interpretation of Article 121(3), it is now necessary to move on to the 'context' of the terms of the treaty that could moderate those ordinary meanings.

¹⁸⁷ *R v Governor of Pentonville Prison ex parte Ecke* (1981) 73 Cr App R 223 at 227.

5.5 Context

The ‘context’ of identified terms generally acts as an aid to their ‘ordinary meaning’ which includes modifying the interpretation of the terms and moderating them. Its main task is to confirm an ordinary meaning if two or more possibilities arise.¹⁸⁸ Article 31(2) and (3) expand on how ‘context’ is to be dealt with in implementing its aforesaid function.

(a) Article 31(2)

Based on Article 31(2), the ‘context’ may be derived from the treaty itself, any related agreement to the treaty, and any instrument. This ‘context’ includes the questioned treaty’s text, preamble and annexes.

In this regard, the immediate context of a term in a treaty may be observed from, amongst other things ‘the grammatical construction of the provision or phrase within which a word in issue is located.’¹⁸⁹ Different contexts can produce different meanings for the same term.¹⁹⁰

The **overall structure of a provision** is also important.¹⁹¹ Similarly, the context of a particular provision may also be derived from related **contrasting provisions**, or a comparison between their roles.¹⁹² Other considerations include **punctuation and syntax** to identify the ‘essential link between the meaning of a single word and its immediate context’;¹⁹³ and the **preamble, title, heading or chapeaux** in a treaty, although the

¹⁸⁸ Gardiner, *supra* n 155, p. 178.

¹⁸⁹ *Ibid.*, p. 178-189.

¹⁹⁰ D.B. Hollis, “Defining Treaties” in D. B. Hollis, *The Oxford Guide to Treaties* (2014, Oxford University Press), p. 11. Reference was made to 16 USC §1802 which defines ‘high seas’ for US fisheries law as ‘all waters beyond the territorial sea of the United States and beyond any foreign nation’s territorial sea’ as compared to Article 86 of UNCLOS; see also e.g. *El Salvador/Honduras: Nicaragua intervening case*, *supra* n 168, pp. 582-584, paras 373-374 -In determining whether the phrase ‘determination of a legal situation...’ in the Special Agreement concerned could be equated with ‘delimitation’, the ICJ Chamber found it necessary to read it in its context.

¹⁹¹ *Canada-Measures Affecting the Export of Civilian Aircraft*, Decision AB-1999-2, 2 August 1999, WT/DS70/AB/R, p. 40, para 155. The AB when deciding the meaning of ‘benefit’ in Article 1 of the Agreement on Subsidies and Countervailing Measures, had also considered the structure of Article 1 and the context of the term in a related provision, i.e. Article 14.

¹⁹² *Border and Transborder Armed Actions (Nicaragua v Honduras) Jurisdiction and Admissibility* [1988] ICJ Reports, p. 69.

¹⁹³ Gardiner, *supra* n 155, p.187 – reference was made to the *Agreement for the Prosecution and Punishment of the Major War Criminals of the European Axis, and Charter of the International Military Tribunal*, London, 8 August 1945, in Trial of Major War Criminals before the International Military Tribunal,

contents to such title or heading should assist in the interpretation.¹⁹⁴ Nevertheless, it should not be assumed that all of them are of the same value. For instance, a preamble in a treaty as opposed to the main provisions of the treaty that clearly state the obligations of parties which may somewhat seem contrary to the former, should not be interpreted as nullifying or changing such obligations in the latter.¹⁹⁵

Thus, when identifying the context in which Article 121(3) was formulated, consideration must be had regarding the immediate context of a term, the overall structure of a provision, the punctuations and syntax of the provision, the preamble, title, heading, as well as any contrasting provisions or comparisons that could possibly exist in UNCLOS.

The treaty (UNCLOS)

In identifying the immediate context from Article 121(3), it is clear that for example, the term 'rocks' can only refer to islands within the meaning of Article 121(1) and not in their ordinary dictionary definition which can include simply any such 'stones' that may not be maritime features as long as such rock fits the description, although certainly such rock islands' geological composition may be argued to be within those dictionary definitions. Article 121(3) also does not contradict its own heading showing clearly that 'rocks' in Article 121(3) are also 'islands' as indicated by the Article 121 heading, "Regime of Islands". This heading does not contradict the meaning of 'rocks' in Article 121(3) since such 'rock' would still have to conform to the meaning of islands in Article 121(1) and is only differentiated by its ability to sustain human habitation or have economic life of its own, consequentially affecting its entitlement to the same maritime zones as other islands.

Nevertheless, despite the immediate context clearly reflecting that 'rocks' under Article 121(3) are 'rock' islands and not rocks in their ordinary sense, understanding Article 121(3) in its entirety is in fact not really the issue. The context may be said to clearly reflect that such rock islands must be able to sustain human habitation or have an

Vol. 1, Documents (London: HMSO, 1947 (Nuremberg Charter, 1945) - Article 6 is an example "where punctuation was crucial to the interpretation of a treaty."

¹⁹⁴ Gardiner, *supra* n 155, p. 181.

¹⁹⁵ *Ibid.*, p. 186.

economic life of their own before they can also generate an EEZ or a CS. The problem that still remains is what therefore is understood as human habitation or economic life of its own. A glance through UNCLOS and its annexes reflects that apart from appearing in Article 121(3), how and where those identified terms are also used in the Convention and its annexes do not seem promising for purposes of assisting in the demystification of Article 121(3).¹⁹⁶

Briefly, the meanings and context for the terms ‘rock’, ‘human habitation’, and ‘economic life’ appear to be not derivable from UNCLOS or its annexes and thus have to be identified elsewhere.

Other agreements or instruments

Apart from UNCLOS itself, regard must also be had to any other agreement, or instrument that has been accepted by other parties, connected to the conclusion of UNCLOS in the interpretation of Article 121(3).¹⁹⁷ The instrument in Article 31(2)(b) is ‘unilateral’ and dependent on the acceptance and agreement of other parties to it before it can constitute an ‘agreement’ as between parties to aid in the interpretation of a treaty.¹⁹⁸

However, there does not appear to be any agreement made between all the parties to UNCLOS that was made at the conclusion of the Convention in relation to Article 121(3); and neither does there appear to be any instrument made by any of the parties to UNCLOS in connection with the conclusion the Convention that has also been accepted by

¹⁹⁶ In UNCLOS, the term -

- (i) ‘rock(s)’ has been used in Article 76(4)(a)(i) in relation to the continental shelf, Annex II (Statement of Understanding Concerning a Specific Method to be used in Establishing the Outer Edge of the Continental Margin) of the “Final Act of the Third United Nations Conference on the Law of the Sea (excerpts)” although this is concerning “sedimentary rocks”;
- (ii) ‘human’ appears in Articles 146 and 155(2) in relation to the ‘protection of human life’, Article 1(1)(4) concerning human health in the definition of “pollution of the marine environment”, and Article 268(d) concerning the development of human resources;
- (iii) ‘habitation’ appears nowhere else in UNCLOS; and
- (iv) ‘economic life’ is found in Article 17 of ANNEX III (Basic Conditions of Prospecting, Exploration and Exploitation).

¹⁹⁷ Articles 31(2)(a) and (b) of the VCLT.

¹⁹⁸ Gardiner, *supra* n 155, p.204; also Gardiner, *supra* n 152, pp. 482-483; see also Gardiner, *supra* n 152, p. 484 - Gardiner finds “Conclusion” to include ‘the process of successive lodging of instruments of ratification, accession, etc. - or what might be viewed as a rolling process of conclusion.’

all the other parties as an instrument related to it, for the same purposes of deriving the context therefrom.¹⁹⁹

(b) Article 31(3)

The term 'context' has been further elaborated in Article 31(3) which requires taking into consideration 'subsequent' agreements and practice as well as relevant rules of international law.²⁰⁰

(i) Article 31(3)(a) and (3)(b)

Sub-paragraphs (a) and (b) of Article 31(3) clearly end with the need to have a subsequent agreement in existence between parties regarding the interpretation of a treaty concerned.

Where a clear written agreement exists concerning the interpretation of a treaty or its provisions, the situation may be quite straightforward and parties may next follow what has been agreed upon. Nevertheless, Article 31(3)(a) does not spell out the necessity that the agreement must constitute a treaty of formal status and hence it appears that any good evidence that parties to a treaty have reached agreement on its interpretation is admissible regardless of the fact that the subsequent agreement is less formal or otherwise.²⁰¹

Thus, Article 31(3)(b) reflects that subsequent practice can also establish an agreement depending on the circumstances of the case. Furthermore, the ICJ viewed the subsequent practice of the parties under the provision as tantamount to tacit agreement.²⁰² The ICJ

¹⁹⁹ See Chapter 4. State practice shows the lack of this.

²⁰⁰ Article 31(3) states:

"3. There shall be taken into account, together with the context:

(a) Any subsequent agreement between the parties regarding the interpretation of the treaty or the application of its provisions;

(b) Any subsequent practice in the application of the treaty which establishes the agreement of the parties regarding its interpretation;

(c) Any relevant rules of international law applicable in the relations between the parties." (emphasis added)

²⁰¹ Gardiner, *supra* n 155, p. 220.

²⁰² *Dispute Regarding navigational and Related Rights (Costa Rica v Nicaragua)* ICJ Judgment of 13 July 2009, para 664; See also *Kasikili/Sedudu Island case*, *supra* n 172, at 1076, paras 49-52, 63 - It is the 'fact' of the subsequent agreement and not the 'form' which the ICJ would look at.

highlighted that to establish such practice, two criteria must be met, firstly the **belief by the State that its conduct reflects its position** on the treaty, and secondly, the **full awareness and acceptance as confirmation** of the other State regarding this practice.²⁰³

Hence, the defining test appears to be the establishment of the agreement of the parties. Consequentially, in identifying if any such practice establishes an agreement for purposes of Article 121(3), there must be a belief by the acting State that its conduct reflected its position regarding the elements in Article 121(3) and that all other States are fully aware of such conduct and accepted the same as confirmation of the maritime entitlement of the 'rock' island belonging to the acting State. However, Chapter 4 shows that even if it may be argued that the acting State believes its conduct to reflect its position concerning Article 121(3), and even if all States are fully aware of such conduct, evidence has not shown the acceptance or agreement of the other parties to UNCLOS concerning such conduct. On the contrary, matters are still unresolved and States' actions differ from the other concerning the provision, having no common practice, and as a result cannot be considered as acceptance by all States that lead to any agreement.

Subsequent practice in treaty interpretation requires a "*concordant, common and consistent' sequence of acts or pronouncements*" which has a sufficiently "*discernible pattern*" showing agreement in which an isolated act generally would be insufficient.²⁰⁴ It is "*a sequence of acts establishing the agreement of the parties that is relevant.*"²⁰⁵ Such practice requires **constancy** that is sufficient to reveal the agreement amongst the parties as opposed to mere conduct which may not necessarily constitute relevant practice.²⁰⁶ The relevant evidence would be the 'concordant' conduct of the parties, either having done expressly the same thing, or in a unilateral conduct there is agreement of the other party or parties.²⁰⁷ Unfortunately, similar conduct amongst States is not found in the Article 121(3) situation as reflected in Chapter 4. There must also be some common State practice subsequent to Article 121(3) before any confirmatory position on what is understood to constitute the aforesaid terms is achieved, which again Chapter 4 shows in

²⁰³ *Kasikili/Sedudu Island case, supra* n 172, at 1076, paras 49-52, 63, para 74.

²⁰⁴ Japan- Taxes on Alcoholic Beverages, AB-1996-2, Report of 4 October 1996, WT/DS8/AB/R, WT/DS10/AB/R, WT/DS11/AB/R, p. 11.

²⁰⁵ *Ibid.*

²⁰⁶ Gardiner, *supra* n 155, p. 230.

²⁰⁷ *Ibid.*, p. 227.

the negative.²⁰⁸ The interpretation also needs to look beyond the provision in question, that is the treaty as a whole.²⁰⁹

A point to note however in comparison to State practice is ‘evolutive interpretation’.

Evolutive interpretation limits the potential for extending meanings since it has to be based on concepts already in the treaty **as opposed to the concordant practice** which can permit parties who are basically sovereign, to make further treaty provisions that may include reaching a point that they can amend it through their practice.²¹⁰

Despite this, the use of ‘evolutive interpretation’ has still not assisted in the Article 121(3) situation. For example, if ‘human habitation’ is to be regarded as to how humans may survive on any ‘rock’ island today using current technology and hence satisfy the criteria that escape the provision, serious concern will arise as to whether this is indeed what is intended as the object and purpose of Article 121(3). Indeed, if one were to allow for modern technology to overcome all hindrances that humans may face to the extent that a ‘rock’ in its ‘natural’ condition would no longer be in its natural state due to such technology, this may defeat the purpose of having Article 121(3) in existence. The consequences for allowing the use of such modern technology for one State that result in the loss of maritime spaces for all other States where such area could have been at the very least for the common heritage of mankind and all other rights in the high seas, will

²⁰⁸ G. Schwazemberger, *International Law, Vol. I: International Law as applied by International Courts and Tribunals* (London: Stevens, 1957), 531-532- as cited by Hazel Fox, “Article 31(3)(a) and (b) of the Vienna Convention and the Kasikili/Sedudu Island Case” in M. Fitzmaurice, O.Elias, P.Merkouris (Eds.), *Treaty Interpretation and the Vienna Convention on the Law of Treaties: 30 Years on* (2010, Martinus Nijhoff Publishers, Leiden, Boston), pp. 61-62; see also M.S. McDougal, H. Lasswell and J.C. Miller, *The Interpretation of International Agreements and World Public Order* (New Haven: Haven Press, 1994), 132-134 - as cited by Hazel Fox, *ibid.*, p. 62.

²⁰⁹ Gardiner, *supra* n 155, p.232.

²¹⁰ *Ibid.*, p. 243; see *Case of Feldbrugge v. The Netherlands*, ECHR case Application no. 8562/79, Judgment of 29 May 1986 (“*Feldbrugge/ The Netherlands case*”) - Joint dissenting opinions of Judges Ryssdal, Bindschedler-Robert, Lagergren, Matscher, Sir Vincent Evans, Bernhardt and Gersing at paras 23-24. In that case, all judges, majority and dissenting found that state practice had not developed to the point where an agreement or common trend has been met. However, this particular point regarding evolutive interpretation has not been addressed by the majority judges and is merely an additional explanation dealt with by the dissenting judges in the course of elaborating that even if State practice were to be observed in accordance with modern day conditions, there is still no common ground to be found that could develop into State practice. The dissenting judges viewed that-

“An **evolutive interpretation** allows variable and changing concepts already contained in the Convention to be construed in the light of **modern-day conditions...**, but it does **not allow entirely new concepts** or spheres of application to be introduced into the Convention... There are... **limits to evolutive interpretation....**” (emphasis added).

indeed require a balancing of the treaty elements in UNCLOS.²¹¹ Clearly, other provisions of UNCLOS including the object and purpose must be taken into account.

The ICJ also found that practice under another treaty is not admissible to establish an interpretation which is not contained in the **words used in the actual text** being interpreted.²¹² In the Article 121(3) situation, it may be deduced that even if there had been any such subsequent conduct tantamount to practice in another treaty between two States within the ambit of Article 31(3)(b) regarding what is meant by for example, “human habitation” but nevertheless not having in its text specifically concerning an island but instead has a text stating for instance, merely “‘house’ fit for human occupancy”, certainly the understanding in this other treaty regarding human habitation should not be understood as automatically applicable to the Article 121(3) situation; since Article 121(3) does not have in its text “‘house’ fit for human occupancy” but instead “rocks” in the context of ‘rock islands’. To date, there has yet to surface any other treaty amongst States party to UNCLOS that has an understanding of the very terms in Article 121(3) which is clearly concerning such rock island similar to Article 121(3).

Of course, in a **multilateral treaty**, there are parties who may not have the occasion to act on a particular provision as opposed to others who happen to be affected during that particular point in time and thus have established a practice in relation to it.

However, Article 31(3)(b) of the VCLT had clearly spelled out that subsequent practice needs to establish parties’ agreement regarding the interpretation of the treaty. In this respect, the ILC clearly intended that the parties would entail “all” parties and not merely “some” where during the development of the provision, the ILC considered the phrase “the understanding of the parties” meant “the parties as a whole.”²¹³ If this is the case, it would be difficult to establish such understanding when that understanding which applies only to a selected number of parties concerned as opposed to all the parties to the treaty has yet to obtain the agreement of all parties. Certainly it may be argued that non-objection or silence by parties could amount to acquiescence on their part,²¹⁴ and thus in

²¹¹ See text at *supra* n 162 concerning the balancing of treaty elements.

²¹² *El Salvador/Honduras: Nicaragua intervening case*, *supra* n 168, paras 379-380.

²¹³ ILC Yearbook 1966 Vol. II, *supra* n 163, p. 222, para 15.

²¹⁴ *Gulf of Maine case*, ICJ Reports 1984, pp. 245, 305; see also Malcolm N. Shaw, *International Law* (2008, Cambridge University Press, Cambridge), 6th Edition, p. 89.

the Article 121(3) scenario could be regarded as having agreed to an interpretation of Article 121(3) by a party.

Indeed the behaviour of States is assumed to be legitimate if other States do not protest against them and are considered to have acquiesced to such.²¹⁵ However, would all the current 168 parties to UNCLOS²¹⁶ be considered to have passed the test of having acquiesced to any such interpretation by any State, that is if they have not yet already agreed expressly?

The Court in the Lotus case held that '*only if such abstention were based on [the States] being conscious of having a duty to abstain would it be possible to speak of an international custom.*'"²¹⁷ Furthermore, States may fail to protest due to various reasons including not wishing to give offence gratuitously or due to diplomatic and political considerations; and that protesting over every single disagreed act can be an excessive requirement, thus unrealistic to expect protests.²¹⁸

Considering that Article 121(3) was finally accepted based on a compromise by States as opposed to all States' actual 'whole-hearted' agreement as will be observed in Chapter 3, it would be difficult to establish the existence of an agreement regarding the interpretation of Article 121(3) under Article 31(3)(b) of the VCLT.

It may be argued that it will take more than mere silence from a State to be regarded as acquiescence to an action of another State regarding a questionable island under the provision. The likely possibility of States not responding to another State's action concerning such island may very well indeed be due to the many aforesaid reasons.²¹⁹

Further, it is still very difficult to say that States have agreed to any one practice by another State in the context of Article 121(3) since there are many diverse practices as

²¹⁵ Shaw, *ibid.*, p. 89. – referring to *Grand-Duchy of Luxembourg v. Cie. Luxembourgeoise de Télédiffusion*, 91 ILR, pp. 281, 286; see also p. 90 - It has been argued that 'acquiescence can amount to consent to a customary rule and that the absence of protest implies agreement' in which other States' silence towards a State's declaration that its action is legal, can be regarded as an expression of *opinio juris* or concurrence in the new legal rule, thus requiring actual protests to discontinue the legitimizing process (i.e. – referring to e.g. MacGibbon, 'Customary International Law', p. 131, and H.S. McDougal et al., *Studies in the World Public Order*, New Haven, 1960, pp. 763-72).

²¹⁶ See UN website, *supra* n 60.

²¹⁷ 'The case of the S.S. "Lotus",' PCIJ, Series A, No. 10, 1927, p. 28.

²¹⁸ *Ibid.*, p. 91. Accepting failure to protest as a valid derogation from an established custom may cause countless special relationships to arise between different States subject to acquiescence and protest.

²¹⁹ *Ibid.*

will be seen in Chapter 4. The same silent response is being seen from the non-action of many other States towards the diverse actions of more than one State with questionable islands. Hence, which State's action should other States' silence be accepted as acquiescence since there are different actions by different States with questionable islands. Could a State be considered to agree to all the contrary actions of more than one State by its silence? Even if this is possible, which action therefore will be the ultimate action that has been agreed to as the criteria that make up Article 121(3) that prevails over all other actions which appear to also have been acquiesced by other States. Due to this difficulty, the chances are that acquiescence may not possibly work in the Article 121(3) scenario unless there is only one kind of action practised by all the States that have a questionable island, and thus, all other States that remain non-responsive could perhaps be argued to have agreed to that one particular action.

The agreement of only selected parties regarding their practice cannot be imposed on all the rest of the parties to UNCLOS since such agreement needs to be attributable to all the parties. It cannot be taken into account any such practice of only a number of States which have yet to be endorsed and agreed to by all States to UNCLOS for purposes of understanding what the terms in Article 121(3) entail. In this respect, if the dispute or discussion concerns for example, merely two States which, perhaps affects only these two States, it may seem rational to accept the argument that such agreement should only be confined to these affected States that are in discussion regarding the understanding of the aforesaid terms. This may be acceptable if the actions and consequences are confined only to them, without affecting others in its implementation, and should not be held as precedence to other State parties. Yet, it is difficult to say whether such would not affect others since there are possibly areas that could affect the existing rights of other States in the high seas as well as the 'common heritage of mankind' area, which may then require affected States to protest or raise their concerns accordingly if they disagree; and hence the issue of reaching an agreement under Article 31(3)(b).

Despite this, there has yet to be discovered a situation where two States have in fact agreed on an Article 121(3) situation. Nevertheless, a simple analogy which elaborates on the effect on other States may be made out of situations where it involves a 'questionable' island such as France's Clipperton Island around which a 200 nm was claimed by France by decree in 1978 which in fact was strongly objected to by Mexico.

Therein, even if Mexico had agreed to the maritime entitlement declared by France, such agreement could still affect the maritime spaces that could have been enjoyed by other States as the high seas under UNCLOS²²⁰ although of course it may be argued that this is subject to Article 34 of the VCLT²²¹ causing the need to negotiate with these other States on the matter before the Claimant State, France in this occasion, can exercise its rights without any protest from other States in the affected maritime space. An agreement between Mexico and France could give rise to the issue concerning other States' rights in the 'could have been' high seas, with neighbouring States to be more affected such as Guatemala, Peru and Ecuador. Similarly, even if China agrees to the claim by Japan that Okinotorishima is not caught by Article 121(3), the maritime area that Okinotorishima would generate would have encroached upon the space that could have been the high seas in which other States would not have to be subjected to Japan's sovereign rights and jurisdiction due to Okinotorishima's EEZ and CS.²²² Neighbouring States such as Philippines and Korea would be the more affected ones that may not be able to enjoy the rights of States under the high seas regime in this maritime area generated by Okinotorishima. Regardless, in both the aforementioned France-Mexico and Japan-China scenarios, all the rest of the parties to UNCLOS could also be affected should they decide to exercise their rights in the aforesaid affected maritime zones.

In short, there appears to be too many different interpretations and actions by States as seen in Chapter 4 that could be accepted as the valid interpretation that constitutes a subsequent agreement by all States that overrides all. States have yet to reach this stage and the current status is such that there has yet to surface an agreement under Articles 31(3)(a) and (b) of the VCLT for purposes of deriving the context therefrom that could assist in understanding the criteria that constitute the terms under Article 121(3).

(ii) Relevant Rules of International Law: Article 31(3)(c)

The rules of international law also play a significant role in understanding the context and this include the applicable international law, namely whether it should be contemporary law or the time when the dispute had arisen. Thus, should a treaty provision be interpreted as if at the time of its negotiation, conclusion, or ratification, or should it be

²²⁰ see Chapter 1, texts at *supra* nn 87 - 92.

²²¹ Article 34. "A treaty does not create either obligations or rights for a third State without its consent."

²²² see Chapter 1, texts at *supra* nn 93 – 101.

some other time; and should the ‘meaning of a treaty provision evolve particularly in the light of changes in international law.’²²³ The answer may be found in that treaty itself.²²⁴ For instance, if the new circumstances are factual, the question is whether the treaty foresaw the chances of this change; and if this is unclear, the ‘circumstances of conclusion’ of the treaty may be looked at as a supplementary means for its interpretation as provided for by Article 32 of the VCLT.²²⁵ What is important is identifying what exactly is intended by the treaty and is dependent on the facts and situation of each case.²²⁶

Thus, the question arises as to whether Article 121(3) of UNCLOS may indeed be interpreted to foresee any changes that could affect the criteria that constitute the provision’s identified terms. For instance, although it may be argued that even though humans were unable to inhabit a questionable island during the time when Article 121(3) was formulated, but subsequent changes have now allowed for human habitation, the issue is whether Article 121(3) was intended by parties to allow the then international law to follow such changes. Hence, if the development in law is allowed to be applied according to contemporary times if the intention of parties clearly shows, it could also be argued that the elements which constitute human habitation would have to be elements

²²³ Gardiner, *supra* n 155, p. 251; see *Island of Palmas (Netherlands v USA) case* (1928) 2 RIAA 829 (“Island of Palmas case”) at p. 845 – Judge Huber stated that “a juridical fact must be appreciated in the light of the law contemporary with it, and not of the law in force at the time when a dispute in regard to it arises or falls to be settled” and that “[t]he same principle which subjects the act creative of a right to the law in force at the time the right arises, demands that the existence of the right, in other words its continued manifestation, shall follow the conditions required by the evolution of law”; See also *Case Concerning the Gabčíkovo-Nagymaros Project (Hungary/Slovakia)* [1997] ICJ Reports 7, paras 140-141: The ICJ found that the treaty in question imposes a continuing obligation on the parties to preserve the quality of the Danube water and to protect nature; and that new scientific insights and growing awareness of the risks to mankind require that new norms and standards, including the norms of international environmental law and the principles of the law of international watercourses be taken into consideration together with the objectives of the treaty in a joint and integrated way; see also Gardiner, *supra* n 155, p. 257 – referred to the *Grisbadarna (Sweden v Norway)*(1909) 2 RIAA 159-160, 23 October 1909, Vol. XI, pp. 147-166 : The case shows the application of the intertemporal rule as appropriate according to the situation. because the treaty had at its object the definitive settlement of the frontier, the tribunal decided to apply the 17th century principle of drawing a line out perpendicular from the coast as opposed to the more modern usage equidistance line; whilst it applied the 20th century principle for the breadth of the territorial sea since during the 17th century its breadth had not yet been resolved by the then laws.

²²⁴ Gardiner, *supra* n 155, p. 254.

²²⁵ *Ibid.*

²²⁶ Waldock (Special Rapporteur for the Law of Treaties) in Summary records of the eighteenth session on the “Interpretation of Treaties”, 4 May -19 July 1966 [1966] Yearbook of ILC, vol. I, part II, (A/CN.4/SER.A/1966) p. 199, para 9; see also R. Higgins, “Some Observations on the Inter-Temporal Rule in International Law” in R. Higgins, *Themes and theories: Selected essays, Speeches, and writings in international law* (2009, Oxford University Press) Vol. 1, p. 874.

at the time of their consideration, that is, when States are venturing into identifying whether a rock should be caught by Article 121(3) or otherwise, and not when the UNCLOS was concluded. This is if the intention of parties for Article 121(3) was meant to cater for when States give attention to the questioned rock, wanting to decide whether it should generate those extended maritime zones or otherwise.

It is nevertheless difficult to ascertain the intention of parties on whether the terms contained in Article 121(3) are intended to be appreciated in the light of contemporary law and following the conditions required by the evolution of law or otherwise. Indeed, the legislative history of the provision mainly shows the debate on whether such provision should be part of Article 121 together with the terms contained therein²²⁷ rather than to explain in detail whether the meaning of 'such terms is meant to follow the circumstances of the day or when it was formulated or even when parties decide to establish the legal status of a 'rock' island vis-à-vis Article 121(3), all of which would consequentially trigger the applicable law. Further discussions on this may be seen in Chapter 10.

(c) Conclusion

In addressing the context, apart from the text, preambles and annexes, regard must also be had to any agreement or instrument connected to the conclusion of a treaty as well as subsequent agreements and practice regarding its interpretation including relevant rules of international law. Ultimately, it is the parties' agreement be it at the conclusion of the treaty or subsequent thereto, that should be the essence of the matter.²²⁸

UNCLOS is a multilateral agreement which more than a hundred States including the European Union have ratified or acceded to.²²⁹ In the process of unearthing the context of Article 121(3), apart from looking at the text of the provision and UNCLOS itself, its

²²⁷ See Chapter 3.

²²⁸ see also ILC Yearbook 1966 Vol. II, *supra* n 163, p. 221, para 14. The ILC stated that -

"...it is well settled that when an agreement as to the interpretation of a provision is established as having been reached before or at the time of the conclusion of the treaty it is to be regarded as forming part of the treaty... Similarly, an agreement as to the interpretation of a provision reached after the conclusion of the treaty represents an authentic interpretation by the parties which must be read into the treaty for purposes of its interpretation (emphasis added)."

²²⁹ Text at *supra* n 60.

preambles and annexes as well as other agreements, and instruments that have been accepted by all parties, in connection with the conclusion of Article 121(3) of UNCLOS must also be referred to. This includes taking into consideration subsequent agreements and practice regarding the interpretation of Article 121(3) along with relevant rules of international law applicable in the relations between the parties as depicted by Article 31(3) of the VCLT.

Nevertheless, in the Article 121(3) scenario, Chapter 3 and Chapter 4 will show that there is no such agreement or instrument that exists within the ambit of Article 31(2) of the VCLT to assist in providing the context of the former. Similarly, there is no subsequent agreement or practice under Article 31(3) for the same purpose. There has yet to surface an ‘agreement’ express or implied under both Articles 31(2) and 31(3) of the VCLT that could assist in identifying the context to aid in understanding the criteria that constitute the terms under Article 121(3).

Furthermore, the discussion on the preparatory work for Article 121(3) in Chapter 3 lacks information on the intention of parties concerning the applicable international law for the Article 121(3) scenario. Parties were more concerned as to whether to insert Article 121(3) as part of Article 121 rather than determining the criteria which constitute the terms in Article 121(3) including the applicable international law and whether such would follow the circumstances of the day or otherwise.

However, the next essential point that may help in interpreting Article 121(3) is by identifying the ‘object and purpose’ mentioned in Article 31(1) of the VCLT.

5.6 Object and Purpose

The ‘object and purpose’ function is to shed light on the ordinary meaning rather than to act merely as an indicator of a general approach to be taken into treaty interpretation.²³⁰ This includes the principle of effectiveness, namely the idea that “*an objective of treaty interpretation is to produce an **outcome that advances the aims of the treaty.***”²³¹ A

²³⁰ Gardiner, *supra* n 155, p.190.

²³¹ *Ibid.*; see texts at *supra* nn 163 to 164; see also Gardiner, *supra* n 152, p. 497; see *Territorial Dispute (Libyan Arab Jamahiriya/Chad)* [1994] ICJ Reports, 6 - The ICJ applied the principle of effectiveness in that case:

treaty's object and purpose have been linked to the 'good faith' requirement by the ILC and the ICJ to produce a 'principle of effectiveness.'²³² However, it does not allow "the general purpose of the treaty to override its text."²³³

The **preamble** is amongst one of the sources commonly mentioned to identify the object and purpose of a treaty, although the whole text of the treaty should be taken into account.²³⁴ Nevertheless, despite it being a starting point,²³⁵ caution is necessary due to the fact that preambles 'are not always drafted with care' and they themselves 'may need interpreting.'²³⁶ Hence, whilst the preamble to a treaty is an evident source of reference,²³⁷ 'Article 31(2) and practice make it clear that an interpreter needs to read the whole treaty.'²³⁸ The object and purpose cannot be used to refute clear substantive provisions. It cannot be used to alter the clear meaning of a term of a treaty, and "*does not constitute an element independent of [a treaty's] context... [and] to be used **only to clarify the text**, not to provide independent sources of meaning that contradict the clear text.*"²³⁹

"51... [T]he Court's task is clear:

*'...The text of Article 3 clearly conveys the **intention of the parties to reach a definitive settlement of the question** of their common frontiers. Article 3 and Annex 1 are intended to define frontiers by reference to legal instruments which would yield the course of such frontiers. Any other construction would be contrary to **one of the fundamental principles of interpretation of treaties**, consistently upheld by international jurisprudence, namely that of **effectiveness**... (emphasis added).'*"

²³² Gardiner, *supra* n 152, p. 496.

²³³ Gardiner, *supra* n 155, p. 190.

²³⁴ *Ibid.*, p. 192.

²³⁵ *Ibid.*, p. 196; see *Oil Platforms (Islamic Republic of Iran v. United States of America)*, Preliminary Objection, Judgment, I.C.J. Reports 1996, p. 803, at 813 ("*Oil Platforms Case (P.O)*") - The object of the treaty is:

"...according to the terms of the Preamble, the "encouraging [of] mutually beneficial trade and investments and closer economic intercourse generally" as well as "regulating consular relations" between the two States."

²³⁶ Gardiner, *supra* n 155, p. 196.

²³⁷ *Case Concerning the Arbitral Award of 31 July 1989 (Guinea-Bissau v Senegal)*, Dissenting Opinion [1991] ICJ Reports 53 at 142. Judge Weeramantry stated that:

"An obvious internal source of reference is the preamble to the treaty. The preamble is a principal and natural source from which indications can be gathered of a treaty's objects and purposes even though the preamble does not contain substantive provisions. Article 31(2) of the Vienna Convention sets this out specifically when it states that context, for the purpose of the interpretation of a treaty, shall comprise in addition to the text, the preamble and certain other materials."

²³⁸ Gardiner, *supra* n 155, p. 197.

²³⁹ *Ibid.*, pp. 197-198 – Gardiner referred to *USA, Federal Reserve Bank v Iran, Bank Markazi Case A28*, (2000-02), 36 *Iran-US Claims Tribunal Reports* 5 at 22, para 58.

In relation to Article 121(3), the preambular paragraphs of UNCLOS²⁴⁰ clearly show the need to deal with issues of the oceans as a whole. It desires to establish a legal order that will facilitate international communication, promote peaceful uses of the seas and oceans, with the hope to contribute to a just and equitable international economic order that takes into consideration the needs and interests of mankind as a whole, and with particular regard to developing States, coastal or landlocked. It also desires to develop principles that include areas of the seabed and ocean floor area and its subsoil considered not within the limits of national jurisdiction but are the common heritage of mankind, for their benefit as a whole and irrespective of the geographical location of States. Hence, these could be argued to be understood as the overall object and purpose of UNCLOS. It is quite clear that the aim is to benefit mankind as a whole, with special considerations for developing States.

Thus, looking at Article 121(3) in the light of these objectives, it may be argued that although indeed UNCLOS aims to ensure that States with islands could have full maritime zones around their respective maritime features, and thus appearing to be one of the ways to contribute to a just and equitable international economic order, it equally intends to safeguard the interests and needs of mankind as a whole with particular regard to

²⁴⁰ UNCLOS (Preamble):

“The States Parties to this Convention,

...

*Conscious that the **problems of ocean space are closely interrelated and need to be considered as a whole,***

*Recognizing the desirability of establishing ... a legal order for the seas and oceans which will facilitate international communication, and will promote the peaceful uses of the seas and oceans, the **equitable and efficient utilization of their resources,** the conservation of their living resources, and the study, protection and preservation of the marine environment,*

*Bearing in mind that the achievement of these goals will contribute to the realization of **a just and equitable international economic order which takes into account the interests and needs of mankind as a whole** and, in particular, the **special interests and needs of developing countries, whether coastal or land-locked,***

*Desiring by this Convention to develop the principles ... inter alia that the **area of the seabed and ocean floor and the subsoil thereof, beyond the limits of national jurisdiction,** as well as its resources, are the **common heritage of mankind,** the exploration and exploitation of which shall be carried out for the **benefit of mankind as a whole, irrespective of the geographical location of States,***

...

*Affirming that matters not regulated by this Convention continue to be governed by the rules and principles of **general international law,***
Have agreed as follows:” (emphasis added).

Chapter 2

developing States as well as aims to ensure that the seabed area and the ocean floor and subsoil together with the benefits that could be derived therefrom would be available and free to mankind as a whole regardless of States' geographical location.

Hence unsurprisingly, UNCLOS is clearly concerned that islands which cannot sustain human habitation or have an economic life of its own should have a very much limited maritime zone, namely just the territorial sea and contiguous zone. If this object and purpose is applied in good faith, States should not abuse Article 121(3) to overcome the provision's clear intentions to limit those islands to only these limited zones, which clearly result in leaving the possible EEZ and CS area free for the benefit of all mankind.

In this day of modern technology, almost anything can be done to a questionable 'rock' island to ensure that it will be able to escape the criteria in Article 121(3). Hence, if modern technology is allowed to defeat the natural conditions of such islands so as to alter them to such an extent that would change their maritime entitlement, the result may be argued as States having unfairly acquired additional maritime zones to an otherwise sure island that would be caught by Article 121(3). To allow such technology to overcome the natural conditions of an island to those that are altered to the extent of artificiality, UNCLOS might as well not have in existence Article 121(3) as it will no longer play a role.

Indeed there may be views to say that Article 121(3) will still be useful by relying on the argument that it could apply to situations where only those islands that have been 'altered' to satisfy the criteria and escape Article 121(3) that will be able to generate those additional maritime zones, basing it on the grounds that one cannot avoid modern technology and should utilise the same for the benefit of mankind; whilst those islands that other States are not able to 'alter' regardless of whatever reasons, would not be able to generate those additional zones. Nevertheless, not all States have the means to apply such technology to the island situation to make this difference. Hence, should the entitlement of States to those maritime zones be discriminated due to their lack of means to employ such modern technology, as compared to those States with all the means to do so?

It needs to be reminded that the preamble of UNCLOS clearly spells out the necessity to take into consideration the special needs and interests of developing States and

landlocked States; and Article 121(3) appears to reflect this balance by ensuring that not all islands can have full maritime entitlement. Hence, if the understanding and interpretation of Article 121(3) is to rely on States' capability and means to alter the situation of their rock island with modern technology, such may defeat the object and purpose of UNCLOS and the likely consequences are that the rich and developed States will continue to be richer whilst the developing and not so fortunate States will continue to lose out.

In short, the object and purpose of UNCLOS if applied to the Article 121(3) situation appears to require a balancing of benefits derived from the oceans for mankind as a whole, in particular developing States regardless of whether they are coastal or landlocked. To allow modern technology to defeat Article 121(3) may be argued to have taken the step that is not in good faith in the interpretation of UNCLOS as a whole.

5.7 Conclusion for Article 31

Answering the five questions posed in the earlier part of this Chapter,²⁴¹ it may be concluded that, **firstly**, amongst the significant terms to be interpreted as identified from Article 121(3) are 'rock', 'sustain', 'human habitation', 'economic life', and 'of their own'.

Secondly, considering the necessity to first ensure that there are no special meanings intended by the parties under Article 31(4), it is observed that to date there has yet to surface any such special meaning to be applicable to any of the terms. Even though States' actions towards questionable 'rock' islands may arguably show States' own special meanings concerning the aforesaid terms as observed in Chapter 4, no State has yet established that its special meanings are indeed what were intended by the parties to UNCLOS, the burden of which is on the State that asserted such. There appears to exist no special meaning within the ambit of Article 31(4).

Thirdly, given that there is no special meaning of the aforesaid terms, their ordinary meaning needs to be considered. However, even the ordinary meanings identified have not been helpful since although such meanings appear straightforward, what constitute the criteria to make those terms are yet unknown. Although the ordinary meaning is easy

²⁴¹ See Section 5.1.

to understand, such meanings are also broad enough to be understood by an interpreter or particularly States, to contain criteria that could be self-serving. This thus necessitates such interpretation to take into consideration the context of such ordinary meaning.

However, **fourthly**, the context as elaborated by Article 31(2) and (3) has not been able to be successfully identified given that under Article 31(2), there does not appear to be any agreement made amongst all the parties to UNCLOS that was made at the conclusion of the Convention that is related to Article 121(3), or any instrument made by any of the parties to UNCLOS in connection with the conclusion the Convention that has also been accepted by the other parties as an instrument related to it for the purpose of identifying the context clearly; and similar unhelpful results have been extracted from the discussions concerning agreements and 'agreed' practice subsequent to UNCLOS under Articles 31(3)(a) and (b), with no such agreement or practice surfacing to assist in providing information to derive the context from.

Further, under Article 31(3)(c), there is insufficient information as to which international law is intended to be applicable for purposes of Article 121(3) for purposes of assisting in deriving the context of the provision, namely whether it should be appreciated in the light of contemporary law and following the conditions required by the evolution of law or otherwise. As reflected in Chapter 3, States' debate during the preparatory work of the provision was not on which international law should be applicable but more whether to insert the aforesaid provision and in such formulation into UNCLOS or otherwise.

However, the **final point** which concerns identifying the object and purpose of Article 121(3), the preamble of UNCLOS reflects UNCLOS' intention to ensure a balancing of benefits derived from the oceans for mankind as a whole, with particular regard to developing States regardless of whether they are coastal or land-locked. Thus, in the light of Article 121(3), to allow the introduction of modern technology to defeat the provision, such can be construed to be not applying the provision in good faith as a whole.

Despite all these crucial points and findings, the question still remains as to how does one therefore understand what would be the criteria that constitute the terms in Article 12(3) even in their natural condition? It is therefore necessary to look beyond the general rule in Article 31 of the VCLT by taking into consideration the supplementary means of interpretation under Article 32 of the VCLT.

6. Supplementary Means of Interpretation: Article 32

Article 32 provides that:

“...

*Recourse may be had to supplementary means of interpretation, including the **preparatory work** of the treaty and the **circumstances of its conclusion**, in order to **confirm** the meaning resulting from the application of article 31, or to **determine** the meaning when the interpretation according to article 31:*

- (a) *Leaves the meaning ambiguous or obscure; or*
- (b) *Leads to a result which is manifestly absurd or unreasonable.”*

A brief reading of the provision shows that Article 32 only comes in to play ‘*after*’ the application of Article 31. It enables “the **preparatory work** of the treaty and the **circumstances of its conclusion**” to act as supplementary means of interpretation to either confirm the meaning resulting from the application of Article 31, or to determine the meaning where the interpretation carried out in the provision has left it ‘ambiguous or obscure’ or has led to a result which is “manifestly absurd or unreasonable”.

In this respect, tribunals of arbitration commonly refer to **preparatory work**.²⁴² The ICJ also found that supplementary means of interpretation may be referred to, “*to seek a possible confirmation of [an] interpretation*.”²⁴³ Nonetheless, whilst the ECHR appears to typically state the preparatory work of applicable provisions before applying the law to the facts and contentions²⁴⁴ some courts reject the use of preparatory work unless it “very directly and conclusively addresses the point in issue”.²⁴⁵ In addition, Waldock found it necessary to be cautious when referring to *travaux préparatoires* since they are not authentic means of interpretation but merely evidence to be weighed against any

²⁴² A.D. McNair, *The Law of Treaties* (Oxford: OUP, 2nd Ed, 1961), p. 412.

²⁴³ *Sovereignty over Pulau Ligitan and Pulau Sipadan (Indonesia/Malaysia)* [2002] ICJ Reports 625, (“*Ligitan/Sipadan case*”), para 53.

²⁴⁴ Gardiner, *supra* n 152, p. 500 – reference was made to e.g. *Witold Litwa v Poland*, ECHR App No 26629/95, Judgment of 4 April 2000, pp. 10-11, paras 33-39 - The Court went to set out the preparatory work of the related Convention after stating the relevant domestic law and practice.

²⁴⁵ *Ibid.*, p. 502 – reference was made to the trend in UK cases e.g. *Effort Shipping Company v Linden Management* [1998] AC 605, 623 that require preparatory work to “clearly and indisputably point to a definite legal intention: ‘Only a bull’s-eye counts. Nothing less will do.’ In that case, the question of referring to the *travaux préparatoires* was with regard to the Hague Rules.

other relevant intention of parties, and with their cogency dependent upon proof of parties' common understanding concerning the meaning of the treaty.²⁴⁶

The other supplementary means specifically mentioned in Article 32 is the "**circumstances of conclusion.**" Although there is no elaboration on this, it may mean to include 'circumstances that cause a treaty to be drawn up, affect its content and attach to its conclusion.'²⁴⁷ The listed supplementary means in Article 32 are not exclusive. It has been suggested to include those which are "*consistent with [Articles 31 to 32] unless otherwise agreed in the particular treaty.*"²⁴⁸ In addition, "***the rules are only a framework of treaty interpretation...***".²⁴⁹

Herein, it is observed as will be seen from the discussion in Chapter 3 that the **preparatory work** for Article 121(3) does not assist much. The debate amongst the parties was mainly whether to include the terms into the provision or otherwise and not concerning what constitutes the criteria to make up those terms. The **circumstances of conclusion** of Article 121(3) were also not helpful, ended in a compromise by parties, and similarly only concerning the insertion of such terms into the provision instead of what constitutes the criteria to make up those terms.

Nevertheless, although the processes provided by Article 32 are no more than aids to interpretation and requires special care when applying them,²⁵⁰ it is merely a framework of treaty interpretation,²⁵¹ and thus leaves much of the way to go about it to be determined by the interpreter provided that it is carried out within the constraints of the provision. Indeed as concluded below, environmental science is proposed as one of the supplementary means under Article 32 of the VCLT to assist in the Article 121(3) situation.

²⁴⁶ ILC Yearbook 1964, Vol. II, *supra* n 156, p. 58., para 21. - i.e. Waldock's (ILC Special Rapporteur) comments during the preparatory work of the VCLT.

²⁴⁷ Gardiner, *supra* n 155, p. 343.

²⁴⁸ *Ibid.*, p. 343.

²⁴⁹ *Ibid.*, p. 349.

²⁵⁰ Anthony Aust, *Modern Treaty Law and Practice* (2007, Cambridge University Press, Cambridge), pp. 248-249.

²⁵¹ Gardiner, *supra* n 155, p. 349.

7. Overall Conclusion

Quoting the ILC's famous words prior to the finalization of the VCLT, "the interpretation of documents is to some extent, an art not an exact science."²⁵² Similarly, Merkouris finds that "*unlike science, where a set of rules will predetermine the exact outcome in any given scenario, interpretation does not seem to follow that deterministic process. It consists of so many unquantifiable elements, which render the prediction of an outcome with absolute certainty an impossibility.*"²⁵³ Merkouris added that this "*idea of science as 'exact' does not correspond to reality at all... [where] infinite precision is impossible. ...[E]ven in physics, ...there is always a 'margin of error'; ... [and] Gödel's theory [shows that] mathematics, ...proved to be just another in a long line of incomplete systems.*"²⁵⁴ He concluded that "*[i]nterpretation is a science is an art is a science.*"²⁵⁵ Indeed, there are many instances rendering science and art to not be mutually exclusive wherein there are areas of science and art that overlap.²⁵⁶

Furthermore, whilst according to Allott, treaties are better seen as "disagreement reduced to writing,"²⁵⁷ Klabbers finds that "*the rule(s) of [A]rticles 31 and 32... rather open-ended themselves - embodying... a compromise between various approaches... and... that not too much ought to be expected from [them].*"²⁵⁸ He added that "*...interpretation is still a human activity, depending on the efforts of human beings, their intellectual capacities, their sensibilities and perhaps, most of all, their sense of virtue.*"²⁵⁹

Gardiner also finds that interpretation under Articles 31 and 32 show a nature which is more akin to principles than rules which are not proven to be highly restrictive and are quite flexible in their application.²⁶⁰

²⁵² ILC Yearbook 1966 Vol. II, *supra* n 163, p. 218, para 4.

²⁵³ P. Merkouris, "Introduction: Interpretation is a Science, is an Art, is a Science" in M. Fitzmaurice, O.Elias, P.Merkouris (Eds.), *Treaty Interpretation and the Vienna Convention on the law of Treaties: 30 Years on* (2010, Martinus Nijhoff Publishers, Leiden, Boston), p. 10.

²⁵⁴ *Ibid.*

²⁵⁵ *Ibid.*, pp. 12-13.

²⁵⁶ *Ibid.*

²⁵⁷ Philip Allott, *The Concept of International Law*, EJIL 10 (1999), 31-50, at p. 43 para 35.

²⁵⁸ Klabbers, "Virtuous Interpretation" in M. Fitzmaurice, O.Elias, P.Merkouris (Eds.), *Treaty Interpretation and the Vienna Convention on the law of Treaties: 30 Years on* (2010, Martinus Nijhoff Publishers, Leiden, Boston), p. 34.

²⁵⁹ *Ibid.*, p. 35.

²⁶⁰ Gardiner, *supra* n 152, p. 504 – also referring to H. Thirlway, *The Law and Procedure of the International Court of Justice 1960-1989, Supplement 2006: Part Three* (2006) 77 BYBIL, 1, 19.

These fairly realistic views only support the fact that various methods should be allowed to assist in the interpretation of Article 121(3). As shown, the general rule of interpretation under Article 31 and the specifically stated supplementary rules under Article 32²⁶¹ have not been able to assist in understanding what are the criteria that constitute the identified terms in Article 121(3). Hence, other supplementary means may be employed to assist in the situation.

Thus, although current legal understanding concerning Article 121(3) will be discussed in this thesis, environmental science will also be introduced as a supplementary mean under Article 32 of the VCLT to assist in the situation. This discipline is intended to complement the basic legal understandings generally acceptable to all,²⁶² in which States could resort to in the event of a stumbling block that perhaps could only be overcome by parties who are willing to resolve issues on more neutral grounds rather than self-serving methods. Notably, parties are still masters of their own treaty relations and should be free to ascribe whatever meanings as agreed amongst themselves concerning their own treaties, although certainly subject to *jus cogens* which at this juncture is not an issue for discussion under Article 121(3).

Prior to introducing environmental science in the understanding of Article 121(3), the immediate following chapters will first address the various related existing legal circumstances, such as its preparatory work, the legal analysis by scholars, judgments and opinions by international adjudicating bodies, and State practice. These chapters are necessary to appreciate the overall background of the whole situation and to identify any loopholes which as will be seen would justify further the importance of employing environmental science as one neutral way to aid in the issue. Herein, efforts to include additional information that is backed up by real evidence or information coming from experts in the field may be necessary to assist in undoing the conundrum faced. Indeed, environmental science can be crucial to assist in the interpretation of Article 121(3), which will be addressed subsequent to the discussions concerning the formerly mentioned chapters.

²⁶¹ i.e. 'preparatory work' and 'circumstances of conclusion'.

²⁶² Chapter 10, Section 34.

Chapter 3 LEGISLATIVE HISTORY

8. Introduction

An examination of the legislative history of Article 121(3) is certainly essential to understand the intention and purpose of States when it was finally formulated.

Negotiations regarding the oceans for the LOSC III began under the ‘common heritage of mankind’ theme although the end result appears to confer upon coastal States more rights over the oceans.²⁶³ However, between the seventh and final sessions of the LOSC III held in 1978 and 1982, suggestions and amendments in relation to the regime of islands had been submitted. To understand how this regime had arisen including the possible interpretation of the intent and purpose of Article 121(3), it is necessary to observe the discussions that took place prior to UNCLOS. This regime of islands seems to have taken root mainly from the 1930 Codification Conference, the CTSCZ 1958 and the CCS 1958, the discussions of the UN Sea-Bed Committee²⁶⁴ in 1972-1973 and finally ‘the discussions in and proposals submitted to the Second Committee during the Caracas Session of the LOSC III in 1974.’²⁶⁵

9. The 1923 Imperial Conference

At the outset, the ‘human habitation/economic formula’ for islands was discussed even before the the first international conference that took place in 1930.²⁶⁶ In 1861, the Scottish Census declared that amongst other things, an island has to be an area surrounded by water and inhabited by man with at least one sheep that could graze.²⁶⁷

Subsequent thereto, the explanatory memorandum to Resolution Four of the 1923 Imperial Conference when discussing the limits of the territorial sea as a common policy for the British Empire, stated that “[t]he phrase ‘capable of use or habitation’ has been

²⁶³ See texts at *infra* n 718.

²⁶⁴ The Committee on the Peaceful Uses of the Sea-Bed and the Ocean Floor Beyond the Limits of National Jurisdiction (“UN Seabed Committee”) (1968-1973).

²⁶⁵ Van Dyke and Brooks, *supra* n 90, p. 271.

²⁶⁶ B. Hart Dubner, *supra* n 149, at 305 – citing E.D. Brown, *The International Law of the Sea 148* (Introductory Manual, X ed. 1994), p. 151; see Section 10 of this Chapter below and text at *supra* n 32.

²⁶⁷ Russell King, “The Geographical Fascination of Islands” in Douglas G. Lockhart, D. W. Drakakis-Smith & John Schembri (eds.), *The Development Process in Small Island States* (Routledge, 1993), p. 16.

*adopted as a **compromise**.....” and “[i]t is recognized that these criteria will in many cases admit of argument, but nothing more definite could be arrived at in view of the many divergent considerations involved.”*²⁶⁸ Therein, the drafters’ intent regarding ‘capability’ was that:

*“...‘capable of use’ should mean “capable, without artificial addition of being used throughout all seasons for some definite commercial or defence purpose, and that ‘capable of habitation’ should mean capable, without artificial addition, of permanent human habitation.”*²⁶⁹

Nevertheless, this understanding on the ‘capability’ aspect appears to be for purposes of setting forth the common policy of the British Empire and thus should not be considered as the understanding of other States in general. This point is highlighted merely for purposes of showing the existence of this debated formula even prior to the 1930 Codification Conference which included discussions regarding island characteristics.

10. The 1930 Codification Conference

Except for a few brief references to an island’s characteristics that may be considered in relation to Article 121(3), there is hardly any specific mentioning of an insular feature’s maritime entitlement beyond a territorial sea. The 1930 Codification Conference marks States’ views regarding the definition of an island, rather than its maritime entitlement beyond the territorial sea. However, it is crucial to discern how related matters evolved throughout the years that finally resulted in Article 121(3).

10.1 ‘Human habitation’ or ‘economic life’

Markedly, the discussion that made the closest reference to either of the ‘human habitation’ or ‘economic life’ elements in Article 121(3) is ‘occupation’ and ‘use’. Amongst the States that have advocated for the criteria of having the capability for occupation and

²⁶⁸ Hart Dubner, *supra* n 149, p. 151 - referring to E.D. Brown who cited the Imperial Conference 1923, Report of Inter-Departmental Committee on the Limits of Territorial Waters Document T.118/118/380 (194), Public Record Office Ref. F.O. 372/2108 at 5; see texts at *supra* nn 266-269.

²⁶⁹ Diaz, Hart Dubner and Parent, *supra* n 95, p. 536.

use before a maritime feature may have island status are South Africa, Australia and the UK,²⁷⁰ with India expressing its position to be in accordance with the UK.²⁷¹

Germany however viewed the requirement of ‘human inhabitants’ only necessary where artificial islands are concerned for it to be assimilated to ‘natural’ islands.²⁷² The Netherlands also opined that even artificial elevations can be considered as islands,²⁷³ whilst Denmark believed that artificial islands, including lighthouses do not entitle a State to modify any existing delimitation to the prejudice of another State.²⁷⁴ Since it is now settled law that artificial islands do not enjoy the same legal status as a natural island,²⁷⁵ these States’ views are of not much relevance to the Article 121(3) situation.

Other States’ views do not concern much on the ‘occupation and use’ criteria but on whether islands should be permanently above the level of high tide or whether low tide suffices.²⁷⁶ There was also no discussion on the economic viability of a maritime feature as required by Article 121(3) of UNCLOS.

10.2 Physical characteristics of the insular feature

Apart from the need for a maritime feature to have the capability for occupation and use in order to have island status, South Africa went deeper by singling out rocks and banks which are not ‘capable of effective use and occupation’ to not even be considered as islands.²⁷⁷ In tandem with South Africa’s position, Australia and the UK and consequentially India who followed the UK position, further viewed that a rock or bank without these criteria would not even be entitled to territorial waters.²⁷⁸

²⁷⁰ The League of Nations Conference for the Codification of International Law, *2 Bases of Discussion, Point VI*, at pp. 52-53 (League of Nations Doc. No. C.74M.39.1929.V) – accessed from Rosenne, *supra* n 32. These proposals by the States were prepared by the Preparatory Committee for the 1930 Codification Conference, having received feedback from their governments on matters to be discussed during the Conference which included territorial waters (p. 225).

²⁷¹ *Ibid.*, pp. 52-53.

²⁷² *Ibid.*, p. 52.

²⁷³ *Ibid.*, p. 53.

²⁷⁴ *Ibid.*, p. 52.

²⁷⁵ Articles 60 and 121(1) of UNCLOS.

²⁷⁶ League of Nations Doc. No. C.74M.39.1929.V, *supra* n 270, pp. 52-53.

²⁷⁷ *Ibid.*, p. 52.

²⁷⁸ *Ibid.*, pp. 52-53.

In short, it appears that although 'rocks' and 'banks' have been specifically referred to, the physical characteristics of a maritime feature do not really determine its legal effects since the deciding factor for it to be considered an island or even have a territorial sea of its own is the 'occupation' and 'use' criteria. In this regard, although for a different purpose, the United States also finds the irrelevance of the composition of islands in terms of its soil texture wherein it viewed that such does not determine the right of dominion of a State over the feature,²⁷⁹ although no linkages were made with regard to the habitation element for purposes of generating maritime areas.

10.3 Compromised definition of 'island'

Despite the aforesaid proposals, the Subcommittee that dealt with the matter under this forum did not include the 'occupation' and 'use' criteria into the definition of an island.²⁸⁰ Instead, a compromise was reached as to what constituted an island even if it is merely elevated at low tide.²⁸¹ The Final Act of the Conference however has with it the Subcommittee's report that defined an island briefly, namely:

*"Every island has its own territorial sea. An island is an area of land, which is permanently above high-water mark."*²⁸²

Notably, the definition of island did not include the criteria 'occupation' and 'use', let alone the criteria on the need to have an 'economic life of its own' which was not even discussed.

11. The 1958 Geneva Conventions

As part of the *travaux préparatoires* to the 1958 Conventions, the ILC had discussed and formulated the definition of 'island' that led to the 1958 Geneva Conventions in particular the CTSCZ 1958 and the CCS 1958.

²⁷⁹ *Ibid.*

²⁸⁰ *Ibid.*, p. 54.

²⁸¹ *Ibid.* It led to "allowing an island to have its own territorial waters only if it is above water at high tide," and "taking islands which are above low-water mark into account when determining the base line for the territorial waters of another island or the mainland, if such islands be within those waters."

²⁸² Van Dyke and Brooks, *supra* n 90, p. 272 - referring to the League of Nations Doc. 1930, *supra* n 35.

11.1 Occupation and Use

A very similar definition of ‘island’ as under the 1930 Codification Conference was incorporated by François in his report regarding the regime of the territorial sea in 1952, although the criteria regarding ‘occupation’ or ‘use’ also did not emerge in the definition then.²⁸³ However, these similar criteria that were debated during the 1930 Codification Conference were again proposed during the ILC’s sixth session in 1954, particularly on the ‘capability of effective occupation and control’ over the island although the end result was again their non-inclusion into the definition, mainly due to the argument that it was unnecessary or confusing since “[a]ny rock could be used as a radio station or a weather observation post” and thus capable of occupation and control.²⁸⁴ In 1956, the ILC included all high tide elevations into the definition of an island with the exception of “[t]echnical installations built on the sea bed such as installations used for the exploitation of the continental shelf.”²⁸⁵ No criteria relating to ‘occupation’ and ‘use’ including such capability, were incorporated in the definition or added into the Commentary.²⁸⁶

At the 1958 LOSC, the definition of ‘island’ that was eventually finalized for the CTSCZ 1958 clearly dismissed any extended territorial sea for artificial works created on areas of land beyond their established limits.²⁸⁷ The purposeful inclusion of the phrase ‘naturally formed’ may be seen in the text finally adopted as follows:

“Article 10

1. *An island is a naturally-formed area of land, surrounded by water, which is above water at high-tide.*
2. *The territorial sea of an island is measured in accordance with the provisions of these articles.”*²⁸⁸

²⁸³ J.P.A. François, *Report on Regime of the Territorial Sea* [1952] Y.B. Int'l L. Comm'n, Vol. II, p. 25 at p. 36, U.N. Doc./A/CN.4/53. François's (the then Special Rapporteur to the ILC) 1952 report is in French in which the definition of the 1930 Codification Conference for ‘island’ was stated as follows:

« Chaque île comporte une mer territoriale qui lui est propre. Une île est une étendue de terre, entourée d'eau, qui se trouve d'une manière permanente au-dessus de la marée haute. »

²⁸⁴ ILC Yearbook 1954, *supra* n 40 and texts at *infra* nn 587-590.

²⁸⁵ ILC Yearbook 1956, *supra* n 52, at 270. This exception regarding technical installations is however stated only in the ‘Commentary’ to the then Article 10 regarding ‘Islands’ and not in the provision itself. At this juncture, the definition included “in normal circumstances” in comparison to François’s earlier 1952 definition and now reads as follows:

“Every island has its own territorial sea. An island is an area of land, surrounded by water, which in normal circumstances is permanently above high-water mark (emphasis added).”

²⁸⁶ *Ibid.*

²⁸⁷ 1958 UN Conference on the Law of the Sea, *Official Records* Vol. III: First Committee, Summary Records of the 52nd meeting, para. 24 (U.N. Doc. A/Conf.13/39).

²⁸⁸ CTSCZ 1958, *supra* n 8, Article 10.

The territorial sea of an island has also been made subject to all other provisions in the CTSCZ 1958.²⁸⁹ Notably, despite being very much aware of the debate on the ‘occupation’ and ‘use’ criteria in relation to the determination of a feature’s maritime entitlement, the ILC did not include the elements in the finalized CTSCZ 1958.

11.2 The relevance of size of islands

There is also the CCS 1958 which concerns the CS. The ILC’s commentary that included submarine areas contiguous to islands in the meaning of the term ‘continental shelf’²⁹⁰ was incorporated into the CCS 1958.²⁹¹ In this relation, discussion on the size of islands may be examined.

Prior to this definition, the *travaux préparatoires* shows that the phrase ‘regardless of their size’ had been removed by the ILC from the sentence ‘*It covers also the submarine areas contiguous to islands regardless of their size*’, that was initially in the ILC’s draft in 1953.²⁹² This implies the ILC’s view on the irrelevance of ‘size’ where an island’s rights to a CS are concerned, the reason being most probably due to the insertion being superfluous.²⁹³

Regardless, the ILC did consider other means that may impede an island’s right to a full maritime area if there are ‘special circumstances’. However, this does not mean that an

²⁸⁹ *Ibid.*, Art. 10(2).

²⁹⁰ ILC Yearbook 1956, *supra* n 52 at 296.

²⁹¹ CCS 1958, *supra* n 8. Article 1 states:

“For the purpose of these articles, the term “continental shelf” is used as referring (a) to the seabed and subsoil of the submarine areas adjacent to the coast but outside the area of the territorial sea, to a depth of 200 metres or, beyond that limit, to where the depth of the superjacent waters admits of the exploitation of the natural resources of the said areas; (b) to the seabed and subsoil of similar submarine areas adjacent to the coasts of islands.”

²⁹² Summary Records of the 234th meeting, [1953] 1 Y.B. Int’l. Comm’n, (U.N. Doc. A/CN.4/Ser.A/ 1953) p. 341 at paras. 37-41. In the discussion whether continental shelf also covers submarine areas contiguous to islands regardless of their size, Mr. Amado’s proposal that the phrase ‘regardless of their size’ was superfluous and thus should be deleted, was adopted at the meeting. In the said meeting, it may also be observed that Mr Scelle from France said that “*there was no doubt that the Commission had intended the expression “continental shelf” to cover the submarine areas contiguous to islands regardless of their size.*” In consequence to this view by Scelle, it was further reported that Scelle “*could not therefore object to paragraph 10, but would merely point out that the Commission’s decision incalculably diminished the freedom of the high seas, for the smallest rock, the merest patch of sand, might be the culminating point of a, huge submarine plateau. The implications of the Commission’s decision thus served to strengthen [Scelle’s] opposition to the draft articles as a whole (emphasis added).*”

²⁹³ *Ibid.*

island is not entitled to a continental shelf, but merely that the extent of its CS may be reduced if there are ‘special circumstances’, which is in fact concerning maritime entitlement and totally different from the Article 121(3) situation.²⁹⁴ Special circumstances may be noted for maritime delimitation, as opposed to a purely Article 121(3) situation.²⁹⁵

Herein, the island is still entitled to a continental shelf although reduced in area due to these ‘special circumstances’ compared to Article 121(3) of UNCLOS which totally prohibits any continental shelf or EEZ to be conferred upon a maritime feature that is caught by the provision.²⁹⁶

11.3 Intention and purpose

In the process of codifying the regime of the continental shelf for the 1958 Convention, the ‘community interest’ also has to be considered to ensure that coastal States’ exclusive rights would not seriously impair other States’ rights generally.²⁹⁷ With this principle in mind, one could only deduce that any such entitlement to extended maritime areas surrounding maritime features such as ‘rock’ islands should also take into account the community interests as a whole. Thus, careful consideration should be given to a maritime feature’s characteristics and circumstances when deciding on its maritime entitlement, to balance the rights of States that possess such maritime features and the rest of the community in general.

²⁹⁴ The CCS 1958 provides for affected States to determine amongst themselves their continental shelf boundaries by agreement, or in its absence, by determining the median line that will be subjected to special circumstances (i.e. CCS 1958, *supra* n 8, Article 6.). This involves maritime delimitation.

²⁹⁵ At the 1958 Geneva Conference, the UK delegation stated that-

“size, position and importance may well be the deciding criteria in assessing whether or not any particular island should be taken into account when forming a sea boundary.”

(see N. Ely, *Seabed Boundaries Between Coastal States: The Effect to be Given Islets as “Special Circumstances”*, 6 *Int. Lawyer* (1972) pp. 219, 231-233 at p. 225 – citing Commander R.H. Kennedy, *Brief Remarks on Median Lines and Lines of Equidistance and on the Methods Used in Their Construction*, a paper distributed with the compliments of the United Kingdom Delegation to the Conference on the Law of the Sea, April 2, 1958, at 7-8.)

²⁹⁶ The area may be reduced depending on the extent of overlapping areas between affected States and various other factors that could be regarded as ‘special circumstances’.

²⁹⁷ D.W. Bowett, *The Law of the Sea* (1967: Manchester University Press, U.S.A. Oceana Publications Inc.), p. 37.

Preliminary conclusion

In sum, although the elements of 'occupation', 'use' and 'size' were discussed in the ILC, the end result for the 1958 Conventions shows that such criteria are not to be considered for purposes of determining a maritime feature's entitlement to a continental shelf or an EEZ which can be assimilated to Article 121(3). Consideration that is to be given to such elements, including that of 'size' is merely for purposes of determining any such 'special circumstances' for the maritime delimitation between States.

12. The Second UN Conference on the Law of the Sea 1960 (LOSC II)

Subsequent to the 1958 Conventions debate, the LOSC II was convened in 1960 to consider the matters concerning the breadth of the territorial sea and fishery limits, issues which were not resolved in 1958, although it still did not attain any substantive decision.²⁹⁸ Matters pertaining to the elements 'occupation', 'use', 'size' or other similar elements that may be analysed for purposes of assimilating the same to maritime features under Article 121(3) were not discussed at all.

13. The UN Sea-Bed Committee (1968-1973)

In 1968, the General Assembly established the UN Sea-Bed Committee ("UN Seabed Committee") and thereafter in 1970 adopted resolution 2750 C (XXV) calling upon the UN Seabed Committee to act as preparatory committee for LOSC III²⁹⁹ which resulted in today's 1982 UNCLOS. Looking at the debate by the UN Seabed Committee that occurred from 1970 to 1973 was necessary, to identify the existence of any intention of parties concerning those crucial elements that are now part of Article 121(3) of UNCLOS.

²⁹⁸ UN Document, <http://legal.un.org/avl/pdf/ha/uncls/uncls_ph_e.pdf> [accessed 26 February 2014]. After the adoption of the 1958 Conventions, the General Assembly requested that the Secretary-General convene LOSC II from 17 March to 26 April 1960 to consider these topics which had not been agreed upon in the said Conventions (resolution 1307 (XIII) of 10 December 1958). See also Bowett, *ibid*, pp. 4-19.

²⁹⁹ DOALOS, *supra* n 62 pp. 2-3. The General Assembly adopted on 21 December 1968 resolution 2467 A (XXIII), by which it decided to establish a Committee on the Peaceful Uses of the Sea-Bed and the Ocean Floor beyond the Limits of National Jurisdiction, consisting of forty-two Member States- see UN document, <<http://legal.un.org/diplomaticconferences/lawofthesea-1982/lawofthesea-1982.html>> [accessed on 26 Feb 2014]; see also UN Document, *supra* n 298.

The issue regarding islands and its legal effects was acknowledged by States,³⁰⁰ with some raising concern that ‘equal treatment’ of islands can amplify the gap between the rich and the poor particularly because many isolated islands were then in the possession of nations who had acquired them during the imperialist periods.³⁰¹ During one of the UN Seabed Committee meetings, Ambassador Pardo of the **Maltese delegation** had raised concern over the effects of equal treatment of all islands in March 1971.³⁰²

In 1973, discussions by Sub-Committee II of the UN Seabed Committee showed various proposals concerning the existence of islands.³⁰³ **Fourteen African nations** intended to insert an article on the ‘regime of islands’ by which island maritime spaces are to be determined by factors which include size, population, contiguity to the principal territory, location on another State’s continental shelf, and their geological and geomorphological

³⁰⁰ Van Dyke and Brooks, *supra* n 90, p. 279 – referring to the 1972 Report of the Seabed Committee 46, 27 U.N. G.A.O.R. Supp. No. 21, U.N. Doc. A/8721.

³⁰¹ *Ibid.* – referring to the Summary Record of the 128th Meeting, U.N. Doc. A/Ac.138/6/ SC.II/SR.48-62 (1973).

³⁰² *Ibid.* - referring to the Declaration of Mr. Pardo (Malta), 57th Session of the Seabed Committee, U.N. Doc. A/AC.138/S.R.57, at 167 who stated that “[i]f a 200 mile limit of jurisdiction could be founded on the possession of uninhabited, remote or very small islands, the effectiveness of international administration of ocean space beyond national jurisdiction would be gravely impaired”; see also A. Pardo, *An International Regime for the Deep Seabed: Developing Law or Developing Anarchy?*, 5 Tex. Int'l L. F. 204 (1969), at p. 210. Pardo stated that:

“careful consideration should be given to the limits of the Continental Shelf of islands. It is entirely unacceptable that the Continental Shelf doctrine should apply without modification to rocks and remote and uninhabited islands. The justification for the Continental Shelf doctrine is based on the test of equity and reasonableness; it is just and reasonable that a coastal state should exercise national jurisdiction and seek exclusive rights to resources situated on the seabed adjacent to its coast, but where not only no state, but no population exists, basis for the doctrine is lacking.”

³⁰³ S. Oda, *The Law of the Sea in our Time – II, The United Nations Seabed Committee, 1968-1973* (1977: Sijthoff Publications on Ocean Development Volume 4; Leyden), pp. 259, 281 – referring to Summer Session (2 July – 24 August 1973). Based on the many proposals to the Sub-Committee II, the Secretariat prepared an agreed list of subjects and issues (A/9021, Vol. V) which included the proposals relating to the ‘existence of islands’ that came under matters pertaining to the boundary of the territorial sea and the jurisdictional area (pp. 267, 268, 278 and 281).

structure and configuration.³⁰⁴ **Cameroon, Kenya, Madagascar, Tunisia and Turkey** submitted a similar proposal.³⁰⁵

Further, **Romania** presented a working paper suggesting that “*islets and small islands, uninhabited and without economic life, which are situated on the continental shelf of the coast, do not possess any aspects of the continental shelf or other maritime space of the same nature*” although surrounding waters can be allowed but by agreement which nevertheless should not affect other States’ marine spaces.³⁰⁶ Further, the **Tunisian delegate** found the definition of ‘island’ in Article 10 of the 1958 CTSCZ insufficient to address the inequities arising from equal treatment of islands, highlighting that this would favour countries possessing islands, and could conflict with the interests of the international community if in the high seas, as well as the sovereignty of coastal States if located in areas under the national jurisdiction of the latter.³⁰⁷

Conversely, States such as **Greece** viewed that “*the régime of islands could not be legally based on criteria of size, population, geographical location or geological configuration without jeopardizing the principles of sovereign equality and the integrity of territorial sovereignty.*”³⁰⁸ The **Japanese delegation** also had reservations regarding Malta’s proposal to exclude rocks and islands without a settled population for purposes of drawing a CS boundary.³⁰⁹

³⁰⁴ *Ibid.*, p. 281 – referring to UN Doc. A/AC.138/SC.II/L.40 i.e. on “Draft articles on exclusive economic zone.” The 14 nations are Algeria, Cameroon, Ghana, Ivory Coast, Kenya, Liberia, Madagascar, Mauritius, Senegal, Sierra Leone, Somalia, Sudan, Tunisia and United Republic of Tanzania (p. 271); see also Nordquist, Nandan and Rosenne, *supra* n 82, p. 328. The proposal by these 14 African States was largely based on a Declaration by the Organization of African Unity (OAU) - See A/AC.138/89, declaration B, reproduced in II SBC Report 1973, at 4, 5 (OAU). These 14 African States followed the OAU proposal which is reflected in items (i), (ii), (iii) and (v). However, item (iv) has replaced the OAU proposal concerning ‘the special interest of island States and archipelagic States’.

³⁰⁵ Oda, *supra* n 303, p. 281 – referring to UN Doc. (A/AC.138/SC.II/L.43) i.e. draft article entitled “Régime of Islands”; see also Nordquist, Nandan and Rosenne, *supra* n 82, p.330.

³⁰⁶ Oda, *supra* n 303, p. 281 – referring to UN Doc. (A/AC.138/SC.II/L.53) i.e. draft article entitled “Certain specific aspects of the regime of islands in the context of delimitation of the marine spaces between neighbouring States.”

³⁰⁷ Van Dyke and Brooks, *supra* n 90, p. 279 referring to Summary Record of the 128th Meeting, U.N. Doc. A/AC.138/6/ SC.II/SR.48-62 (1973).

³⁰⁸ See 67th meeting of Sub-Committee II (A/AC.138/SC.II/SR-67) (1973, mimeo.), at 10 – as referred to by Nordquist, Nandan and Rosenne, *supra* n 82, p.329.

³⁰⁹ Statement by S. Oda (Japan) on 25 March 1968 (A/AC.138/SC.1/SR.10) at the Legal Sub-Committee Meeting during the Second Session of the Sea-Bed Committee Meetings held from 10-28 March 1968. See also Oda, *supra* n 303, p. 57.

The end result was two conflicting views amongst States which appears to be based on their respective national interests. One was represented mainly by developing nations and geographically disadvantaged States who find that the maritime areas of certain islands, excluding island States and archipelagic States, should be determined based on equitable principles taking into consideration special circumstances and factors including *“their size, population and contiguity to the principal territory;”*³¹⁰ whilst the other comes from many island nations and those that have island possessions, advocating for impartiality *‘for both island and continental land areas’* emphasizing the sovereign equality of States.³¹¹

Clearly, island characteristics even where maritime entitlement is concerned have yet to be resolved at this stage. Hence, the additional steps to explain what then is meant by ‘size’, ‘occupation’ and ‘use’ which is the crux of the matter, obviously have not been addressed.

14. The Third UN Conference on the Law of the Sea (1973-1982) (LOSC III)

Having considered the final report submitted by the UN Sea-Bed Committee in 1973, the General Assembly mandated LOSC III to convene to deal with all matters pertaining to the Law of the Sea commencing late 1973.³¹² Several proposals were made regarding islands, islets and similar insular features including the delimitation of maritime areas surrounding them.³¹³

³¹⁰ Van Dyke and Brooks, *supra* n 90, p. 280 – referring to 28 U.N. G.A.O.R., Supplement No. 21, 1 Report of the Committee on the Peaceful Use of the Sea-Bed and the Ocean Floor Beyond the Limits of National Jurisdiction at 57, U.N. Doc. A/9021 (1973).

³¹¹ *Ibid.*, at 56 - as referred to by Van Dyke and Brooks, *supra* n 90, p. 280. They argued that *“no distinction whatsoever should be made between islands, irrespective of their size and population, and the continental land masses; and ... the criteria relating to the delimitation of the territorial sea, the continental shelf, the [EEZ] or patrimonial sea ... must apply to islands in the same way as they applied to continental land masses.”*

³¹² Resolution 3067 (XXVIII) dated 16 November 1973, <<http://legal.un.org/diplomaticconferences/lawofthesea-1982/lawofthesea-1982.html>> [accessed 26 Feb 2014]. The Committee submitted its final report to the General Assembly at its twenty-eighth session, in 1973 (A/9021 and Corr.1 and 3). See also DOALOS, *supra* n 62, p. 3.

³¹³ Nordquist, Nandan and Rosenne, *supra* n 82, p. 330.

At the outset, it is observed that it was in 1975 at the third session that the text which reads almost identical to Article 121(3) has first been formulated for discussions.³¹⁴

Herein, there were mainly two groups of nations with different positions, one stressing the need to differentiate the legal effects arising between maritime features and continents including amongst maritime features themselves, the other advocating for no discrimination at all amongst the same.

For purposes of identifying what were the views of States during the debate and what were their final views at the last session that led to the outcome of UNCLOS 1982, the discussion below have been divided into two sectors, namely, (i) States' views during the debate prior to the final session in 1982; and (ii) States' views in the final session that led to UNCLOS 1982 that may be of greater relevance.

14.1 Before the final session in 1982

This sector is meant to briefly highlight States' position throughout the debate before a compromise was reached that eventually led to UNCLOS 1982. The purpose is to

³¹⁴ *Ibid.*, p. 335 – referring to A/CONF.62/WP.8/Part II (ISNT, 1975), article 132, IV Off. Rec. 152, 170 (Chairman, Second Committee). The text reads as follows:

- “1. *An island is a naturally formed area of land, surrounded by water, which is above water at high tide.*
2. *Except as provided for in paragraph 3, the territorial sea, the contiguous zone, the exclusive economic zone and the continental shelf of an island are determined in accordance with the provisions of the present Convention applicable to other land territory.*
3. *Rocks which cannot sustain human habitation or economic life of their own shall have no exclusive economic zone or continental shelf.”*

See also Office of Ocean Affairs and the Law of the Sea, *The Law of the Sea: Régime of Islands: Legislative History of Part VIII (Article 121) of the United Nations Convention on the Law of the Sea* (1988: United Nations, New York), pp. 82-83, 85 (hereinafter referred to as “**OOALOS**”). It was at the 55th Plenary Meeting on 18 April 1975 that the Conference decided to request from the Chairmen of its three Main Committees (i.e. including the Second Committee which was entrusted to deal with matters undertaken by Sub-Committee II of the Sea-Bed Committee – p. 22) each to prepare a single negotiating text covering their subjects respectively. The provision was then in Article 132 of the Informal Single Negotiating Text (ISNT) which based its formula on work done during the second session and during the UN Sea-Bed Committee. The only difference in the then Article 132 as compared to Article 121(3) of UNCLOS is the mere usage of some words in para 2 where the phrase “the present Convention” has been changed to “this Convention”. It was the first time that the question of regime of islands was considered distinctly from other related issues such as delimitation, although no proposals or declarations were made in that year in relation to the same. This ISNT that was formulated in 1975 was to form the basis of negotiations in the fourth session which commenced on 15 March 1976. However, the draft text remained unchanged at the Fourth session (p. 86). There were no formal meetings of the Second Committee during the Fifth session (p. 86). Again, there are no changes to the draft text during the Sixth session (p. 87).

understand States' diverse views which appear to continue to remain strong today and hence the 'difficulties' in applying Article 121(3) which is unsurprising due to the aforesaid compromise.

These 'difficulties' necessitate further clarification of the provision to assist States to arrive at a more amicable solution; which is argued to require the assistance of 'scientific' methods. States' position before the compromise may thus be seen as below.

(a) States advocating for different legal effects for different types of islands

A number of States supported the idea that insular features need to be differentiated in terms of their legal effect, especially if they have hardly any population or no economic life.

(i) Habitation, economic life and location

Romania's views during the discussion at the UN Seabed Committee are seen repeated in LOSC III at the second session in **1974**.³¹⁵ It stressed that islets or small uninhabited islands without economic life which are located beyond the territorial sea cannot be taken into consideration for maritime delimitation between States;³¹⁶ and that islets located beyond the territorial sea of a State, although on that same State's CS or economic zone, are not entitled to their own economic zones or continental shelves.³¹⁷

In a similar vein, **Turkey** proposed a draft in the same session that islands located beyond the territorial sea of a State that have no economic life, as well as rocks and LTEs, to have no marine space;³¹⁸ and that to accord all islands, including isolated and non-self-governing ones with such equal footing with continental territories would diminish the area meant to be for the common heritage of mankind.³¹⁹ Indeed, Turkey's subsequent

³¹⁵ See text at *supra* n 306.

³¹⁶ Nordquist, Nandan and Rosenne, *supra* n 82, pp. 330, 337-338 referring to A/CONF.62/C.2/L.18 (1974), article 2, paras 2-5, III Off. Rec. 195 (Romania) and A/CONF.62/L.118 (1982), article 121, para. 4, XVI Off. Rec. 225 (Romania). The term 'rock' was not used by Romania then. See Romania's draft proposal contained in U.N. Doc. A/Conf.62/C.2/L.53 (1974).

³¹⁷ OALOS, *supra* n 314 at p. 42.

³¹⁸ Nordquist, Nandan and Rosenne, *supra* n 82, p. 332 - referring to A/CONF.62/C.2/L.55 (1974), article 2 and 3, paragraphs 3 and 4, III Off. Rec. 230 (Turkey); *Ibid.*, pp. 43-44.

³¹⁹ OALOS, *supra* n 314, pp. 26-27.

proposal that paragraph 3 of the proposal formulated in 1975 on the then Article 132 which is almost identical to today's Article 121(3) of UNCLOS,³²⁰ to merely state "*Rocks shall have no marine space of their own*"³²¹ reflects Turkey's continued position for all 'rocks' to not have a marine space without any exceptions for those that can sustain human habitation or economic life of their own.

A group of **fourteen African States** further wanted individual definitions for islands, islets and rocks³²² including proposing that except for safety zones of reasonable breadth, no jurisdiction may be claimed over marine space for islets and rocks if they are not located in the proximity of the coasts of their own States; whilst for islands, marine space may be allowed even if they are located outside the proximity of the coasts of their own States, provided they are in accordance with equitable criteria which include:

- i. Size;
- ii. Geographical configuration and their geological and geomorphological structure;
- iii. The feature's population's needs and interests;
- iv. Living conditions which prevent a permanent settlement of population;
- v. Location (i.e. within or in the proximity of the coasts of another State); and
- vi. Their influence on the equity of the delimitation due to their far location from the coast.³²³

Other States with views that insular features should be differentiated in terms of their legal effects may be seen with **Madagascar**,³²⁴ **Algeria**,³²⁵ **Denmark**,³²⁶ **Ireland**,³²⁷ and **Singapore**.³²⁸

³²⁰ See *supra* n 314.

³²¹ Nordquist, Nandan and Rosenne, *supra* n 82, p. 336 - referring to Informal Documents, Turkey [(1976), mimeo.], article 132 paras. 2 and 3. Reproduced in IV Platzöder 348. The then Articles 13, 61 and 70 are now Articles 15, 74 and 83 of UNCLOS concerning maritime delimitation.

³²² OOALOS, *supra* n 314, p. 48 - i.e. Algeria, the then Dahomey (known as Benin as of 2 December 1975), Guinea, Ivory Coast, Liberia, Madagascar, Mali, Mauritania, Morocco, Sierra Leone, Sudan, Tunisia, the then Upper Volta (known as Burkina Faso as of 4 August 1984) and Zambia – (For change of name for Dahomey and Upper Volta, see UN website, <[https://treaties.un.org/Pages/HistoricalInfo.aspx?#"Benin"](https://treaties.un.org/Pages/HistoricalInfo.aspx?#)> and <[https://treaties.un.org/Pages/HistoricalInfo.aspx?#"Burkina Faso"](https://treaties.un.org/Pages/HistoricalInfo.aspx?#)> [accessed 2 September 2014]; see also text at *infra* n 344.

³²³ *Ibid.*, pp. 48-49 – reference made to draft articles 1 and 2. They however stressed that these proposals do not apply to archipelagic States which would have different rules (p. 50); see also Nordquist, Nandan and Rosenne, *supra* n 82, pp. 333-334 referring to A/CONF.62/C.2/L.62/Rev.1 (1974), articles 1 and 2, III Off. Rec. 232 (Algeria, Dahomey, Guinea, Ivory Coast, Liberia, Madagascar, Mali, Mauritania, Morocco, Sierra Leone, Sudan, Tunisia, Upper Volta and Zambia); see also OOALOS, *supra* n 314, p. 52 - Madagascar's views.

In **1976, Colombia** echoed this different rule for islands proposing the non-accordance of the EEZ and the CS to islands that are “*without a life of their own, without a permanent and settled population, that are closer to the coastline of [an]other State than to the coastline of the State to which they belong, and located at a distance less than double the breadth of the territorial sea of that State;*”³²⁹ and similarly, **Libya**³³⁰ proposed that “[s]mall islands and rocks... which cannot sustain human habitation or economic life of their own shall have no territorial sea, nor contiguous zone, nor economic zone, nor continental shelf” but “*shall have maritime safety zones which will not affect the maritime space of the adjacent or opposite States.*”³³¹

In **1977**, 9 States i.e. **Algeria, Cameroon, Iraq, Ireland, Libya, Madagascar, Nicaragua, Romania and Turkey** proposed to include another paragraph that prohibits the conferring of an economic zone or CS to islands situated on or affecting the CS or EEZ of another State.³³² In **1978**, a proposal was raised by **these 9 States** together with **Bangladesh**, and similarly voiced by the Chairman of the **Group of Islamic States** in the subsequent session

³²⁴ OALOS, *supra* n 314, p. 52. Madagascar finds that ‘[s]overeignty over uninhabited islands could serve only as a pretext to further the selfish interests of States, whether individual or collective’.

³²⁵ *Ibid.*, p. 26. Algeria expressed concern that developed countries having more than one sea coast could seriously injure the interests of others.

³²⁶ *Ibid.* Denmark was concerned that full ocean space to islets and rocks could curtail the exploitation of living resources by other States in the current open sea (p. 55). Priority should be given to ‘islands whose people were dependent on the exploitation of marine resources’ (p.25). Denmark however stressed that if an island is an independent State, it should not be given less favourable position than a ‘continental’ State even if it has yet to achieve independence so as not to prejudice its rights once independent (p. 54).

³²⁷ Nordquist, Nandan and Rosenne, *supra* n 82, p. 332 referring to A/CONF.62/C.2/L.43 (1974), Explanatory Note, III Off. Rec. 220, 221 (Ireland).- Ireland remarked that offshore islands should not be used as a base point in all circumstances in delimitation cases.

³²⁸ *Ibid.*, pp. 61-62. Singapore found it ‘unjust... if every island, irrespective of its characteristics, was automatically entitled to claim a uniform economic zone’. It opined that coastal States with small or uninhabited islands may have inequitable benefits if this approach was to be accepted, and that ‘the economic zone of a barren rock would be larger than the land territory of many States and larger than the economic zones of many coastal States.’

³²⁹ *Ibid.*, p. 336 referring to Informal Documents, Colombia [(1976), mimeo.], article 132 (ISNT II) - Reproduced in IV Platzöder 346. This proposal by Colombia during the Fourth Session was to amend the formulated paragraph 3 of the then Article 132 in 1975 which is identical to the current Article 121(3) of UNCLOS.

³³⁰ Previously known as Libyan Arab Jamahiriya. Now known as “Libya” as from 16 September 2011 - UN website, <[https://treaties.un.org/Pages/HistoricalInfo.aspx?#"Libya"](https://treaties.un.org/Pages/HistoricalInfo.aspx?#)> [accessed 2 September 2014].

³³¹ Nordquist, Nandan and Rosenne, *supra* n 82, p. 336 referring to Informal Documents, Libyan Arab Republic [(1976), mimeo.], article 132 (ISNT II). Reproduced in IV Platzöder 347.

³³² *Ibid.*, pp. 336-337 referring to A/CONF.62/C.2/L.96 (1977), VII Off. Rec. 84 (Algeria, Iraq, Ireland, Libyan Arab Jamahiriya, Madagascar, Nicaragua, Romania, Turkey and United Republic of Cameroon); and Informal Documents, Algeria, Iraq, Ireland, Libyan Arab Jamahiriya, Madagascar, Nicaragua, Romania, Turkey, United Republic of Cameroon and Yemen [(1977), mimeo.] article 128, para.4. Reproduced in IV Platzöder 483. – i.e. during the Sixth Session.

in **1979**, stressing on the need for equitable principles to be applied in maritime delimitation where islands due to their geographical location constitute a distortion or inequity.³³³

Notably, in the Seventh Session in **1978**, **Ireland** also disagreed with Japan's proposal to delete Article 121(3)³³⁴ and also proposed in **1979** for 'delimitation concerns' to be included and thus for paragraph 2 of Article 121 to begin with "*Without prejudice to the provisions of articles 15, 74 and 83 and except as provided for in paragraph 3...*"³³⁵

In **1980**, similar concern may be seen from the **Dominican Republic** and **Ethiopia's** support of the then text of Article 121,³³⁶ as well as **Dominica's** opinion that entitling 'rocks' to an exclusive economic zone would create 'a disturbing precedent which could be based only on political factors,'³³⁷ as well as **Algeria's** views of the occurrence of unacceptable imbalances.³³⁸ **Dominica** also found the phrase 'of their own' in Article 121(3) clear and acceptable.³³⁹

(ii) Physical characteristics/ Size and Terminology of 'rock'

At the second session, **Romania** argued for 'islet' and islands 'similar to an islet' to be defined according to their sizes with the former to have less than 1 square km whilst the latter to have more than 1 square km.³⁴⁰ Nevertheless, the maximum size of the latter was not specified although Romania did restrict them to those that are "*not or cannot be*

³³³ *Ibid.*, p. 337 referring to C.2/Informal Meeting/21 (1978, mimeo.), article 121 (Algeria, Bangladesh, Cameroon, Iraq, Libya, Madagascar, Morocco, Nicaragua, Somalia and Turkey). Reproduced in V Platzöder 30; see also OOALOS, *supra* n 314, p. 89; see also Nordquist, Nandan and Rosenne, *supra* n 82, p. 337 - referring to A/CONF.62/86 (1979) part A, section 2, item 1, XII Off. Rec. 68, 69 (Chairman, Group of Islamic States).

³³⁴ OOALOS, *supra* n 314, p. 91.

³³⁵ *Ibid.*, pp. 93-94; see also Nordquist, Nandan and Rosenne, *supra* n 82, p. 337 referring to C.2/Informal Meeting/46 (1979, mimeo.), article 121 para. 2 (Ireland). Reproduced in V Platzöder 55.

³³⁶ OOALOS, *supra* n 314, p. 98. i.e. at the Ninth Session.

³³⁷ *Ibid.*, p. 99.

³³⁸ *Ibid.*, p. 98. Unacceptable imbalances will occur on some coastal States if economic zones to islands belonging to mainland States in semi-enclosed seas or in narrow maritime areas are granted, and thus the necessity of having certain measures.

³³⁹ *Ibid.*

³⁴⁰ Nordquist, Nandan and Rosenne, *supra* n 82, p. 332 referring to A/CONF.62/C.2/L.53 (1974), articles 1 and 2, III Off. Rec. 228 (Romania).

inhabited (permanently) or which does not or cannot have its own economic life."³⁴¹

Turkey similarly stressed on size and its legal effects.³⁴²

Further, **fourteen African States** gave individual definitions to islands, islets and rocks,³⁴³ together with their legal effects, which apart from the criteria that all must be above water at high tide, are as follows:

- i. Island : A vast naturally formed area of land;
- ii. Islet : A smaller naturally formed area of land; and
- iii. Rock : A naturally formed rocky elevation of ground.³⁴⁴

Other States include **Singapore** who also emphasized size;³⁴⁵ **Madagascar** who proposed to take into account factors such as their surface, contiguity to the principal territory and geological structure;³⁴⁶ and **Tunisia**, concerned that if the EEZ regime of 200nm is accepted with the characteristics of an island fitting the criteria as defined by the 1958 CTSCZ, the 'contents' of the international zone would be diminished due to the automatic assignment of such maritime spaces and resources to islands, reefs and atolls.³⁴⁷ It added that the island definition under merely the 1958 Geneva Conventions would favour States that have 'power' over a large number of islands whilst it would be unfavourable to developing, land-locked or geographically disadvantaged States due to the exaggerated claims to the economic zone of the former.³⁴⁸

(iii) Foreign occupation/powers/dominion

In **1974**, States such as **Argentina, Bolivia, Brazil, Colombia, Costa Rica, Cuba, Dominican Republic, Ecuador, El Salvador, Guatemala, Honduras, Libyan Arab Republic, Mexico,**

³⁴¹ *Ibid.* To Romania, these characteristics should not entitle States possessing them to invoke their existence for purposes of extending their marine spaces that would affect other States.

³⁴² OOALOS, *supra* n 314, p. 43. – Turkey proposed for an island to have at least one tenth of the land area and population of its own State overall, if it is located in another State's economic zone or continental shelf, before it can claim any economic zone or continental shelf of its own.

³⁴³ Text at *supra* n 322.

³⁴⁴ OOALOS, *supra* n 314, p. 48; Nordquist, Nandan and Rosenne, *supra* n 82, p. 333 referring to A/CONF.62/C.2/L.62 (1974), articles 1 and 2, III Off. Rec. 232 (Algeria, Dahomey, Guinea, Ivory coast, Liberia, Madagascar, Mali, Mauritania, Morocco, Sierra Leone, Sudan, Tunisia, Upper Volta and Zambia); see also text at *supra* n 323 - There was however no elaboration or further description as to what these considerations are.

³⁴⁵ see *supra* n 328; OOALOS, *supra* n 314, pp. 61-62.

³⁴⁶ Text at *supra* n 324; OOALOS, *supra* n 314, p. 52.

³⁴⁷ OOALOS, *supra* n 314, p. 25.

³⁴⁸ *Ibid.*, p. 65.

Morocco, Nicaragua, Panama, Paraguay, Peru and Uruguay basically did not agree for foreign powers to invoke any related rights under the proposed Convention.³⁴⁹ However, **Argentina** acknowledged that this would not apply to situations where the inhabitants themselves are nationals or descendants of the colonial power; differentiating this from where there is foreign occupation on islands belonging to other States in which such rights should not deprive the latter.³⁵⁰ **Turkey** also opined that for insular features under foreign dominion or control, no economic zone shall be established by that foreign State although the inhabitants themselves may create their own economic zone subject to their needs or requirements.³⁵¹ This was similarly echoed by the 14 African States.³⁵²

(b) States advocating for the non-discrimination of all islands

Prior to the compromise in 1982, another group of States wanted no discrimination on the legal effects of all islands.

During the Second Session in **1974, Greece** made no distinction between maritime features regardless of their size and population; it emphasized that “*an island forms an integral part of the territory of the State to which it belongs,*”³⁵³ and proposed that all islands have their own territorial sovereignty which included the territorial sea, CS and other maritime zones.³⁵⁴ Similar views are seen from four Pacific island States, **Fiji, New Zealand,**³⁵⁵ **Tonga**³⁵⁶ and **Western Samoa,**³⁵⁷ although without prejudice to the issue

³⁴⁹ *Ibid.*, p. 45. i.e. at the Second Session.

³⁵⁰ *Ibid.*, p. 46.

³⁵¹ *Ibid.*, p. 43 – i.e. draft Article 3 by Turkey.

³⁵² see *supra* n 322; see also OOALOS, *supra* n 314, pp. 48-50. They proposed that in this scenario, rights to maritime spaces and resources belong only to the inhabitants of those islands and must profit only their own development. Mauritius highlighted that this would ensure that the resources were vested in the inhabitants themselves.

³⁵³ *Ibid.*, p. 31; see also Nordquist, Nandan and Rosenne, *supra* n 82, pp. 332 - referring to A/CONF.62/C.2/L.50 (1974), articles 1 and 2, III Off. Rec. 227 (Greece).

³⁵⁴ Nordquist, Nandan and Rosenne, *supra* n 82, pp. 330-331 referring to A/CONF.62/C.2/L.22 (1974), article 9, III Off. Rec. 200, 201 (Greece). See also OOALOS, *supra* n 314, pp. 27, 53, 90.

³⁵⁵ OOALOS, *supra* n 314, p. 36. New Zealand however wanted consideration to be given to the reasonableness of benefiting 80 percent of independent ‘non-island’ States at the expense of the 20 percent island States, and whether depriving a very small mid-ocean island State from the fisheries resources in the 200 nm zone would be to benefit the community as a whole or merely a few distant-water fishing States.

³⁵⁶ OOALOS, *supra* n 314, p. 24. Tonga raised the necessity to look at the circumstances under which an island would not have a continental shelf. It viewed that all islands should be treated alike and have the same ocean space in accordance with the principle of indivisibility of State sovereignty (p. 56).

concerning delimitation between States or other special circumstances, and not concerning the issue pertaining to the regime of islands applicable to archipelagos.³⁵⁸ They also opined that a metropolitan or foreign Power administering or occupying an island territory may not assume, exercise or profit from or in any way infringe the rights to the resources of the economic zone and continental shelf vested in the island inhabitants, which should be exercised for the latter's benefit and in accordance with their needs and requirements.³⁵⁹ On behalf of **Cook Islands**, New Zealand also highlighted the unfairness and inequitableness of referring to its land mass and population for purposes of limiting and depriving it of the full benefits of an economic zone especially as a State which is dependent on the sea.³⁶⁰

Other States that support this non-discrimination of islands include **Trinidad and Tobago**,³⁶¹ **Democratic Yemen**,³⁶² **Italy**,³⁶³ **Jamaica**,³⁶⁴ **France**,³⁶⁵ and **Japan**.³⁶⁶

Micronesia also questions the practicability or equitableness of the criteria of inhabitation,³⁶⁷ stating that almost all its islands are very small, some of volcanic origin,

³⁵⁷ OALOS, *supra* n 314, pp. 23, 53. Western Samoa had opposed the suggestion to impose restrictive rules regarding ocean space delimitation on island States based on land areas and population; Western Samoa was concerned to avoid the inequities that could arise by such categorisation of islands without considering the peculiar features and circumstances of oceanic islands. (p.38). It stressed that the needs of the people in a number of islands yet to attain full independence for ocean space and resources were just as crucial as those in full-fledged States (p. 39).

³⁵⁸ OALOS, *supra* n 314, pp. 35-36; Nordquist, Nandan and Rosenne, *supra* n 82, p. 331 referring to A/CONF.62/C.2/L.30 (1974), section A, paragraphs 1-4, III Off. Rec. 210 (Fiji, New Zealand, Tonga, and Western Samoa). They viewed that the territorial sea, economic zone and continental shelf are for all islands. When introducing the draft articles reflecting this position, New Zealand added by making a declaration that there was no logical reason to distinguish between sovereign rights appertaining to islands and sovereign rights appertaining to other land territory. They viewed that the territorial sea, economic zone and continental shelf are for all islands.

³⁵⁹ OALOS, *supra* n 314, p. 35.

³⁶⁰ *ibid.*, p. 28.

³⁶¹ *ibid.*, p. 23. Trinidad and Tobago rejected the curtailing of island jurisdiction and sovereignty over the ocean space.

³⁶² *ibid.*, p. 24. Democratic Yemen advocated for the same principle to apply to islands as per the mainland, e.g. the right to a 200nm EEZ and full sovereign rights of resource exploration and exploitation whilst respecting international navigation and overflight.

³⁶³ *ibid.*, pp. 30, 54. Italy found Romania's proposed draft articles which advocated discrimination amongst maritime features, unacceptable.

³⁶⁴ *ibid.*, p. 64. Jamaica however found differentiating possible between the maritime features themselves, but the criteria to differentiate such as size and population should consequentially also apply to continental masses.

³⁶⁵ *ibid.*, p. 26.

³⁶⁶ *ibid.*, p. 90. Japan disagreed with distinctions made according to island size or habitability since the CCS 1958 did not make any distinction between habitable and uninhabitable islands, including the fact that not many States with a 200 nm EEZ made such distinction.

³⁶⁷ *ibid.*

coral and atolls, inhabited only part of the year, used only for fishing rather than for permanent habitation,³⁶⁸ yet are equally crucial as part of Micronesian economy and livelihood since some islands that may have permanent dwellings may hardly have fish resources near them.³⁶⁹ **UK** likewise highlighted difficulties arising from categorizing maritime features, since although an island may be large there is the possibility of temporary non-habitability due to various factors including climate or economic changes.³⁷⁰

Subsequent to the Second Session, later sessions such as in **1978, Japan** proposed to delete the entire paragraph 3³⁷¹ with **France** fully supporting Japan's proposal³⁷² and with the latter regretting that the provision was still not deleted in **1980**.³⁷³ **Cyprus** also shared similar views reiterating in **1978** its earlier views in **1974** that no distinction should be made between islands irrespective of their size and population, and CS masses³⁷⁴ but added in **1980** that the provision on the regime of islands offered a minimum acceptable solution.³⁷⁵

During the Ninth Session in **1980**, **UK** had reservations to Article 121(3), objecting to any arbitrary distinction between the parts of the territory of the coastal State.³⁷⁶ **Venezuela** also seriously objected to Article 121(3) claiming that apart from constituting discrimination between the continental and insular parts of the territory of a State, the exception created serious difficulties of interpretation.³⁷⁷ It found the term 'rocks' neither in the legal nor the scientific vocabulary and might refer to any island formation, emphasizing that the two criteria contained in the provision were ambiguous and very relative.³⁷⁸ Thus, if paragraph 3 was to be maintained, Venezuela would interpret it to include both the abstract possibility of habitation and the practical situation, since a

³⁶⁸ *Ibid.*, pp. 28-29.

³⁶⁹ *Ibid.*

³⁷⁰ *Ibid.*, p. 66. i.e. categorization into criteria such as size, population, distance from the mainland, and their position in relation to the coast of a foreign State before according maritime space.

³⁷¹ *Ibid.*, pp. 89-90; Nordquist, Nandan and Rosenne, *supra* n 82, p. 337 - referring to C.2/Informal Meeting/27 (1978, mimeo.), article 121, para. 3 (Japan). Reproduced in V Platzoder 37.

³⁷² OALOS, *supra* n 314, p. 91.

³⁷³ *Ibid.*, p. 95.

³⁷⁴ *Ibid.*, pp. 27, 52, 64 and 91.

³⁷⁵ *Ibid.*, p. 98.

³⁷⁶ *Ibid.*

³⁷⁷ *Ibid.*, p. 97.

³⁷⁸ *Ibid.*

maritime feature could be developed to suit the interests of the State concerned.³⁷⁹

Venezuela also viewed the phrase ‘economic life of their own’ to mean ‘not complete self-sufficiency but the existence of national resources which could be exploited economically or the possibility of other uses.’³⁸⁰ Likewise, **Iran** stressed that although it would agree to the provision as a compromise, it nevertheless reserved its right to reject any extensive interpretation in the future.³⁸¹

(c) States with merely general views

Apart from the two main groups which clearly stated their positions regarding their support for or objection to the discrimination of islands on their maritime effects, there were States that merely made general comments without taking either stand such as **India** who merely showed interest for a suitable regime of islands;³⁸² **Thailand** who queried only the position of mid-ocean islands regardless of size, whilst awaiting clarifications on the same,³⁸³ and **Egypt** who simply pointed out that the regime of islands was of vital importance.³⁸⁴

(d) The conjunction “or”

Another issue of contention is the conjunction ‘or’ between the phrases ‘human habitation’ and ‘economic life of their own’ in Article 121(3). This conjunction had raised contention amongst some States interpreting the word ‘or’ in the paragraph to mean ‘and’ during the debates, such as **Dominica**³⁸⁵ and **Denmark**,³⁸⁶ as well as an argument by Gjetnes that **Norway** too could have interpreted the word ‘or’ to mean ‘and’ in view of the fact that the Norwegian translation of Article 121(3) differs from the official texts of

³⁷⁹ J.R.V. Prescott and C.H. Schofield, “Islands and Rocks” in *The Maritime Political Boundaries of the World* (Leiden/Boston: Martinus Nijhoff Publishers, 2004), pp. 63-75, at p. 72.

³⁸⁰ OOALOS, *supra* n 314, p. 97.

³⁸¹ *Ibid.*, p. 97.

³⁸² *Ibid.*, p. 24 - Second Session in 1974.

³⁸³ *Ibid.*, p. 53.

³⁸⁴ *Ibid.*, p. 90 - Seventh Session in 1978.

³⁸⁵ *Ibid.*, p. 99 - Ninth Session in 1980.

³⁸⁶ Kwiatkowska and Soons, *supra* n 74, p. 164.

other languages as seen in the presence of one comma.³⁸⁷ Gjetnes pointed out that this one comma could imply that both criteria must be fulfilled, although he highlighted the difficulty of accommodating the Norwegian language to the English language; herein, he highlighted that in the Norwegian language, if two commas were used, this would show clearer intention that undoubtedly leaves 'or' to mean 'and', as opposed to the 'vagueness' in the English language, whilst no comma used would not make sense at all.³⁸⁸

On the face of it, the word 'or' would ordinarily mean in the alternative. Furthermore, the *travaux préparatoires* showed the use of 'or' to be deliberate since 'and' was initially used prior to the change.³⁸⁹ However, given that the final formulation of Article 121(3) was a result of a compromise by States, it may be inevitable that this argument to assimilate 'or' to mean 'and' may rise again in the future. This is understandably so, since it would be much easier for States to argue for an EEZ and a CS by merely having to prove either one of the criteria which could entitle many insular features to a CS and an EEZ; and hence, the loss of more maritime areas that could be utilised for the common benefit of mankind, possibly leading to the redundancy of Article 121(3). This is more so in this current era of fast growing development in science and technology that could assist and expedite States' efforts to ensure that, as they could then argue, for either of the criteria to have been met.

³⁸⁷ M. Gjetnes, *The Spratlys: Are They Rocks or Islands?* (2001) *Ocean Development & International Law*, 32:2, 191-204, at pp. 193 & 202, at p. 194. According to Gjetnes, the Norwegian translation reads:

"Klipper som ikke kan gi grunnlag for menneskelig bosetting eller selvstendig næringsvirksomhet, skal ikke ha noen eksklusiv økonomisk sone eller kontinentalsokkel."

³⁸⁸ *Ibid.* According to Gjetnes, the sentence with two commas would then have read:

"Klipper som ikke kan gi grunnlag for menneskelig bosetting, eller selvstendig næringsvirksomhet, skal ikke ha noen eksklusiv økonomisk sone eller kontinentalsokkel."

Gjetnes made reference to an informal talk with Mr. Fife at the Dept. of Foreign Affairs, Norway, 07.03.00. and explained that *"The translators seem to have decided that the language differences justified the amendment and that the Norwegian language did not allow the retention of the vagueness in the English text."*

³⁸⁹ *Ibid.*, p. 194-195. Gjetnes referred to LOSC III, Official Records, Vol. III at 195 asserting that the word 'or' was introduced only during the third session of the conference in the Informal Single Negotiation Text and that in a later session one state suggested that the word 'or' should be interpreted as 'and' but the suggestion was disregarded.

14.2 1982: The final session

The aforementioned sessions of LOSC III clearly shows differing views by States regarding the maritime entitlement of maritime features. The final session has however been singled out to highlight States' position immediately prior to the finalised UNCLOS 1982 to identify the outcome that eventually led to the Convention.

During the initial stage of the final session, amongst some of the States that continued to advocate for the different legal effects of maritime features are, **Turkey** who viewed that Article 121 'does not predetermine the maritime space to be allocated to the islands in maritime delimitation' and hence is 'not applicable to the islands located in the maritime areas which are subject to delimitation.'³⁹⁰ **Turkey** also found Article 121 unacceptable in its current form.³⁹¹ The **Libyan Arab Jamahiriya**³⁹² also viewed that the regime of islands 'should make a distinction between islands situated in closed seas' and those in open seas;³⁹³ with **Algeria** stressing that Article 121 ran contrary to the spirit of the draft convention and that a 'distinction should be made between islands which were not affected by delimitation agreements and those which were', as well as that the Conference was wrong to separate delimitation with the regime of islands which are in fact 'two aspects of the same problem.'³⁹⁴ **Denmark** however was concerned about the proposal to delete Article 121(3) finding that "*tiny, barren islands... would miraculously become the golden keys to a vast maritime zone*" which would be unwarranted and unacceptable.³⁹⁵

Further, **Venezuela** repeated its rejection of Article 121(3), arguing that the provision was doomed to failure because of the impossibility of establishing satisfactory criteria.³⁹⁶ It stressed that the provision could not be justified 'on principle or on grounds of equity', and was especially prejudicial to 'island States and continental States whose continental territory was directly prolonged into the sea by an island territory,' although it

³⁹⁰ OOALOS, *supra* n 314, p. 26.

³⁹¹ *Ibid.*, p. 103.

³⁹² See *supra* n 330.

³⁹³ OOALOS, *supra* n 314, p. 103.

³⁹⁴ *Ibid.*, p. 104.

³⁹⁵ *Ibid.*, p. 107. Reference was made to the proposal to delete Article 121(3) contained in A/CONF.62/L.126; see also Prescott and Schofield, *supra* n 379, p.71.

³⁹⁶ *Ibid.*, p. 103.

acknowledged that the situation was different for insular features located far away from their principal territory in the middle of the ocean and had been annexed for historical reasons.³⁹⁷ **Iran** added that it could not support the definition of islands in the draft finding it inequitable and that ‘any distinction among islands could lead to disputes and serious problems in the future.’³⁹⁸

Nevertheless, there were basically two main proposals that received major response from States. The first was from **Romania** who reiterated its earlier stand in 1974, to insert a new paragraph 4 into Article 121 which specifically refers to ‘uninhabited islets’ not to have any effect on maritime spaces belonging to the main coasts of the States concerned.³⁹⁹ It reasoned that “*State practice, customary law, and international legal theory showed that there was widespread agreement on the need to distinguish between rocks and islets which could not sustain human habitation or economic life of their own... and islands proper...*”; and thus, paragraph 4 which was “*in accordance with the practice of many States and with existing international judicial practice*”⁴⁰⁰ is necessary to “*prevent any State from encroaching on the maritime zones of another State by invoking the existence of uninhabited islands in the delimitation area.*”⁴⁰¹ This proposal was supported by **Peru, Algeria, and Mozambique** but opposed by **Greece, the UK, Japan, German**

³⁹⁷ *Ibid.* Venezuela also found the provision unjust and arbitrary due to its ‘drastically different treatment for very similar island formations.’

³⁹⁸ *Ibid.*, p. 103. Iran stated that (p. 112):

*“Islets situated in enclosed and semi-enclosed seas which potentially can sustain human habitation or an economic life of their own but which, owing to climatic conditions, resource restriction or other limitations, have not yet been put to full development, fall within the provisions of paragraph 2 of [A]rticle 121, concerning the regime of islands, and therefore have **full effect** in the boundary delimitation of various maritime zones of the interested coastal States (emphasis added).”*

Upon signature of UNCLOS, Iran made a declaration that fully reflected this position (see p. 113). The exact wordings in the declaration are almost similar to the one made during the final part of the session just before the signing of the Convention. The only differences observed are very minor technical amendments. (see <http://www.un.org/Depts/los/convention_agreements/convention_declarations.htm#Iran Upon signature> [accessed 2 April 2014].

³⁹⁹ OOALOS, *supra* n 314, p. 104. The proposed para 4 reads as follows:

“4. Uninhabited islets should not have any effects on the maritime spaces belonging to the main coasts of the States concerned.”

⁴⁰⁰ *Ibid.*, p. 106.

⁴⁰¹ Nordquist, Nandan and Rosenne, *supra* n 82, p. 338 - referring to the 169th plenary meeting (1982), para. 53, XVI Off. Rec. 97. See also OOALOS, *supra* n 314 at p. 106.

Democratic Republic,⁴⁰² the **USSR, Brazil, Malta, Trinidad and Tobago, Portugal, Uruguay, Ecuador, Ukranian SSR, and Australia.**⁴⁰³

The second proposal was from the **UK** who continued to find “*no reason to discriminate between different forms of territory for the purposes of maritime zones*” and hence advocated that paragraph 3 should be deleted.⁴⁰⁴ This proposal was supported by States such as **Greece, Japan, Brazil, Portugal, Iran, Ecuador, Zambia, Australia** and **Venezuela;**⁴⁰⁵ whilst strongly opposed by **Turkey,**⁴⁰⁶ and rejected by **German Democratic Republic,**⁴⁰⁷ the **USSR, Algeria, Korea, Denmark, Trinidad and Tobago, Colombia, Uruguay, Mongolia, Byelorussian Soviet Socialist Republic, Pakistan** and **Peru,**⁴⁰⁸ and with **Singapore** similarly requesting the UK to withdraw its aforesaid proposal.⁴⁰⁹

Despite such heated debate, the discussions resulted in a compromise, with States effectively accepting Article 121(3) as it is today. Amongst the reasons given by some of the States are, in relation to the UK’s proposal to delete paragraph 3, **the USSR** who opposed the amendments as it would destroy the compromise reached, **Korea** who had difficulty in supporting the deletion since it ‘undermined the delicate balance achieved through the long process of negotiations,’ and **Denmark** who pointed out that this proposal would create grave obstacles in reaching a consensus.⁴¹⁰ Further, **France** noted the ‘positive solutions achieved with respect to the regime of islands.’⁴¹¹ **Greece** highlighted that “*all the clauses have been accepted by near-consensus, since almost all the countries... stated that they accepted all the parts of the Convention, with the*

⁴⁰² Now “Germany” as of 3 October 1990 – UN website, <[https://treaties.un.org/Pages/HistoricalInfo.aspx?#"Germany"](https://treaties.un.org/Pages/HistoricalInfo.aspx?#)> [accessed 2 September 2014].

⁴⁰³ OOALOS, *supra* n 314, pp. 105-110.

⁴⁰⁴ *Ibid.*, p. 98, 105. See also Nordquist, Nandan and Rosenne, *supra* n 82, p. 338 - referring to A/CONF.62/L.126 (1982), article 121, para 2, XVI Off. Rec. 233 (U.K.).

⁴⁰⁵ OOALOS, *supra* n 314, pp. 105-110.

⁴⁰⁶ Prescott and Schofield, *supra* n 379, p.70 – referring to OOALOS, *supra* n 314, p. 109. In addition, the German Democratic Republic (1982) absolutely opposed such amendments to delete and found that “[s]uch a proposal being made by the very States which in any case were benefiting the most from the provisions on the exclusive economic zone and the continental shelf, was nothing short of astonishing to the landlocked and geographically disadvantaged States.” (p.106). The USSR (1982) also opposed such deletion as it would destroy the compromise reached (p. 106).

⁴⁰⁷ See *supra* n 402.

⁴⁰⁸ OOALOS, *supra* n 314, pp. 105-110.

⁴⁰⁹ *Ibid.*, p. 105.

⁴¹⁰ *Ibid.*, p. 106-107.

⁴¹¹ *Ibid.*, p. 112.

*exception of Part XI, on the sea-bed.*⁴¹² Greece viewed the 'regime of islands' provision of crucial importance and should not be touched; opposing to reservations.⁴¹³ Similarly, **Colombia** found Article 121(3) to be logical, being "a 'package' which results from the view that these maritime spaces have been granted to benefit the inhabitants, with an economic concept [in which] [a]ny other interpretation would distort the concept."⁴¹⁴ The **United Republic of Cameroon** also accepted Article 121 in a spirit of compromise but considered that the delimitation of the CS should be read in accordance with Article 83,⁴¹⁵ whilst **Cyprus** opined that the compromise achieved should not be upset due to its best prospect of a consensus.⁴¹⁶

Summary/preliminary conclusion

It is observed that the Second Session in 1974 started off with many positions from various States with basically some wanting to differentiate the legal effect of maritime features whilst others viewing otherwise. However, during the Fourth Session in 1976, no changes were made to the formulation first proposed in the Third Session in 1975.⁴¹⁷ The Fifth Session reflected the same,⁴¹⁸ whilst the Sixth Session in 1977 continued to show an unchanged draft text except for a few minor technical alterations such as the renumbering of the draft article to Article 121.⁴¹⁹ It was only during the Seventh Session in 1978 that some proposals to amend the initial draft were raised by States via informal discussions regarding the regime of islands,⁴²⁰ although the final outcome of the draft text remained as was originally formulated.⁴²¹ In 1980, the report of the Chairman to the Plenary referred to the draft provision as a compromised formula;⁴²² and in 1981, during the first part of the tenth session, the Chairman of the Committee summed up that the draft as a whole 'is acceptable to the great majority of delegations'⁴²³ and thus at the

⁴¹² *Ibid.* Reference was made to A/CONF.62/L.126 (UK) and A/CONF.62/L.118 (Romania).

⁴¹³ *Ibid.*, p. 104. Reference was made to A/CONF.62/L.126 (UK) and A/CONF.62/L.118 (Romania)

⁴¹⁴ *Ibid.*, p. 111.

⁴¹⁵ *Ibid.*, p. 104.

⁴¹⁶ *Ibid.*

⁴¹⁷ *Ibid.*, p. 85. Draft text remains the same except for some technicalities such as the renumbering of the draft article and the creation of the sub-title "Regime of Islands".

⁴¹⁸ *Ibid.*, p. 86.

⁴¹⁹ *Ibid.*, p. 87.

⁴²⁰ Document referred to for discussion was A/CONF.62/62. – See *Ibid.*, p. 88.

⁴²¹ Text at *supra* n 314.

⁴²² OOALOS, *supra* n 314, p. 96.

⁴²³ *Ibid.*, p. 100.

second part of the session, it was no longer an ‘informal text’ but the official ‘draft convention on the Law of the Sea.’⁴²⁴ At the final session in 1982 however, States continued to have differing views although some acknowledged that a compromise should be resorted to.

In short, it is observed that States’ positions on whether island rights should or should not be differentiated to a large extent stem from individual nations’ respective interests. For instance, relating Romania’s position during the debate in LOSC III concerning Article 121(3) to the Romania/Ukraine case,⁴²⁵ it is quite apparent that Romania had foreseen Ukraine’s Serpents’ Island to be a factor that may adversely affect Romania’s claimed maritime boundaries if the maritime feature which it views to be a mere rock incapable of sustaining human habitation were to be given the same legal treatment as the mainland or other islands. In addition, although during the debate, States had no real consensus on whether to incorporate Article 121(3) or otherwise, the fact remains that Article 121(3) exists today and is legally binding on all States who are party to UNCLOS. Furthermore, proposals to enable States to make reservations to Article 121(3) during the debate were not accepted and thus, parties to UNCLOS would have to adhere to this provision.⁴²⁶

Nonetheless, it is important to note that any understanding regarding the elements should not be applied to States exclusively depending on their individual practice or positions since the outcome of this analysis is meant to apply to all States fairly and equally and not on selected States according to their positions current or prior to this. Indeed, States who have become party to UNCLOS are bound by Article 121(3) and thus, any interpretation of such should be applied to all States equally and not selectively.

More importantly, there was hardly any discussion as to what States really understood regarding the elements ‘human habitation’, ‘economic life’ and ‘of their own’, thus rendering it essential to find some useful and general interpretation applicable to all State parties to UNCLOS. In short, the legislative history does not assist much in clarifying the elements in Article 121(3). However, it is necessary to first observe State practice in relation to Article 121(3) in the next Chapter to determine whether any such practice has evolved into or advanced towards customary international law.

⁴²⁴ *Ibid.*, p. 101.

⁴²⁵ *Romania/Ukraine case*, *supra* n 86, and text at *supra* n 119.

⁴²⁶ Nordquist, Nandan and Rosenne, *supra* n 82.

Chapter 4 STATE PRACTICE

15. An Overview

The legal status of numerous maritime features has been debated by States in relation to Article 121(3). Regardless, State practice can contribute to understanding the provision which may be deduced from State actions towards their respective maritime features as well as those under the sovereignty of other States. These actions can be perceived from the national laws enacted as well as the relevant treaties entered into, which may concern establishing the outer limits of their maritime zones, the EEZ or the CS, which make reference to geographical coordinates, as well as the stand taken in concluded maritime boundary treaties.

Caution must however be exercised since not necessarily all legislation that defines the outer limit of States' maritime zones has taken into consideration Article 121(3). Furthermore, maritime boundary agreements are most likely the result of some compromise between States. However, a study on this can still provide some information on the strength of States' position concerning the meaning of the elements of Article 121(3).

It will be observed that State practice on the matter has no single trend and frequently differs in positions which occasionally led to complicated situations and dispute amongst States, thus rendering it beneficial to clarify further the provision for possible guidance in current or future scenarios.

Thus, available State practice has been looked at and divided into a number of categories which include States' enacted national laws that have incorporated the elements under Article 121(3) but more importantly whether any clarification has been made regarding the elements; State 'treatment' or views on, the physical natural characteristics and location of the maritime feature; the habitation and economic life of the maritime feature; the phrase "of their own" or in other words, the independence of the maritime feature from external support; and finally, other factors that affect them when claiming further maritime zones beyond the territorial sea and contiguous zone.

16. State actions/positions

16.1 Domestic laws

At the outset, there is unfortunately not much that could be obtained from the national laws of States. To date, **Mexico** seems to be the only⁴²⁷ State that has incorporated the elements in Article 121(3) into its domestic laws.⁴²⁸ Nevertheless, whether Mexico adheres to its own laws is another issue altogether although more importantly, there is no elaboration in the legislation on what constitutes the elements in Article 121(3). Most other States have legislation that merely defines their economic zones or CS without making any specific reference to Article 121(3) of UNCLOS, still less, clarification of the provision.

Many States have also enacted legislation prior to UNCLOS which may perhaps explain to a certain extent why some may not have included this provision into their respective laws. For instance, the **Norwegian Parliament** enacted legislation in 1976, empowering the Norwegian Government to establish a 200 mile economic zone around its coasts; and by a Royal Decree in 1980, a 200 mile fishery zone was established around Jan Mayen subject to the median line in relation to Greenland.⁴²⁹ Specific clarification on Article 121(3) elements has yet to be identified in the Norwegian legislation, albeit understandably so, States might not find this necessary to be incorporated in their legislation, preferring to deal with it if and when the need arises.

Nonetheless, for argument's sake, going beyond national legislation and into the bilateral understanding of Norway and another State, by an agreement between **Norway** and **Iceland** on 28 May 1980, both parties implicitly recognize that "*Iceland shall have a full*

⁴²⁷ Tanaka, *supra* n 21, p. 67.

⁴²⁸ See 'Federal Act relating to the Sea' of 8 January 1986, Articles 51 and 63, <http://www.un.org/depts/los/LEGISLATIONANDTREATIES/PDFFILES/MEX_1986_Act.pdf> [accessed 31 August 2014]. Article 51 reads: "*Islands shall have an exclusive economic zone; however, rocks that cannot sustain human habitation or economic life of their own shall not.*"; see also Oude Elferink, *supra* n 144, p. 174.

⁴²⁹ *Greenland/Jan Mayen case*, *infra* n 751, p. 46 para 17; see also 'Act No. 91 of 17 December 1976 relating to the Economic Zone of Norway', <http://www.un.org/depts/los/LEGISLATIONANDTREATIES/PDFFILES/NOR_1976_Act.pdf> [accessed on 31 August 2014]. Para 1 states - "*The outer limit of the economic zone shall be drawn at a distance of 200 nautical miles (1 nautical mile =1,852 metres) from the applicable baselines, but not beyond the median line in relation to other States.*"

*economic zone of 200 nautical miles in areas where the distance between Iceland and Jan Mayen is less than 400 miles.*⁴³⁰ Certainly, this relates to maritime delimitation, involving a compromise; and thus, may not be helpful in determining with certainty both States' view on Jan Mayen's entitlement to maritime zones vis-à-vis Article 121(3).

Notwithstanding this, it may be possible that they view Jan Mayen as a 'full-fledged' island escaping Article 121(3) recognizing Jan Mayen's economic zone entitlement that is reduced only if there is an overlapping situation with Iceland.

As with many other States, **Malaysian** laws,⁴³¹ **Singapore's** laws,⁴³² and **India's** Act No. 80⁴³³ also had not included the understanding of the elements contained in Article 121(3).

Basically, except for perhaps only Mexico, no State has incorporated the elements of Article 121(3) into their national legislation and although other States may have defined the outer limits of their maritime zones, they make no reference to the very elements of Article 121(3). For a reliable State inclination towards a certain practice in this matter, it is crucial to identify whether States have actually clarified the elements in Article 121(3) rather than merely incorporating them as part of their legislation. Unfortunately at present, not much could be derived from States' national laws on the clarification of Article 121(3).

16.2 Natural physical characteristics and location

Apart from States' national laws, States' treatment of maritime features in relation to their natural physical make up vis-à-vis Article 121(3) may be observed to assist in

⁴³⁰ Conciliation Commission Decision, *supra* n 764, p. 11.

⁴³¹ Amongst the Malaysian laws dealing with maritime zones include the Baselines of Maritime Zones Act 2006 (Act 660), Exclusive Economic Zone Act 1984 (Act 311), Continental Shelf Act 1966 (Revised 1972)(Act 83) and the Emergency (Essential Powers) Ordinance, No. 7 1969, <<http://www.cljlaw.com/>> [accessed 29 June 2014].

⁴³² No laws were enacted to specifically claim an EEZ or a continental shelf, let alone the clarification of Article 121(3). The examples mentioned have only a cursory reference to some maritime zones. E.g. Territorial Waters Jurisdiction Act 1878 (Revised Edition 1985), Fisheries Act (Chap 111)(Act 14 of 1966 - Revised Edition 2002), and Foreshores Act (Chap 113)(Ordinance 8 of 1872)(Revised Edition 1985), <<http://statutes.agc.gov.sg/aol/home.w3p>> [accessed 29 June 2014].

⁴³³ The Territorial Waters, Continental Shelf, Exclusive Economic Zone and other Maritime Zones Act, 1976, Act No. 80 of 28 May 1976, <http://www.un.org/depts/los/LEGISLATIONANDTREATIES/PDFFILES/IND_1976_Act.pdf> [accessed 31 August 2014]; see also the India Code website, <<http://indiacode.nic.in/>> [accessed 29 June 2014].

identifying States' trend on the matter. Undoubtedly, further evidence may be required to confirm such findings.

In this regard, there is the possibility of preliminary finding a maritime feature which is rocky or made of granite,⁴³⁴ volcanic,⁴³⁵ or of coral or reef,⁴³⁶ or their like, to most likely be unable to sustain human habitation given the likelihood that these features may have insufficient suitable soil to cultivate plants or induce the growth of living creatures for human survival; or, could even destroy the living things on it and hence make it an unsafe place for habitation. Observation of such maritime features may also include other physical characteristics such as the existence of vegetation or fresh water crucial for human survival.

On this note, with reference to available information regarding **these 'natural' physical characteristics** of the maritime feature **without going into the 'human habitation' or 'economic life' aspects**, States that appear to accord an EEZ or CS, thus overcoming Article 121(3) may be observed in for example, **New Zealand's** EEZ claim for the Kermadec Island Group⁴³⁷ which has merely thirteen square miles of area in total,⁴³⁸ rocky

⁴³⁴ One set of criteria for granite that stone dealers have categorised them under are as follows:
"Granite is a strong stone because its mineral grains have grown tightly together during a very slow cooling period. And the quartz and feldspar that compose it are harder than steel. This makes granite desirable for buildings and for ornamental purposes such as gravestones. Granite takes a good polish and resists weathering and acid rain. But stone dealers use "granite" to refer to any rock with big grains and hard minerals. So many types of commercial granite seen in buildings and showrooms don't match the geologist's definition. Black gabbro or dark-green peridotite, or streaky gneiss, which even amateurs would never call "granite" in the field, still qualify as commercial granite in a countertop or building (emphasis added)." See <http://geology.about.com/od/more_igrocks/a/granite.htm> [accessed 12 June 2014].

Whilst another defines it as follows:

"Granite is a component of hardpan layers present across the western U.S. These layers lie a few inches or feet below topsoil. They are virtually impervious, presenting water management challenges and a literal barrier to plant roots. Decomposed granite soils are often sandy in texture, drain too quickly and dry out easily. They are also usually deficient in essential plant nutrients. Without amendments to improve them, these soils may not support healthy, vigorous plants. Organic amendments can improve their moisture and nutrient holding capacities (emphasis added)." See <<http://homeguides.sfgate.com/decomposed-granite-plants-57159.html>> [accessed 12 June 2014].

⁴³⁵ Amongst some views regarding volcanic effects are e.g. plants and insects being destroyed, livestock and other mammals being killed, food supply for living things disrupted, aquatic life, insects and birds affected resulting in amongst other factors, death or migration, etc. and so forth. However, volcanic soil is very rich, and once everything cools off, plants can make a comeback although this depends on how much rain falls in the particular area – see <<http://volcano.oregonstate.edu/how-do-volcanoes-affect-plants-and-animals>> [accessed on 12 June 2014].

⁴³⁶ For definition, see text at *supra* nn 18 - 26.

⁴³⁷ New Zealand Ministry of Foreign Affairs, *The Law of the Sea and New Zealand*, Information Bulletin No. 10 (1984).

in nature and lies about 535 nm from the North Island of New Zealand;⁴³⁹ as well as **Australia's** 200 nm EEZ claim surrounding Heard Island and McDonald Islands despite them being a volcanic group of barren islands.⁴⁴⁰ **Fiji** also claimed an EEZ off Ceva-I-Ra (Conway Reef), a small rock-like sandy cay measuring up to a six and a half-acre and located at about 300 miles from the nearest Fijian territory.⁴⁴¹

Japan has likewise claimed an EEZ surrounding Okinotorishima, described as “*an incredibly barren place*”⁴⁴² having only two rocks or reefs exposed above water at high tide at quite a low level⁴⁴³ and no tillable soil,⁴⁴⁴ has a slender elliptical shape with water surrounding it at a depth of about three to five metres;⁴⁴⁵ and Minamitorishima which is merely a small isolated island.⁴⁴⁶

Clipperton Island, a 6 km² faraway overseas possession of France⁴⁴⁷ approximately 1120 km southwest of Mexico,⁴⁴⁸ described as ‘*a coral atoll*’ with ‘*one volcanic rock rising at one end*’, was claimed a 200 nm zone by **France**.⁴⁴⁹ Nonetheless, it may be argued that there is vegetation there, although not much.⁴⁵⁰ Similarly, **Brazil** has claimed and submitted to the CLCS for a CS for St. Peter and Paul Rocks which comprise 15 small islands or rocks.⁴⁵¹ In addition, there is the absence of vegetation and fresh water.⁴⁵² The

⁴³⁸ Broder and Van Dyke, *supra* n 35, p. 43.

⁴³⁹ New Zealand MFA, *supra* n 437.

⁴⁴⁰ Song, *supra* n 70, p. 685. See also texts at CIA, *supra* nn 123-124; Executive Summary of the Submission by Australia to the CLCS, *supra* n 125; and The “Volga” Case, *supra* nn 126-127. See also texts at *infra* n 498.

⁴⁴¹ Broder and Van Dyke, *supra* n 35, pp. 39 - 40. Broder and Van Dyke also noted the feature to be uninhabited. See also Fiji’s ‘Marine Spaces (Archipelagic Baselines and Exclusive Economic Zone) Order, 1981’ at First Schedule, gazetted under Fiji’s ‘Marine Spaces Act (Chapter 158A), No. 41 of 27 November 1981’ - showing the coordinates surrounding Ceva-I-Ra; see also United States Department of State, *Limits in the Seas, No. 101 Fiji’s Maritime Claims* (Office of the Geographer, Bureau of Intelligence and Research, 30 November 1984), p.30

⁴⁴² Song, *supra* n 97, p. 149.

⁴⁴³ *Ibid.*, p. 174. Song stated that at high tide, the Northern Exposed Rock is only 16 cm and the Eastern Exposed Rock 6 cm above water.

⁴⁴⁴ *Ibid.*, pp. 148 - 149.

⁴⁴⁵ *Ibid.*

⁴⁴⁶ See text at *supra* n 102.

⁴⁴⁷ CIA, Song, *supra* n 89.

⁴⁴⁸ *Ibid.*

⁴⁴⁹ See texts at *supra* nn 87 - 90.

⁴⁵⁰ See text at *supra* n 91.

⁴⁵¹ UN, *supra* n 133; see also texts at *supra* nn 131 to 134; Song, *supra* n 70, p. 684 - These features were also described to be made up of 12 small volcanic rocks.

⁴⁵² UN, *supra* n 133; See texts at *supra* nn 131 and 132.

total area of these features is approximately merely 10,000 m² with the tallest being Southwest Rock at 22.5 metres above water.⁴⁵³

Mexico who has domestic legislation that incorporates the very elements of Article 121(3)⁴⁵⁴ also claimed a 200 nm zone surrounding the Revilla Gigedo Island group which is basically volcanic in nature that included firstly, Isla Socorro ‘the largest of the Revillagigedo Islands’, about 10 miles long with an active volcano;⁴⁵⁵ secondly, Isla San Benedicto, a ‘barren rock’ of 975 feet high and about 3 miles long, without permanent water although has vegetation but mostly of a rare grass;⁴⁵⁶ thirdly, Clarion Island (Santa Rosa) which is only about 8km by 3 km in area⁴⁵⁷ and half the size of Isla Socorro, not easy to land without a helicopter, and no permanent water or mammals to be found;⁴⁵⁸ and fourthly, Isla Roca Partida, which is about 100 yards long where it seems impossible to land.⁴⁵⁹

Other maritime features which are not necessarily of similar description above⁴⁶⁰ which have also been argued by States to not fall within Article 121(3) are for example Serpents’ Island argued by **Ukraine** to be a full-fledged island entitled to an EEZ and a CS. Ukraine argued that the feature has vegetation as well as a sufficient supply of fresh water.⁴⁶¹ Notably however, the ICJ has decided this case in accordance with maritime delimitation procedures rather than that of Article 121(3).⁴⁶²

⁴⁵³ Song, *supra* n 70, p. 684.

⁴⁵⁴ See text at *supra* n 428.

⁴⁵⁵ W.V. Overbeek, *Article 121(3) LOSC in Mexican State Practice in the Pacific*, (1989) 4 Int'l J. Estuarine & Coastal L. 252 at pp. 261 and 267, at p. 262-263. Van Overbeek finds that this makes part of it uninhabitable.

⁴⁵⁶ *Ibid.*, p. 263. Van Overbeek finds this uninhabitable.

⁴⁵⁷ See text at *supra* n 139.

⁴⁵⁸ Van Overbeek, *supra* n 455, p. 263.

⁴⁵⁹ *Ibid.*; It was also claimed to be uninhabitable.

⁴⁶⁰ See texts at *supra* nn 434-436.

⁴⁶¹ Romania/Ukraine case, *supra* n 86, para 184.

⁴⁶² *Ibid.*; see also text at *supra* n 122. The ICJ found that it does not need to consider whether Serpents’ Island falls under Articles 121(2) or (3) nor their relevance to UNCLOS (para 187). It decided that “*Serpents’ Island cannot serve as a base point for the construction of the provisional equidistance line between the coasts of the Parties... since it does not form part of the general configuration of the coast*” (para 186). It may nevertheless be argued that in deciding that the island was not part of the relevant coast, the Court in effect suggests that Serpents’ Island is a mere rock.

The **United States's** treatment of Baker Island and Howland Island conferring 50 nm from the “mean water lines”⁴⁶³ and a 200nm EEZ⁴⁶⁴ is despite that these two maritime features also have no natural fresh water.⁴⁶⁵

The size of maritime features was also considered by some States when claiming additional maritime zones such as **Norway**, who's Supreme Court, found the size of 13.2 square km, Abel Island, too large to be a rock under Article 121(3).⁴⁶⁶

Conversely, States that do not claim these additional maritime zones where the physical make-up of the maritime feature is clearly ‘rocky’ or ‘granite-like’ in nature, or where there is the absence of fresh water, include the **UK** who, when it acceded to UNCLOS, stated that Rockall “*is not a valid base point for such limits under Article 121(3).*”⁴⁶⁷ This marks recognition by the UK that Rockall falls under the category of Article 121(3). In this regard, Rockall is observed to be a tiny isolated rocky pinnacle,⁴⁶⁸ a single outcrop of granite with circumference of about 61 metres and a height reaching to approximately 21 metres,⁴⁶⁹ an area of approximately 624 square metres⁴⁷⁰ and 160 km from the

⁴⁶³ The Secretary of the Interior, Washington DC, *supra* n 113. This 50nm is to be managed by the Director of the Service, the responsibilities of whom were delegated by the *Secretary of the Interior by the President* (over the emergent and submerged lands and waters of the Monuments) through the Assistant Secretary for Fish and Wildlife and Parks. Amongst other things, the Director “*shall manage the emergent and submerged lands and waters out to 50 nautical miles from their mean low water lines of Howland, Baker, and Jarvis Islands... This delegation extends the current boundary of the existing wildlife refuge at each of these islands to 12 nautical miles from the respective mean low water line of each island. Those areas beyond 12 nautical miles from the mean low water line for which [the National Oceanic and Atmospheric Administration] NOAA has primary management responsibility for fishery-related activities are not included in the National Wildlife Refuge System.*” The NOAA United States Department of Commerce handles amongst other things the daily weather forecasts, severe storm warnings, climate monitoring, fisheries management, coastal restoration and supporting marine commerce (see <<http://www.noaa.gov/index.html>> [accessed 1 September 2014]; It may also be noted that Jarvis Island is an uninhabited sandy, coral island surrounded by a narrow fringing reef with a total land area of 4.5 km². It also has no natural fresh water resources and no permanent crops – CIA, *supra* n 89, <<https://www.cia.gov/library/publications/the-world-factbook/geos/dq.html>> [accessed 1 September 2014].

⁴⁶⁴ See text at *supra* n 118; CIA, *supra* n 89 - US also claims a 200 nm EEZ surrounding Jarvis Island.

⁴⁶⁵ See texts at *supra* nn 116 and 117.

⁴⁶⁶ Supreme Court of Norway, Judgement of 7 May 1996, Rt. 1996, p. 624 as referred to by Gjetnes, *supra* n 387, p. 193; See also R. Churchill, *Norway: Supreme Court Judgment on Law of the Sea Issues* (1996) 11 IJMCL pp.576-580 (at 579); Tanaka, *supra* n 21, p.670.

⁴⁶⁷ Statement by the Foreign and Commonwealth Secretary, cited in D.H. Anderson, *British Accession to the UN Convention on the Law of the Sea*, 46 ICLQ 1997, pp. 761–786, at p. 778. The fishery zone limit was redefined through the Fishery Limits Order 1997 (Statutory Instrument 1997 No. 1750 of 22 July 1997. See also texts at *supra* nn 110-111.

⁴⁶⁸ See text at *supra* n 105.

⁴⁶⁹ Symmons, *supra* n 44, p. 51; See also O'Donnell, *Rockall – The Smallest British Isle*, 23 Sea Frontiers (1977) at 342.

⁴⁷⁰ See text at *supra* n 106.

Northwest coast of Scotland.⁴⁷¹ It lacks fresh water, and is the only part of the Rockall Bank which rises above sea-level at high tide.⁴⁷²

Romania also argued that the physical attributes of Serpents' Island are of Article 121(3) criteria, asserting that it is a "*rocky formation in the geomorphologic sense*,"⁴⁷³ "*devoid of natural water sources*" and "*virtually devoid of soil, vegetation and fauna*"⁴⁷⁴ although understandably this would be Romania's stand considering that Serpents' Island comes under the sovereignty of Ukraine so that additional maritime zones conferred upon it would inevitably affect Romania's. Regardless, this maritime boundary issue has been resolved at the ICJ⁴⁷⁵ and since this is a case concerning maritime delimitation, further discussion will not be relevant to Article 121(3).

Furthermore, **Taiwan's** 'position' may be seen by its ratification of the CCS 1958⁴⁷⁶ which included a reservation providing that "*exposed rocks and islets should not be taken into account*" when determining the boundary of the continental shelf of China,⁴⁷⁷ indicating that Senkaku Islands would not be entitled to a continental shelf.⁴⁷⁸ They were described as "*comprising five small volcanic islands and three rocky outcroppings*."⁴⁷⁹ Similarly, **China** finds them "*small, uninhabited, and cannot sustain economic life of their own, and that they are therefore not entitled to generate a continental shelf or an EEZ*."⁴⁸⁰ China had described Senkaku Islands as having its largest islet an approximate area of 4.3 square kilometres, measuring up to 369 metres above sea level at its highest. The rest, Dananxiaodao, Dabeixiaodao, Feilaidao and Huangweidao are smaller, with Huangweidao having a total area of 0.463 kilometres² and measuring 118 metres above sea level.⁴⁸¹

⁴⁷¹ See text at *supra* n 103.

⁴⁷² E.D. Brown, *Rockall and the Limits of National Jurisdiction of the UK, Part 2, 2 Marine Policy* (1978) pp. 275-303, p.289.

⁴⁷³ *Romania/Ukraine case, supra* n 86, para 180; see also text at *supra* n 461.

⁴⁷⁴ *Ibid.*

⁴⁷⁵ *Ibid.*

⁴⁷⁶ CCS 1958, *supra* n 8.

⁴⁷⁷ S. Lee, "Territorial Disputes among Japan, China, and Taiwan Concerning the Senkaku Islands" in S. Furness and C. Schofield (Eds.), *Boundary and Territory Briefing*, (Durham: International Boundaries Research Unit, 2002) IBRU Vol. 3 No.7, p.7.

⁴⁷⁸ *Ibid.*; Senkaku Islands are also known as the 'Diaoyu Islands'; see also M.J. Valencia, *The East China Sea Dispute: Context, Claims, Issues, And Possible Solutions*, (2007) Asian Perspective, Vol. 31, No. 1, pp. 127-167, at p.150. - Senkaku Islands are also called 'Diaoyutai' by China.

⁴⁷⁹ Lee, *supra* n 477, p. 2.

⁴⁸⁰ Valencia, *supra* n 478, p. 154.

⁴⁸¹ *Ibid.*, p.151.

Further, regardless of the findings of the ICJ or the Jan Mayen Conciliation Commission regarding Jan Mayen whose physical attributes are entirely volcanic with rocks of lava, and with large mountains and earthquakes⁴⁸² for purposes of identifying **Denmark's** position under this Chapter, Denmark had also asserted Jan Mayen to fall under Article 121(3).⁴⁸³

In addition, differing from its own practice of claiming a 200nm zone surrounding the Revilla Gigedo Island group which are basically volcanic or rocky in nature,⁴⁸⁴ **Mexico** however categorised Alijos Rocks which are of similar nature⁴⁸⁵ and described as 'a group of small volcanic islands in columnar form'⁴⁸⁶ to be caught by Article 121(3)⁴⁸⁷ indicating Mexico's stand that size does play an important role when it decided that the larger ones would not be caught by this provision.⁴⁸⁸ Herein, the Alijos Rocks consist of '*a number of rocks of which three are prominent rising to 34 metres.*'⁴⁸⁹

In the recent South China Sea Arbitration,⁴⁹⁰ the **Philippines** asserted that the physical characteristics of some maritime features occupied by China, which are small with coral projections, uninhabitable and barely above water at high tide, as 'rocks' within the meaning of Article 121(3).⁴⁹¹

In summary, there are various State practices, ranging from those that accord additional maritime zones to maritime features despite having 'unsuitable' **natural physical characteristics** to those that do not accord such; as well as ranging from those that claim such maritime zones to what seems reasonably 'suitable' or 'acceptable' maritime features to those that do not in similar situations. However, caution must be had in drawing conclusions from all these observations since they are limited to merely the

⁴⁸² See texts at *infra* nn 754, 764-765; *Greenland/Jan Mayen case, supra* 760 (including texts).

⁴⁸³ See text at *supra* n 752.

⁴⁸⁴ See text at *supra* nn. 455-459; Van Overbeek, *supra* n 455, p. 262-263.

⁴⁸⁵ Van Overbeek, *supra* n 455, p. 262.

⁴⁸⁶ Elva G. Escobar Briones, *Alijos Islands* (Convention on Biological Diversity, United Nations Environmental Programme (UNEP) –see <<http://www.cbd.int/doc/meetings/mar/ebsa-np-01/other/ebsa-np-01-submission-mexico-en.pdf>> [accessed 9 September 2014].

⁴⁸⁷ Van Overbeek, *supra* n 455, p. 262.

⁴⁸⁸ M. Gjetnes, *The Legal Regime of Islands in the South China Sea* (2000, Masters Thesis of Law, University of Oslo), p. 68.

⁴⁸⁹ Prescott and Schofield, *supra* n 379, p. 87 - citing *The Hydrographer, 1975a, Pacific Coasts of Central America and United States Pilot*, Hydrographic Office: Taunton, at 63.

⁴⁹⁰ See text at *supra* n 11 and relevant texts thereafter; see also Chapter 6.

⁴⁹¹ Asia-Pacific Defense Forum, *Philippines raises dispute with China to UNCLOS*, <http://apdforum.com/en_GB/article/rmiap/articles/online/features/2013/01/29/philippines-china-unclos> [accessed 2 December 2013].

natural physical characteristics of the maritime feature that is seen simply at surface value. Further supporting evidence is required to confirm whether human habitation or economic life can exist despite the initial findings based on simply their physical outlook.

The aforesaid discussions also show that the **location of maritime features** do not affect a State's decision to claim additional maritime zones surrounding them despite them being faraway although in situations where such maritime feature is located in overlapping areas between States, a different methodology has been applied if the matter reaches the stage of having to proceed to maritime delimitation. Similarly, States would also claim the maximum maritime zones they can for maritime features which are nearby to them unless they are located in overlapping areas with other States, which would then necessitate negotiations to resolve any dispute. In short, State practice shows that distance is no hindrance to a State from claiming additional maritime zones for their maritime features. The exercising of full maritime zone claims over a maritime feature is only circumvented by other States' rights to the respective maritime area which would then result in States to normally resort to resolving the issues between them via maritime delimitation.

16.3 Human habitation and economic life

State practice regarding the existence of human habitation in this context has been categorised into treatment towards those maritime features with and without inhabitants, with the possible existence of economic life as a supporting factor to justify a State's maritime zone claims in the event that habitation does not or could not exist.

No inhabitants

Amongst States that accord further maritime zones regardless of there being no inhabitants on their respective maritime features, include the aforementioned **Mexico**,⁴⁹²

⁴⁹² Van Dyke, Morgan and Gurish, *supra* n 138. i.e. 200 nm zone claim surrounding the Revilla Gigedo Island group which include the uninhabited Clarion Island (Santa Rosa); and also Isla San Benedicto which seems uninhabitable (Van Overbeek, *supra* n 455, p. 263).

Brazil,⁴⁹³ **Fiji**⁴⁹⁴ which however has fishing opportunities surrounding its maritime feature,⁴⁹⁵ **Australia**⁴⁹⁶ whose features' economic life also does not seem encouraging⁴⁹⁷ although Heard Island once had a whaling station operated by the Australian Whaling Commission in the early 1950s,⁴⁹⁸ and the **US** whose feature also has no economic activity.⁴⁹⁹

Regarding **Mexico** however, such feature characteristics may perhaps be argued to be compensated by other maritime features of the Revilla Gigedo Island group such as Isla Socorro that had sheep landing there in 1867 that survived,⁵⁰⁰ and Clarion Island that has a 29-man naval station, although clearly 'man-made', set up in January 1989.⁵⁰¹ If the survival of sheep or the existence of a naval station on the maritime features are accepted as having conformed to the human habitation and economic life elements respectively, then it may be argued that these two maritime features may as a consequence positively affect the others within its vicinity and thus assist in generating those additional maritime zones surrounding the entire Revilla Gigedo Island group. A closer study into the actual situation may however have to be undertaken before a conclusive finding is made. On whether there is economic life in relation to any of these maritime features, such has also yet to be identified.

⁴⁹³ Alvarez, Melo and Mello, *supra* n 131 including text - St. Peter and Paul Rocks were claimed a continental shelf despite being described by fishermen, scientists and visitors as the '*most inhospitable place for the human life.*'

⁴⁹⁴ Broder and Van Dyke, *supra* n 35, pp. 39-40 – i.e. small uninhabited rock-like sandy cay Ceva-I-Ra (Conway Reef); see also Fiji's 'Marine Spaces (Archipelagic Baselines and Exclusive Economic Zone) Order, 1981', *supra* n 441, First Schedule.

⁴⁹⁵ Gjetnes, *supra* n 387, p. 196. Arguably, this claim is perhaps due to Fiji's belief that there can be 'economic life of its own' due to fishing opportunities surrounding the feature; see also statement made by Fiji during LOSC III – Summary records of meetings of the Second Committee, 39th meeting (A/CONF.62/C.2/SR.39) at p. 283.

⁴⁹⁶ Song, *supra* n 70, p. 685 Australia claimed a 200 nm EEZ surrounding Heard Island and McDonald Islands. These features are a volcanic group of barren islands and have no permanent human habitation; See also texts at CIA, *supra* n 123; Executive Summary of the Submission by Australia to the CLCS, *supra* n 125; and The "Volga" Case, *supra* n 126-127.

⁴⁹⁷ *Ibid.*, There is no indigenous economic activity, unless one argues that fishing activities conform to the 'economic life' element since limited fishing is allowed in the surrounding waters.

⁴⁹⁸ National Archives of Australia, *Australian whaling history preserved in the Archives*, Issue 11 July 2013, <<http://yourmemento.naa.gov.au/2013/07/australian-whaling-history-preserved-in-the-archives/>> [accessed 5 September 2014]. This may perhaps be argued to have some significance when deciding whether Heard Island would indeed be caught by Article 121(3) or otherwise.

⁴⁹⁹ Song, *supra* n 115 – i.e. Baker Island and Howland Island are uninhabited. They have no indigenous inhabitants and no economic activity (CIA, *supra* n 117). The US has still accorded the features further maritime zones beyond the territorial sea and contiguous zone (Secretary of the Interior, Washington DC, *supra* n 113, and Song *supra* n 118).

⁵⁰⁰ Van Overbeek, *supra* n 455 p. 262-263.

⁵⁰¹ *Ibid.*

In contrast, States that do not accord these additional maritime zones to features without inhabitants are for instance the **UK's** treatment to the uninhabited Rockall⁵⁰² when it acceded to UNCLOS.⁵⁰³ Rockall is also observed to have a surrounding area not rich in fishery resources⁵⁰⁴ which arguably justifies the UK's treatment in view of the possibility that there can be no economic life at Rockall too if fisheries is argued to be accepted as a means for economic life for purposes of Article 121(3). Further, even in 1930, the UK was one of the many governments during the 1930 Codification Conference whose position was that in order to have even a territorial sea, an island must be capable of occupation and use.⁵⁰⁵

Some inhabitants

Where there are at least some inhabitants, State practice seems to also vary with regard to conferring further maritime zones, depending on whether the maritime feature is sparsely inhabited or has a slightly larger number of inhabitants. Herein, States have accorded further maritime zones where inhabitants are sparse. Some maritime features were also considered to have inhabitants although the occupants are merely those that are there for employment purposes such as work personnel in lighthouses, the military, meteorological stations and their like.

For example, **New Zealand** that had claimed an EEZ around the Kermadec Island Group has merely ten inhabitants who staff a meteorological station at the northernmost feature in the chain.⁵⁰⁶ **Brazil's** claim for a continental shelf for St. Peter and Paul Rocks although it was said to be the 'most inhospitable place for the human life according to fishermen, scientists and visitors,'⁵⁰⁷ also had in 1930, a lighthouse including a simple shelter for army personnel and researchers built on Northwest Rock.⁵⁰⁸

⁵⁰² Brown, *supra* n 472, p.289.

⁵⁰³ See text at *supra* n 467.

⁵⁰⁴ Churchill, *supra* n 110, p. 272.

⁵⁰⁵ Text at *supra* n 278; See also D.H.N. Johnson, *Artificial Islands*, 4 Int. L.Q., 203, 212-213 (1951) p. 205 at p. 204.

⁵⁰⁶ Gjetnes, *supra* n 488 p. 67 – citing *Pacific Islands Yearbook* 209 (Carter ed. 1981), at 233.

⁵⁰⁷ See text at *supra* n 131.

⁵⁰⁸ Song, *supra* n 70, p. 684.

In addition, Clipperton Island which **France** claimed a 200 nm EEZ surrounding it, is an uninhabited coral atoll⁵⁰⁹ and does not have permanent habitation since 1945, has however been occasionally visited by ‘fishermen, French Navy patrols, scientific researchers, films crews and shipwreck survivors’.⁵¹⁰ It is also a popular site for transmissions by ham radio operators.⁵¹¹ Furthermore, “[v]ery small communities lived together in uncertain conditions between 1892 and 1917,” but more importantly, “their survival depended upon constant outside support.”⁵¹² Moreover, it does not seem to have an economic life of its own and it is uncertain ‘whether anyone ever made any profit from its guano.’⁵¹³ The only economic activity is tuna fishing in its adjacent waters.⁵¹⁴

In the Romania/Ukraine case, whilst **Ukraine** argued Serpents’ Island to be a full-fledged island under Article 121(2) that should thus be entitled to an EEZ and a continental shelf stating inter alia that there are appropriate buildings and accommodation for an active population,⁵¹⁵ **Romania** opined the feature to fall under Article 121(3) asserting that it lacks the ability to sustain human habitation, and that “[t]he presence of some individuals... [who] have to perform an official duty such as maintaining a light-house, does not amount to sustained ‘human habitation.’”⁵¹⁶

In addition, **Japan’s** claim for an EEZ surrounding Okinotorishima is despite the latter being ‘an incredibly barren place,’ ‘has no one ever living on the maritime feature’ and ‘no signs of economic life’.⁵¹⁷ Japan had also constructed an embankment around Okinotorishima, where the parts above the surface are encased in concrete to prevent it from submerging, and also has an observation station in its interior reef.⁵¹⁸ Further, Okinotorishima has two man-made facilities in its lagoon for purposes of maritime

⁵⁰⁹ See text at *supra* n 89.

⁵¹⁰ Song, *supra* n 70, p. 691.

⁵¹¹ *Ibid.*

⁵¹² Van Dyke and Brooks, *supra* n 90, p. 287.

⁵¹³ *Ibid.*

⁵¹⁴ See text at *supra* n 92.

⁵¹⁵ Romania/Ukraine case, *supra* n 86, para 184; see also text at *supra* n 121.

⁵¹⁶ *Ibid.*, para 180. Romania also made a declaration when signing UNCLOS (10 December 1982) and confirmed upon ratification on 17 December 1996 stating at paragraph 3 that ‘uninhabited islands without economic life can in no way affect the delimitation of the maritime spaces belonging to the mainland coasts of the coastal States’. This Declaration may possibly have been made with Serpents’ Island in mind - See <http://www.un.org/depts/los/convention_agreements/convention_declarations.htm#Romania Declarations made upon signature (10 December 1982) and confirmed upon ratification> [accessed 10 April 2014].

⁵¹⁷ See texts at *supra* nn 97, 98 and 99.

⁵¹⁸ Song, *supra* n 97, pp. 149-150.

research and weather observation which are not located on either its Northern Exposed Rock or Eastern Exposed Rock, albeit above water at high tide,⁵¹⁹ and thus presumably, the inhabitants if any, would be work personnel for such facilities. The question is however, whether such works or artificiality by a State can be accepted to escape Article 121(3). Views have been expressed by scholars where works preventing a maritime feature from deteriorating may be accepted whilst works enhancing to change its status would not.⁵²⁰ In addition, isolated Minamitorishima was also claimed an EEZ despite having no permanent population but merely '30 officials from the Japan Meteorological Agency, the Maritime Self-Defense Force and the Japan Coast Guard [who] are engaged in observation and other activities there.'⁵²¹

Other State practices that may be observed are in the South China Sea. For instance, where the Spratly Islands are concerned, **China, Taiwan, Vietnam, Philippines** and **Malaysia** have established military presence on some of the maritime features over which they claim sovereignty.⁵²² Some scholars believe that these tiny islands with sizes of not more than 2 to 3 square kilometres 'never hosted permanent population or lasting economic activities' and that none of these features can be 'proven capable of sustaining human habitation or economic life of its own.'⁵²³ Irrespective of this, similar to the queries concerning habitation arising from the existence of personnel in lighthouses, meteorological stations and likewise, the question which remains to be addressed is whether such military presence can tantamount to habitation which would allow a maritime feature to escape Article 121(3) consequences.

On the other hand, States that believe that there should be no additional maritime zones accorded to maritime features despite the existence of habitation are for example, **Denmark** who argued before the ICJ that Jan Mayen should be given no effect due to inter alia, no settled population and only temporary inhabitation of merely 25 persons on the island who are there for employment purposes.⁵²⁴ In addition, maritime features

⁵¹⁹ Song, *supra* n 70, p. 693.

⁵²⁰ See texts at *infra* nn 696-698.

⁵²¹ See text at *supra* n 102.

⁵²² C. Joyner, *The Spratly Islands Dispute in the South China Sea: Problems, Policies, and Prospects for Diplomatic Accommodation* (Oxford: Clarendon Press, 2002), p.56; see also texts at *supra* n 145.

⁵²³ e.g. F. Borgia, *Rocks or Islands? The Asian Dilemma*, AsianSIL Working Paper 2010/15, Finalized 30 January 2011, pp. 20-21.

⁵²⁴ See *Greenland/Jan Mayen case*, *infra* n 752 (including texts).

were ignored in the boundary settlement between Denmark and Sweden regarding the island of Ven despite it having ‘a population of about 1,000’⁵²⁵ although this is again notably an issue for maritime delimitation rather than Article 121(3).

Besides State actions, some States have expressed their views concerning the elements that could satisfy Article 121(3). Therein, apart from **Fiji**’s views that “*in certain parts of the world [although] remote islands might have no viable land-based economy... [they] could have significant economic development based uniquely on their fishing industry,*”⁵²⁶ **Indonesia**’s views may also be seen from the explanation given by its representative in 2009 at a meeting organised by the International Seabed Authority (ISA).⁵²⁷ Indonesia viewed that firstly, the maritime feature must ‘*sustain and maintain fresh water*’; secondly, it must “*be able to grow vegetation that can sustain human habitation*”; thirdly, it can “*produce some material that can be used for human shelter*”; and finally, it must “*be able to sustain a human community of at least fifty people.*”⁵²⁸

Evidently, States seem to accord different treatment to maritime features despite that some of these features may have similar characteristics and thus one would expect them to be treated the same in such situations. Clearly, State actions may be due to States’ individual interest interpreting the elements of Article 121(3) as it suits them. A common inclination in practice that could assist in the clarification of the elements in Article 121(3) has yet to be found for purposes of deciding whether such actions have much significance or can be given considerable weight in understanding the provision. There is thus the need for some guidance with the view to assist negotiations or minimize disputes.

⁵²⁵ L.M. Alexander, *Baseline Delimitation and Maritime Boundaries*, 23 Va. J. Int'l L. 503 (1982-1983) Vol. 23:4, at p. 524 - reference was made to the Bureau of Intelligence & Research, Office of the Geographer, U.S. Dep't of State, Int'l Boundary Study Series A, Limits in the Sea at No. 48, Territorial Sea Boundary: Denmark-Sweden, July 16, 1970.

⁵²⁶ See Fiji’s belief and statement at *supra* n 495.

⁵²⁷ International Seabed Authority (ISA), *Seabed Authority Organizes Briefing for Members and Observers Attending Its Fifteenth Session*, Press Release SB/15/10, 2 June 2009, p. 3, <<http://www.isa.org.jm/files/documents/EN/Press/Press09/SB-15-10.pdf>> [accessed 28 June 2014].

Indonesia’s views were relayed during one of the presentations at the briefing i.e. on the topic “*Safeguarding the Common Heritage of Mankind*” by Professor Jia Yu, Deputy Director of the China Institute for Marine Affairs (CIMA) and Deputy Secretary-General of the Chinese Society of the Law of the Sea.

⁵²⁸ *Ibid.*

16.4 “Of their own”

Article 121(3) further uses the phrase ‘of their own’ which meaning has been debated by scholars and States, namely whether a maritime feature can receive outside support without being caught by Article 121(3).

An example includes **France’s** Clipperton Island, where the survival of the very small communities that lived on from 1892 to 1917 depended on continuous outside support.⁵²⁹ Yet, despite this, including that Clipperton Island is now uninhabited, volcanic and with little vegetation, France has still claimed an EEZ surrounding the maritime feature although arguably, this may be due to its economic activity of tuna fishing.⁵³⁰

In contrast, **Romania’s** idea of human survival appears to make it necessary for maritime features to be independent when it regarded Serpents’ island as unable to do so since as alleged by Romania, Serpents’ Island is dependent on supplies, particularly water, from elsewhere; and that its development of economic activities cannot be supported by the natural conditions.⁵³¹

By merely these examples, it may be said that even when it comes to the phrase ‘of their own’, States still differ in practice with some claiming extended maritime zones around their ‘dependent’ maritime feature, whilst yet others viewing otherwise. In this respect, there is still ambiguity on whether the phrase ‘of their own’ calls for the economic life to be conducted from the maritime feature itself, even if by a non-permanent population, or whether activities conducted merely around the island such as tuna fishing is sufficient.

16.5 Other factors

Apart from the obvious elements required under Article 121(3), amongst other factors which resulted in States to either claim further maritime zones for maritime features or otherwise, is where maritime delimitation is concerned. Briefly, in maritime delimitation, many States have ignored or given lesser effect to maritime features due to their small

⁵²⁹ See text at *supra* n 512.

⁵³⁰ See text at *supra* nn 92 and 514.

⁵³¹ *Romania/Ukraine* case, *supra* n 86, para 180. Romania views Serpents’ Island to be caught by Article 121(3) and thus no added maritime zones should be accorded to it.

size, far-off location, lack of habitation, or possible distorting effect if taken into consideration.⁵³²

Although treatment towards such maritime features appears to be similar to treatment that should be given to ‘rocks’ under Article 121(3), nevertheless, these actions by States should not be considered for purposes of the provision, particularly so, in view of the fact that maritime delimitation agreements are often the result of cooperation and compromise between States that are based on different reasons rather than the consideration of Article 121(3); and as such, the understanding of the elements where it concerns maritime delimitation cannot be applied in the latter scenario. As aforementioned, the maritime features given lesser effect or no effect in maritime delimitation may still generate a continental shelf and EEZ in some situations whilst rocks under Article 121(3) will never be able to do so.

In short, the act of conferring additional maritime zones to a maritime feature does not necessarily stem from States’ consideration of Article 121(3) as elucidated by the examples concerning maritime delimitation between States.

17. Preliminary Conclusion

State practice inclines towards their respective individual interests rather than considering global needs as a whole. They may be seen from domestic laws which are primarily favouring States’ individual requirements with hardly any State, except perhaps

⁵³² Examples of maritime delimitation involving small maritime features that have been ignored or given less effect are numerous. e.g. **Saudi Arabia and Iran** i.e. the Iranian island of Kharg (Hodgson, *supra* n 148, p. 189; **India and Sri Lanka** i.e. Sri Lanka’s small uninhabited island of Kachchativu (Jayewardene, *supra* n 21, pp. 376-377) and the small Adams Bridge islands (Alexander, *supra* n 525, p. 524); see also cases referred by Jayewardene, *supra* n 21: the disputed islands of **Farsi and Arabi** (pp. 404, 423), **Abu Dhabi and Qatar** concerning Dayyinah island (pp. 408, 437), **Indonesia and Malaysia** concerning The Natunas (pp. 418-419), **Canada and Denmark (Greenland)** regarding the islands Crozier, Franklin and Hans at the Kennedy Channel (pp. 431-2), **Colombia and Panama** - i.e. Isla Malpelo (pp. 450-451), **Australian and Papua New Guinea** - i.e. the off-lying islets and cays of the Great Barrier Reef and like features fringing mainland Papua New Guinea (pp. 400- 401), **Iran and the United Arab Emirates (Dubai)** – the presence of islands was ignored, although the reasons appear to be due to the complexity of procedures that will need to be worked out as well as too much favour on Iran (pp. 405- 406); see also cases referred to by Alexander, *supra* n 525: **Iran and Qatar** - i.e. Qatari island Halul has been ignored although this appears to be due to its disputed status (p. 524), **Denmark and Sweden** - i.e. the island of Ven which ‘has an area of 2.9 square statute miles, and a population of about 1,000.’ (p. 524); see also **Chile and Argentina** - i.e. the smaller Chilean islets off the coast of Tierra del Fuego in the Beagle Channel (see Treaty of Peace and Friendship, Chile-Argentina, 24 I.L.M. 11 (1985) at pp. 11, 12, 15, 16).

Mexico, incorporating the elements of Article 121(3) into its legislation. Even so, explanation on what the elements mean are not seen in Mexico's legislation resulting in the issue still yet to be addressed.

Nonetheless, regardless of whether States have incorporated Article 121(3) into their national legislations or otherwise, this does not preclude States party to UNCLOS from conforming to the provision. Such is a matter for the States to address internally. More importantly, what has yet to be deciphered is the understanding and clarification of Article 121(3) rather than the mere reiteration of the provision and its elements in States' respective legislation. States' treatment towards maritime features and whether they confer these additional maritime zones beyond the territorial sea and contiguous zones, differs with no single conclusive practice towards maritime features that could be said to have similar characteristics.

Where the **'natural' physical characteristics** of maritime features are concerned, treatment towards those that are rocky, granite-like, volcanic, with no fresh water and all those that a reasonable man may consider as uninhabitable, have still resulted in States having divergent views with some conferring these maritime features further maritime zones, whilst others that do not.

Similarly, State practice again varies where **human habitation or economic life** is concerned, ranging from some finding that there has to be actual habitation, whilst some settling for the maritime feature to be merely habitable; as well as those that have regarded the mere existence of fresh water or some vegetation as sufficient to escape Article 121(3) with others that viewed otherwise. These disputing views include even the number of humans living on the maritime feature as well as the reasons for living there, namely whether there is 'normal' permanent habitation or merely personnel employed such as for reasons of administering lighthouses and meteorological stations as well as for military purposes. Works have also been carried out to enhance or prevent maritime features from being caught by Article 121(3). In addition, there are those that view fishing activities sufficient as existing economic life that adheres to Article 121(3) whilst others having differing views.

Likewise, even where the phrase **'of their own'** is concerned, some had treated external support as conforming to the requirement of the phrase, whilst others had contradictory

views. In addition, except where overlapping situations are concerned and maritime delimitation is embarked upon by both States, the **location of maritime features** also does not affect a State's claim for additional maritime zones. States tend to declare broad claims of extended maritime zones for their maritime features, regardless of whether they are fairly close to the State's mainland or otherwise. Nevertheless, States appear to have chosen inconsistent viewpoints relating to their various maritime features.

In short, there is very little to be derived from State practice that could assist in a conclusive and generalised manner as to what States overall would interpret as a maritime feature caught by Article 121(3). Their differing practices make it difficult to identify a major common stand that could be relied on as a guideline on the matter. As such, the only way to assist States would be to rely on clear scientific evidence under environmental science which falls within the legal framework of Article 121(3) that could be used as guidance for States if the need arises.

Having observed the legislative history (Chapter 3) and State practice (this Chapter) in relation to Article 121(3), it may be interesting to see how scholars and maritime legal experts perceive Article 121(3) to be in the following chapter before finally discussing the findings by international adjudicating bodies on the subject matter.

Chapter 5 VIEWS BY SCHOLARS AND MARITIME LEGAL EXPERTS

18. Introduction

Current legal understanding concerning Article 121(3) may be observed from some of the interpretations by scholars and maritime legal experts which include a mixture of diverse opinions and clarifications. Nevertheless, despite the explanations given regarding their findings, their deductions still need to be verified before they can be conclusively accepted since the basis of such findings can be questionable.

Some views predating UNCLOS should also be noted since there are arguments based on the legislative history of Article 121(3) of UNCLOS. The majority of them undoubtedly agree that the provision is ambiguous and vague, and despite the interpretations that have developed throughout the years, the issue is still unresolved.

The elements that will thus be observed are basically divided into general comments for Article 121(3), the understanding of the terms or phrases, 'rock', 'human habitation', 'economic life', 'of their own' and the conjunction 'or'. Observations concerning the rights and freedom of States in the high seas⁵³³ and 'the common heritage of mankind' in the maritime area⁵³⁴ are also crucial due to the effect of Article 121(3) over such areas that will be diminished by the expansion of the maritime zones of a maritime feature that escapes the aforesaid provision.

19. Maritime legal experts and scholars' views

19.1 Article 121(3) : General Comments

It may be said that scholars in general agree as per the much-quoted statement by Brown that "*Article 121(3) appears to be a perfect recipe for confusion and conflict.*"⁵³⁵

⁵³³ Part VII of UNCLOS.

⁵³⁴ See text at *supra* n 150.

⁵³⁵ E.D. Brown, *Rockall and the Limits of National Jurisdiction of the UK, Part 1*, 2 *Marine Policy* (1978) pp. 181- 211 at p. 206; see also **Van Overbeek**, *supra* n 455: *travaux préparatoires* insufficient to arrive to a clear conclusion, and Article 121 *leaves the situation somewhat ambiguous, and a plain, grammatical interpretation is impossible* (p. 267); **Kwiatkowska and Soons** (*supra* n 74, p. 180) – doubting its capability

(a) General ideas on the approach to clarify Article 121(3)

In attempting to decipher this “ambiguity”, various proposals and ideas regarding the approach to be used were raised.

One approach includes looking at the object and purpose of the provision as opined by **Van Dyke and Brooks**,⁵³⁶ **Van Overbeek**⁵³⁷ and **Charney**.⁵³⁸ Another idea was to look at State practice which can include case laws and national legislations such as viewed by **O’Connell**,⁵³⁹ **Van Dyke, Morgan and Gurish**,⁵⁴⁰ **Oude Elferink**⁵⁴¹ and **Schofield**.⁵⁴²

of generating a norm of customary law that can assist in its interpretation and application; **Hart Dubner** (*supra* n 149, p. 303) - found it “*an entirely new rule whose language is ambiguous and vague*”; **O’Keefe** (*supra* n 70) - deems it a curious and cryptic provision, and more ‘question begging’ than ‘instructive’ (pp. 411-412)⁵³⁵ **Churchill and Lowe** (*supra* n 50) - opines that the provision was poorly drafted (p.163); **Gjetnes** (*supra* n 387 at pp. 193 & 202) - agrees that Article 121(3) is one of the most ambiguous provisions in UNCLOS; and J. Symonides, “The Legal Status of islands in the New Law of the Sea” (1987) in H. Caminos (Ed), *Law of the Sea*, (Dartmouth: Ashgate Publishing Limited, 2001), p.115 at p. 120 - acknowledges that this provision lack clarity and gives rise to contradictory interpretations.

⁵³⁶ Van Dyke and Brooks, *supra* n 90, p.287 - ordinary meaning to be given to the term and in the light of its object and purpose as per Article 31 of the VCLT, although they found it indeed difficult to have precise definitions due to the immense diversity of ‘island situations’.

⁵³⁷ Van Overbeek, *supra* n 455 – referred to e.g. Judge Vukas’s statement in “The Volga case” that the reasons for the establishment of the EEZ regime was for the purpose of the population’s livelihood and not for ‘rocks’ (texts at *infra* nn 769 and 772), and thus to lay emphasis on ‘human habitation’ and the ability to maintain a stable population (p. 267). He also found that “*legal and geographical definitions do not necessarily coincide*” (p. 253). He referred to A.A. Archer and P B. Beazley, *The Geographical Implications of the Law of the Sea Conference*, *The Geographical Journal*, Vol. 141, No. 1 (Mar., 1975), pp. 1-13, at p. 10. Archer and Beazley discussed the definition of the ‘continental shelf’ before UNCLOS was finalised and found that the legal definition of ‘continental shelf’ used by international lawyers extended beyond the actual ‘geological and geomorphological’ meaning, which included the continental rise.

⁵³⁸ Charney, *supra* n 73 – He highlighted that although some observers may prefer a ‘teleological approach’ namely to achieve a maximum common area of the oceans, it must be looked at in the light of the drafters who set the objectives of the provision, particularly so since UNCLOS is the product of an agreement between States (p. 865). Charney believes that although the rights of other States in the maritime zones of coastal States are not neglected, UNCLOS as a whole appears to show that that the negotiators preferred the interests of the coastal states, allocating them with an EEZ and a continental shelf with all the more beneficial and valuable rights as contained in UNCLOS, and hence, a teleological argument favouring the maximal approach for the common area from the oceans is refuted: Charney referred to the rights of other States such as the right to ‘innocent passage in the territorial sea’, ‘transit passage in certain straits’, ‘archipelagic sea-lanes passage’ and ‘high seas rights in the exclusive economic zone.’ Thus, he finds that the primary purpose of Article 121(3) should be understood to ensure that only insignificant features especially those far from areas claimed by other States should not be able to generate extended maritime zones beyond a territorial sea and contiguous zone (pp. 865-866). Nonetheless, in a delimitation exercise, Charney views that States could in fact simply enter into maritime agreements on a delimitation line (p. 873).

⁵³⁹ O’Connell and Shearer, *supra* n 50, p. 731 – He elaborated that whether every island generates an EEZ or not cannot be inferred from general principles.

However, **Kwiatkowska and Soons** find the value of consensus reached by States concerning Article 121(3) to be seriously doubted⁵⁴³ and impossible to be judged upon due to States' many conflicting approaches regarding the provision.⁵⁴⁴ They also believe the provision to be inseparable from other UNCLOS provisions, especially with regard to maritime boundary delimitation since this reflects the essence of the whole question.⁵⁴⁵

There is also the approach to look at the historical background of the provision such as raised by **Van Dyke, Morgan and Gurish**,⁵⁴⁶ and **Hart Dubner**⁵⁴⁷ who finds it necessary to look at the CTSCZ 1958. In addition, **Oude Elferink** points out two elements from his reading of Article 121(3) namely, 'size' and the 'capacity to sustain human habitation or economic life of its own' as relevant to the situation.⁵⁴⁸

(b) Other general views

Apart from the ways to approach Article 121(3), other general views are as below:

⁵⁴⁰ Van Dyke, Morgan and Gurish, *supra* n 138, pp. 425-494 – They however found States to have taken inconsistent positions regarding the matter with consensus yet to be achieved on the proper interpretation of Article 121(3) (p. 463-464)

⁵⁴¹ Oude Elferink, *supra* n 106, p. 58 – This include including assessing “*the role of national legislation, decisions of national courts, decisions of international courts, [findings by] the Commission on the Limits of the Continental Shelf (CLCS), and the community interest in the Area and the high seas.*”

⁵⁴² Schofield, *supra* n 69, p. 28. – He supported Oude Elferink's view (*ibid*) despite noting international adjudicating bodies to side-step the issue under Article 121(3). He highlighted examples that could assist in clarifying Article 121(3), i.e. the UK's decision to finally categorize Rockall as a 'rock' within the meaning of Article 121(3) and some pronouncements made by the International Tribunal on the Law of the Sea (ITLOS).

⁵⁴³ Kwiatkowska and Soons, *supra* n 74, p. 141.

⁵⁴⁴ *Ibid.*, p. 180.

⁵⁴⁵ *Ibid.*, p. 181 – They highlighted “*noticeable reluctance, in both international case law and doctrinal writing, to generalize about the effect that should be accorded to islands in maritime boundary delimitation.*” (p. 143). Arguably, although Kwiatkowska and Soons's reason for tying Article 121(3) to maritime boundary delimitation appears logically acceptable, in the light of many other possibilities for instance where maritime features are too distant from other States for any maritime delimitation exercise to take place between States, an understanding of Article 121(3) is still very necessary in order to balance it with many other crucial factors which could affect the rights of other States where for instance, the oceans are argued to have the legal status of the 'high seas' or where it affects the Area meant for the common heritage of mankind.

⁵⁴⁶ Van Dyke, Morgan and Gurish, *supra* n 138, pp. 425-494.

⁵⁴⁷ Hart Dubner, *supra* n 149, p. 303 - noting that apart from the terms 'island' and 'low tide elevations', subdivision of islands such as 'islets' and 'rocks' are not mentioned in the CTSCZ 1958, thus resulting in small barren rocks to be regarded as islands together with their legal entitlement. He compared this to UNCLOS in which the term 'rock' was used although still not defined, thus causing its meaning as well as the other elements under Article 121(3) to be subjected to various interpretations (He referred to Burke's views in W.T. Burke, *International Law of the Sea*, 5 - 31 to 5 - 33 (1992)); See also Diaz, Hart Dubner and Parent, *supra* n 95, p. 534.

⁵⁴⁸ Oude Elferink, *supra* n 144, p. 173 and *infra* nn 570 and 574.

Prior to UNCLOS, **Brown**, and echoed by **Kwiatkowska and Soons** years later,⁵⁴⁹ finds that if Article 121(3) is maintained, Article 13 of UNCLOS would need to be made clearer “*in order to place such rocks in the same position*” as LTEs, given the fact that the latter seem to enjoy the right to be part of a baseline that can generate an EEZ and continental shelf as long as it is located within the territorial sea of its mainland State whilst ‘rocks’ under Article 121(3) which are ‘similarly situated’ could be interpreted to not have ‘much influence on the baseline’ as LTEs.⁵⁵⁰ Brown’s proposal seems reasonable to avoid from misconstruing the legal position of rocks to be confined merely under Article 121(3) when such rocks should also have the same effect as LTEs, thus having influence on the baselines under Article 13. In addition, **Jacovides** finds that “*to insist on full rights of a 200-mile EEZ and the equivalent continental shelf area on the basis of distance and natural prolongation for rocks, may reasonably be criticized as unduly excessive and, to that extent, indefensible.*”⁵⁵¹

Post UNCLOS, other general views include **O’Keefe’s** argument that Article 121(3) is not severely strict, stressing that ‘*almost any skerrick of land that is still high and dry when the tide is in*’ is still entitled to maritime zones;⁵⁵² and **Gjetnes**, who highlighted that ‘rock’ in this context is a category of island under Article 121 wherein it must also satisfy the requirement of being naturally formed and surrounded by and above water at high

⁵⁴⁹ Kwiatkowska and Soons, *supra* n 74, pp. 147-148 - i.e. their views were expressed subsequent to UNCLOS.

⁵⁵⁰ Brown, *supra* n 535, p.207; see also Kwiatkowska and Soons, *supra* n 74, pp. 147-148 - They referred to the rocks-principle and the determination of baselines stating that its clear objective is to prevent maritime expansionism by limiting the capacity of rocks to have an EEZ and a continental shelf; and therefore, a more adequate solution would be to add ‘rocks’ to Article 13 of UNCLOS giving ‘those within the vicinity of the coasts’ similar legal status to LTEs for purposes of determining baselines, and hence reducing the controversy in Article 121(3) where focus would then be on the determination of baselines instead of entitlement to maritime spaces, and leaving only rocks ‘outside the vicinity of the coasts’ namely beyond the territorial sea to be considered for purposes of Article 121(3) as opposed to an immediate focus on maritime delimitation.

⁵⁵¹ A.J. Jacovides, *Three aspects of the law of the sea: Islands, delimitation and dispute settlement*, Marine Policy (October 1979), p. 283. It may be noted that in the article, it was stated as follows:

“At the time of writing [his views and comments] Andreas Jacovides was Ambassador Extraordinary and Plenipotentiary, Permanent Mission of the Republic of Cyprus to the United Nations.... He has been head of the Cyprus delegation to LOSC III since 1973 and Vice-Chairman of the Third Committee of the Conference [then].”

See also A.J. Jacovides, *Disputes and the regime of islands and rocks, under the United Nations Convention on the Law of the Sea* (American Bar International Law Association, International Law Weekend, 24-26 October 2013, New York), statement made on 26 October 2013. Jacovides reiterated his previous stand that under Article 121, islands are no less entitled to all the zones of maritime jurisdiction than continental territories.

⁵⁵² O’ Keefe, *supra* n 70, p. 412-413.

tide,⁵⁵³ a reasoning which is indeed supported, given the fact that Article 121(3) itself is part of the main Article 121 which deals with the regime of islands. Whereas **Symonides** merely pointed out the existence of vast differing characteristics of islands with the estimated number of over half a million islands in existence,⁵⁵⁴ without giving views regarding the interpretation of the elements in Article 121(3).

Preliminary Conclusion

In summary, most scholars agree that Article 121(3) is ambiguous, thus causing many interpretations in its application. Nevertheless, whilst some do indeed have their respective views on how to address this controversial provision, the issue has yet to be resolved as no consensus has been arrived at regarding its meaning. It is however observed that the methods proposed to demystify Article 121(3) appear to emphasize State practice, national legislation, case law, decisions by international bodies, legislative history, and amending UNCLOS, all of which mostly revolve around the legal aspects of the matter with merely cursory references to the scientific aspects which upon consideration should be looked into with greater scrutiny.

However, before identifying the scientific aspects that should be given greater consideration and addressed within the legal framework of Article 121(3), more specific elaborations by scholars should be observed in the other sub-categories below.

19.2 Definition of the term 'Rock'

Size of maritime features

The views of some non-legal scholars such as **Hodgson and Smith**⁵⁵⁵ are necessary to be first mentioned, particularly because their views have been much referred to or contrasted by subsequent scholars in their legal understanding of the aforesaid provision.

⁵⁵³ Gjetnes, *supra* n 387, p. 194.

⁵⁵⁴ Symonides, *supra* n 535, p. 115.

⁵⁵⁵ R.D. Hodgson & R.W. Smith, *The Informal Single Negotiating Text (Committee II): A Geographical Perspective*, *Ocean Development & International Law*, (1976) 3:3, 225-259. The article informed that whilst Hodgson is 'The Geographer' from the Office of The Geographer of the U.S. Department of State, Washington, D.C., Smith is the 'Assistant Geographer' from the same office with Hodgson.

On this note, **Hodgson** had categorized islands according to size, although for purposes of maritime delimitation and with particular regard to ‘special circumstances’, as follows:

- “1. rocks, less than .001 square mile in area;
2. islets, between .001 and 1 square mile;
3. isles, greater than 1 square mile but not more than 1,000 square miles; and
4. islands, larger than 1,000 square miles.”⁵⁵⁶

Indeed, Hodgson’s definition according to size that included rocks, meant that those less than 0.001 square miles in area, would be unfit for human habitation and that its value would be negligible or non-existent.⁵⁵⁷ He stressed that even if these ‘sized’ features might conceivably be used as sites for navigational lights, this form of occupation is both “artificial and transitory” and would continuously depend on external support,⁵⁵⁸ implying that such ‘artificiality’ would not determine whether it would be a ‘rock’ that falls under Article 121(3) and that what is important is its ‘size’.

In a later observation in 1976 predating UNCLOS, both Hodgson and Smith also recognised the complications arising from this provision but find it obvious that a ‘rock’ is meant to refer to a ‘smaller-sized island’.⁵⁵⁹ They revisited Hodgson’s formula as to the categorisation of these insular features according to size⁵⁶⁰ and further noted **Strohl**’s observation that the International Hydrographic Bureau (IHB) is different from Hodgson’s, with the IHB’s classification being formulated as follows:

- (i) *Small islets (1 to 10 square kilometers);*
- (ii) *Islets (10 to 100 square kilometers); and*
- (iii) *Islands (100 to 5 X 10⁶ square kilometers).*⁵⁶¹

Although Hodgson does consider other elements such as “the lack of potable water, fertile soils and/or other physical necessities” when attempting to clarify Article 121(3),⁵⁶² both Hodgson and Smith still find that ‘size’ plays a significant role entitling some features

⁵⁵⁶ Hodgson, *supra* n 148, pp. 150-151; also referred to at *ibid.*, p.230.

⁵⁵⁷ *Ibid.*, p. 151.

⁵⁵⁸ *Ibid.*

⁵⁵⁹ Hodgson and Smith, *supra* n 555, p.230 This statement was made when they were referring to Article 132(3) of Working Paper 8 which is identical to Article 121(3) .

⁵⁶⁰ *Ibid.*, i.e. citing Hodgson, *supra* n 148, pp. 150-151.

⁵⁶¹ M.P. Strohl, *The International Law of Bays* (The Hague: Martinus Nijhoff, 1963), p. 69, fn 6 – as cited by Hodgson and Smith, *supra* n 555, p. 230.

⁵⁶² Hodgson, *supra* n 148, p. 146; see observation on Hodgson’s views in the later part of this chapter.

to an EEZ such as Rockall and Maro Reef which are larger than the aforementioned criterion of 'rock' by Hodgson.⁵⁶³ They raise the concern that if "*a 'rock' does not receive a mathematical definition, the potential for dispute will be great.*"⁵⁶⁴

Despite this, many scholars view that a purely strict geographical or geological definition of rock is basically unacceptable. They find Hodgson's "rigid" formulations very unlikely to achieve formal recognition as rules of law or in judicial or arbitral decisions due to diverse *geographical circumstances* that may require a large measure of flexibility;⁵⁶⁵ that the IHB definition which implies rock to be smaller than an islet to be '*altogether speculative*';⁵⁶⁶ that a strictly literal interpretation to Article 121(3) would limit its coverage to geological formations that are actually rocks without any accompanying land;⁵⁶⁷ that the size of islands do not necessarily change proportionately with populations,⁵⁶⁸ and that a "*completely objective criteria are unattainable.*"⁵⁶⁹

⁵⁶³ Hodgson and Smith, *supra* n 555, p. 232. It is to be noted that this view by the authors are prior to the UK becoming a party to UNCLOS in 1997 when UK finally withdrew its claim to extended maritime zones for Rockall; see also Churchill, *supra* n 110 (including text); Fishery Limits Order. S. I. 1997 No. 1750 *supra* n 111 (including text).

⁵⁶⁴ Hodgson and Smith, *supra* n 555, p.232.

⁵⁶⁵ E.g. Bowett at *supra* n 12, p. 44. Bowett's finding makes sense since confining the legal status of a maritime feature strictly to its size can cause serious inequitable complications, when a fair and balanced judgment ought to be made in light of the many various inevitable factors surrounding Article 121(3); see also Borgia, *supra* n 523, p. 12 - Borgia believes mathematical definitions as not helpful since amongst others, a rock's entitlement to an EEZ "solely relies on its possibility to sustain human habitation or have an economic life of its own".

⁵⁶⁶ O'Connell and Shearer, *supra* n 50, p. 732 - O'Connell finds this '*does not distinguish between the area of the base, of the top, or of the slopes*' as well as the 'subjectivity' of the matter namely whether 'sustain' refers to '*natural sustenance (such as availability of water...)*' or '*survivability (which is not a question of size at all but of climate and logistics)*'.

⁵⁶⁷ Van Dyke and Brooks, *supra* n 90, p.283 – They find this consequentially leads to entitling small islands that are not geologically rocks despite clearly unable to sustain human habitation or economic life of their own, to maritime zones beyond a territorial sea and contiguous zone.

⁵⁶⁸ *Ibid.*, p. 286. They note that that there are small islands with substantial populations whilst larger ones are virtually abandoned; and hence, the importance to delete "*regardless of their size*" from the phrase "*It covers also the submarine areas contiguous to islands regardless of their size*" which was initially proposed for the 'Commentary' on the entitlement of an island to a continental shelf discussed by the ILC in its eighth session (see p. 275 - Reference was made to the ILC Yearbook 1956, *supra* n 52 regarding Article 67 of the ILC 'Commentary to the articles concerning the law of sea').

⁵⁶⁹ Van Dyke, Morgan and Gurish, *supra* n 138, p. 436 (including footnote). They found that "[t]he term "purely" is used here to denote the use of objective features of the landmass, which are free from any socio-cultural interpretation to the extent possible...". They referred to Sauer, "The Fourth Dimension of Geography," in *Selected Essays 1963-1975* at 279, 283 (1981) and "Harvey, Population, Resources and the Ideology of Science", in *Philosophy In Geography*, 155, 174-77 (S. Gale & G. Olsson eds. 1979). They thus proposed a 'cultural-geographic' definition, emphasizing that "*the most important criterion in defining "rock" should be whether the insular feature supports a stable community of people who use the ocean space surrounding it.*" (p. 437); see also Charney, *supra* n 73, pp. 869-870 – Charney concluded that the

There are however, some slightly contrasting views that highlighted that ‘any person of sound mind would think that a rock is smaller than an island or a “*smaller-sized island*”’⁵⁷⁰ and that the size of islands can indeed provide significant challenges to their human habitability or their economic life.⁵⁷¹ Nevertheless, referring to the different quantifications in Hodgson’s views and IHB’s mathematical definition of the ‘size’ of such features which resulted in interpretative difficulties⁵⁷² it was questioned whether the drafters intended a ‘concept in mind’ or whether another value is to be interpreted’.⁵⁷³ Furthermore, giving reasons on what appears to be amongst other characteristics the ‘size’ of the maritime features, Scarborough Reef was cited as an Article 121(3) island, whilst Pratas Island, Itu Aba, Spratly Island, and Thi Tu in the Spratly Islands as well as Lincoln Island and Woody Island in the Paracel Islands are deemed to have escaped the provision.⁵⁷⁴

However, a general view made was that regardless of size, every island, islet or rock has a territorial sea,⁵⁷⁵ an opinion that is indeed clearly reflective of Article 121(3).

Geological/ geomorphological make-up

Apart from ‘size’, there are scholars who find that ‘rocks’ under Article 121(3) should not be differentiated in terms of their geological or geomorphological make-up,⁵⁷⁶

legal definition of ‘rocks’ need not conform to scientific or dictionary definitions, although it may be generally derived from them.

⁵⁷⁰ Hart Dubner, *supra* n 149, p. 303; also repeated in Diaz, Hart Dubner and Parent, *supra* n 95, p.534. Hart Dubner referred to Brown, *supra* n 266, pp. 148-152 and Burke, *supra* n 547; See also Oude Elferink, *supra* n 144, pp. 173-174 - **Oude Elferink** referred to the drafting history, Article 121(3) wordings and some State practice such as Mexico and the UK, preliminary viewed` that only islands of a very small size qualify as a rock under Article 121(3).

⁵⁷¹ Hart Dubner, *supra* n 149, pp. 303-304.

⁵⁷² *Ibid.*

⁵⁷³ *Ibid.* i.e. drafters of Working Paper 8 which according to Hart Dubner, “is an informal reference to the article by Hodgson and Smith” at *supra* n 555, p. 226. Hart Dubner referred to Burke when raising this question.

⁵⁷⁴ Oude Elferink, *supra* n 144, p. 178.

⁵⁷⁵ Churchill and Lowe, *supra* n 50, p.49.

⁵⁷⁶ Kwiatkowska and Soons, *supra* n 74, pp. 152, 156 – They agreed with Bowett who had similar views, noting Hodgson and Smith’s classification of islands did not gain general recognition; see also Soons, *supra* n 47, p. 218. Soons viewed that the term ‘rock’ under Article 121(3) is intended to cover all areas of land permanently above the sea level with certain dimensions and should not be understood literally.

emphasizing that a strict geographical or geological definition should be rejected,⁵⁷⁷ since it would require rocks to consist of solid parts of the continental crust which would not even include sand islands or cays.⁵⁷⁸ Instead, ‘rocks’ under Article 121(3) can be any insular formation which concerns merely their ability to sustain human habitation as opposed to their geological composition.⁵⁷⁹ Indeed, this view supports the fact that ‘rock’ in this context is still a category of island under Article 121. Consequently, it was also opined that it would be more appropriate to replace the term ‘rock’ in Article 121(3) with ‘island’, finding that the term ‘rock’ can create confusion.⁵⁸⁰

However, **Walker’s** description of ‘rock’ in UNCLOS was in its physical sense, although clearly not confined to the normal geographical or geological dictionary definition but as follows:

“As used in UNCLOS Articles 76 and 121, ‘rock’ means a consolidated lithology, i.e., a solid natural mass, of limited extent, including sand, sandstone, otherwise solidified sand, or igneous matter.”⁵⁸¹

In the “Comment” to this definition, it was stated that *“adding the word ‘natural’ before ‘mass’ excludes human-made materials like concrete, which UNCLOS does not appear to contemplate.”⁵⁸²*

Nevertheless, this definition would still have to be read together with the other elements of Article 121(3) before a rock can be considered to be exempted from the provision. Arguably, if the ‘rock’ was natural and fulfils the requirement of an ‘island’ under Article 121(1), subsequent modification should not alter its original legal status as an island;

⁵⁷⁷ Gjetnes, *supra* n 387, p. 193 - Gjetnes views that a purely geological definition of rock under Article 121(3) would be unreasonable and not in consonance with the intention of parties that negotiated UNCLOS; see also Prescott and Schofield, *supra* n 379, p. 73 referring to R. Kolb, *L’interprétation de l’article 121 paragraphe 3, de la Convention de Montego Bay sur le droit de la mer: les “rochers qui ne se prêtent pas à l’habitation humaine ou a une vie économique propre...”*, Annuaire Française de Droit International, (1994) XL, pp. 876-909; Borgia, *supra* n 523, p. 12.

⁵⁷⁸ Kwiatkowska and Soons, *supra* n 74, p. 151. They noted that the legislative history of Article 121(3) does not support a distinction between rocks in a strict geological sense and other islands; See also Prescott and Schofield, *supra* n 379 - referred to Kwiatkowska and Soons’s analysis of the *travaux préparatoires* making reference to four States, namely Romania, Turkey, Denmark and Venezuela wherein throughout the debate in the finalisation of Article 121(3), these States made various proposals to the drafting of the provision which clearly indicated their intention that the maritime feature in question is supposed to include islets, small islands and similar maritime features rather than merely ‘rock’ *per se*; see also Prescott and Schofield, *supra* n 379, pp. 62-63.

⁵⁷⁹ Kwiatkowska and Soons, *supra* n 74, pp. 152-153. Reference by Judge Vukas to Kwiatkowska and Soons’s view was also made in The “Volga” case, *supra* n 126, para. 6.

⁵⁸⁰ Prescott and Schofield, *supra* n 379, pp. 62-63.

⁵⁸¹ Walker, *supra* n 17, p. 286.

⁵⁸² *Ibid.*

whilst if it was merely an LTE, then such man-made improvement to ensure it is above water at high tide should not enable the feature to be a 'rock' that is entitled to even a territorial sea and subjected to Article 13 of UNCLOS.

On a more general note, some scholars believe that the drafters adopted the word 'rock' with the intent to mean 'a rocky elevation of ground' and perhaps had indirectly wanted to emphasize the 'size' factor, since the term 'rock' *"usually implies a 'miniscule protrusion of land above sea level,' as in the case of Rockall."*⁵⁸³

Preliminary Conclusion

The various views by scholars range from those who find that the geological and physical characteristics of a rock decisive or at least play a major role in affecting the legal status of a maritime feature such as its size; those that believe that 'purely' geological or geographical definitions would not assist in the situation; and those that merely gave general comments without going into the details of the situation.

Indeed, discrepancies and diverse views regarding the definition of 'rock' still exist to this date. Certainly, a purely and strictly geographical or geological definition or approach may not be helpful to address the situation in view of the fact that Article 121(3) must be read in accordance with the 1969 VCLT wherein the intention and purpose of the provision must be considered. Nevertheless, it is also undeniable, that this 'intention and purpose' which so many had attempted to 'decode' from the legislative history of Article 121(3) has only brought great disappointment since there is no real consensus amongst States during the negotiations and debate and that its final formulation was merely a compromise amongst States.⁵⁸⁴ Hence, although a 'purely' geological and geographical approach regarding the definition of a 'rock' may be flawed when addressing Article 121(3), these definitions should not be neglected altogether. Detailed studies of such aspects would still be necessary to be applied within the legal framework of Article 121(3). To ignore such aspects would only continue to result in the provision being left

⁵⁸³ Van Overbeek, *supra* n 455, p. 261. Van Overbeek referred to Symmons's findings at *supra* n 44, p. 41, when he highlighted this.

⁵⁸⁴ Nordquist, Nandan and Rosenne, *supra* n 82 (including text); see also **CHAPTER 3**: Section 14.2.

without any solution as a ‘purely legal approach’, similar to a ‘purely geological/geographical approach’, would prove unsuccessful in clarifying this provision.

It must be emphasized that the derivation of the meaning of ‘rock’ from these scientific or dictionary definitions must be carried out vis-à-vis the legal meaning as opposed to merely dismissing the relevance of these ‘non-legal’ definitions. These aspects do play a significant role in complementing the legal definition since the very words used in Article 121(3) deliberately display elements that require an understanding of the ‘non-legal’ matters such as ‘sustaining human habitation’ and ‘economic life of their own.’ This is augmented by the fact that legislative history itself could not assist in the interpretation of Article 121(3), hence rendering the necessity to also examine other aspects.

Before concluding as to what particular other aspect has to be examined in more depth, the rest of the main sub-elements would first have to be addressed as below.

19.3 Human Habitation

Effective occupation or permanent habitation

The necessity to have effective occupation or permanent habitation has drawn various views from scholars. In as early as 1934, a French legal scholar **Gidel** opined that an island must “*permit the stable residence of organized groups of human beings.*”⁵⁸⁵ Indeed, this suggests the insufficiency of mere occasional habitation such as seasonal visits by fishermen. Furthermore, Gidel finds the type of elevation the lighthouse was built on more important than the lighthouse’s existence,⁵⁸⁶ stressing that semi-submerged rocks on the high seas have no territorial waters even if installations were built on the same.⁵⁸⁷

⁵⁸⁵ Gidel, *Le Droit International Public De la Mer* (1934) 3B, 684 as cited by Song, *supra* n 97, p.161 – Gidel opined that an island is “*a natural elevation of the sea-bed, surrounded by water, which is above high-tide and the natural conditions of which permit the stable residence of organized groups of human beings.*”; see also Kwiatkowska and Soons, *supra* n 74, p. 154. According to Kwiatkowska and Soons, Gidel’s definition arose out of his criticism of the definition in the Final Act of the 1930 Conference (see 1930 definition at text at *supra* n 35), and that this criticism was raised by the ILC members in the *travaux préparatoires* for the 1958 Geneva Conventions.

⁵⁸⁶ Gidel’s statement at *supra* n 585 that ‘*Le statut juridique d’un phare ne dépend pas de l’existence du phare lui-même, mais de la nature de l’élévation du sol sur laquelle il est construit*’ is cited in Johnson, *supra* n 505 at p. 207.

⁵⁸⁷ *Ibid.*, p. 208. Johnson informed of Gidel’s view whilst discussing the point on whether lighthouses would in fact generate territorial waters. Johnson also referred to the *Fur Seal Arbitration case* (1893) when Sir Charles Russell the then Attorney General viewed that lighthouses should be considered as the territory of a

In addition, whilst **Bowett** finds Gidel's view to mean that "*habitability was to be proven as a question of fact, thus avoiding argument about an island's capacity for habitation,*"⁵⁸⁸

Gidel's proposal was far before even the 1958 Conventions came into force. Hence, Gidel's view cannot be said as referring to the yet to exist Article 121(3), although his understanding on 'stable residence' and 'natural' may perhaps be considered. Indeed, Article 121(3) clearly spells out the requirement of 'human habitation' which can be read in comparison to 'stable residence', whilst the essence of Article 121(3) which is in relation to a category of 'island' can be read vis-à-vis the word 'natural' considering the requirement of islands to have natural formation in Article 121(1).

In the ILC, although **Sir Hersch Lauterpacht** supported the definition that an island must be capable of effective occupation and control⁵⁸⁹ he later withdrew it as it was expressly opposed by François, the Special Rapporteur, although his reason for withdrawing was merely to "*avoid a lengthy discussion of the meaning of 'effective' and 'control'*" rather than doubting the reasonableness of the proposal.⁵⁹⁰ On this note, **Amado** expressed similar views to **François**, cautioning that Lauterpacht's suggestion "*raised the extremely important issue of whether the possibility of occupation was indeed the test of what was an island in international law*".⁵⁹¹ Similar comments may be made for all these three scholars including Gidel's views, namely that care must be had since all opinions were before the 1958 Conventions and before the existence of Article 121(3), wherein discussions were mainly regarding 'islands' in general rather than 'exceptions' to the general rule as worded by Article 121(3). Nevertheless, their deliberations are still significant to take into consideration since the ILC debates were in effect part of the *travaux préparatoires* of the 1958 Geneva Conventions that led to UNCLOS.

However, **Van Overbeek**'s comments post-UNCLOS seem to echo Gidel's opinion concerning the need for a stable population, although specifically for considering the

State even if it was built upon piles driven into the bed of a sea; and this should include all rights that belong to the protection of the territory. Johnson regarded the AG's view as "unsubstantiated and somewhat pontifical".

⁵⁸⁸ Bowett, *supra* n 12, p.8.

⁵⁸⁹ ILC Yearbook 1954, *supra* n 40, p. 92, para 18.

⁵⁹⁰ *Ibid.*, pp. 93-94, para 44, 45 and 47. During the ILC debate, François stated that provision seemed either unnecessary or confusing. To him, "[a]ny rock could be used as a radio station or a weather observation post. In that sense, all rocks were capable of occupation and control."

⁵⁹¹ *Ibid.*, p. 93 paras 35-36.

status of small islands as “rocks”.⁵⁹² He also finds the Mexican features in the Revillagigedo Islands⁵⁹³ not in accordance with Article 121(3) or even with its own municipal law.⁵⁹⁴

Van Overbeek also views that the State of Oman had ‘expressly’ refused to incorporate Article 121(3)⁵⁹⁵ by referring to Oman’s Decree of 10 February 1981, which has Article 2(b) stating that “*the normal baseline for measuring the breadth of the territorial sea is the low-water line along the coast of the mainland or of islands and rocks,*” whilst Article 5 provides that the EEZ is measured from that baseline.⁵⁹⁶ Van Overbeek’s conclusion could perhaps be made clearer had he specifically mentioned that his opinion refers to islands and ‘rocks’ which are not able to sustain human habitation or have an economic life of their own rather than left to be generalised as a whole. Indeed, there is always the possibility that the declaration made by Oman may be justified if it succeeds in proving that its islands and ‘rocks’ fulfil the criteria of being able to sustain human habitation or economic life of its own, and thus escape from being caught by Article 121(3).

Van Overbeek however seems to emphasize on the ability to maintain a stable population,⁵⁹⁷ as compared to Bowett’s opinion of Gidel’s view that ‘habitability’ be proven as a question of fact.⁵⁹⁸ Nevertheless, except for these features’ mere physical description, there is not much elaboration on Van Overbeek’s views on what would satisfy the habitation criterion or whether such conclusions were founded on any other ‘scientific’ reasoning, such as human ecology, but has findings which appears to stem from merely logical rationale.

In contrast, there are scholars who view that effective occupation or permanent habitation is not necessary for islands to generate an EEZ and CS. These include **Oude**

⁵⁹² Van Overbeek, *supra* n 455, pp. 256, 267.

⁵⁹³ *Ibid.*, pp. 262-263. Amongst the features Van Overbeek referred to are Roca Alijos (described as a ‘rock’), Isla Socorro (having an active volcano which makes part of it uninhabitable), Isla Clarion (half the size of Socorro, difficult to land there without a helicopter, no permanent water, no mammals, although there was a 29-man naval station), Isla San Benedicto (a “barren rock” about 3 miles long, reaching a height of 975 ft, no permanent water, and the vegetation consists largely of a rare grass; seems uninhabitable) and Isla Roca Partida (uninhabitable).

⁵⁹⁴ *Ibid.*, p. 263.

⁵⁹⁵ *Ibid.*, p. 266.

⁵⁹⁶ *Ibid.*

⁵⁹⁷ *Ibid.*, p. 267.

⁵⁹⁸ Bowett, *supra* n 588 (including text).

Elferink,⁵⁹⁹ Broder and Van Dyke,⁶⁰⁰ Morgan and Gurish,⁶⁰¹ Kwiatkowska and Soons,⁶⁰² Charney,⁶⁰³ Song⁶⁰⁴ and Gjetnes.⁶⁰⁵

Therein, some viewed it sufficient that plant life exists which thus makes a feature capable of supporting life such as the then uninhabited Rose Island;⁶⁰⁶ and adequate if the maritime feature can at least provide support to 'nearby' stable communities.⁶⁰⁷ On this note, views concerning the requirement of 'a stable community' include that the object and purpose of Article 121(3) was to prevent States with non-populated islands which are not dependent on ocean resources from taking advantage of such extended rights.⁶⁰⁸ The key factor stressed was whether the island can support a stable population without external support and that "[i]slands should not generate ocean space if they are claimed by some distant absentee landlord who now desires the island primarily because of the ocean resources around the island."⁶⁰⁹

The size of a population was in addition, considered a good indication on whether a community is indeed stable, concluding that five persons would be regarded as too few as opposed to fifty which is more ideal.⁶¹⁰ Some real commitment to the island must also exist to pass the standard of a stable community.⁶¹¹ They viewed that the US could not claim exclusive rights to the resources around some uninhabited Hawaiian Islands unless

⁵⁹⁹ Oude Elferink, *supra* n 144, p. 174.

⁶⁰⁰ Broder and Van Dyke, *supra* n 35, p. 52-53. Unfortunately, they did not elaborate as to how they came to the conclusions; see also Van Dyke, Morgan and Gurish, *supra* n 138, pp. 437-438.

⁶⁰¹ Van Dyke, Morgan and Gurish, *supra* n 138, pp. 437-438.

⁶⁰² Kwiatkowska and Soons, *supra* n 74, pp. 160, 166.

⁶⁰³ Charney, *supra* n 73, p. 867. He observed in the travaux préparatoires that there is no requirement for a person to permanently reside on a maritime feature or that the economic life must be able to sustain a human being throughout the year (p. 868).

⁶⁰⁴ Song, *supra* n 97, p. 167.

⁶⁰⁵ Gjetnes, *supra* n 387, p. 196.

⁶⁰⁶ Broder and Van Dyke, *supra* n 35, p. 52-53. Unfortunately, they did not elaborate as to how they came to the conclusions.

⁶⁰⁷ Van Dyke, Morgan and Gurish, *supra* n 138, pp. 437-438 – Permanent habitation is not required as long as it can provide support to nearby stable communities such as fishermen from neighbouring islands that use it as a base for its resources, although commitment to the resources surrounding the feature is required as opposed to merely occasional visits by for example scientists and explorers.

⁶⁰⁸ Oude Elferink, *supra* n 144, p. 174.

⁶⁰⁹ Van Dyke and Brooks, *supra* n 90, pp. 286. They focused on Clipperton Island as an example.

⁶¹⁰ *Ibid*; see also J. Van Dyke & D. Bennett, *Islands and the Delimitation of Ocean Space in the South China Sea*, 10 *Ocean Year Book* 54, 79 (1993) - as cited by Song, *supra* n 97, p. 174. It was opined that from the historical aspect, a rock or reef cannot claim a CS or an EEZ if it cannot sustain permanent human habitation for 50 people.

⁶¹¹ Van Dyke, Morgan and Gurish, *supra* n 138, p. 487.

they could show continuous historical use of these waters by the indigenous people of Hawaii.⁶¹²

It was opined that the use of a maritime feature must also not be from a recently discovered interest in its resources of a distant population, “*populating their uninhabited insular possessions solely to expand their jurisdiction over ocean resources,*” and compared this to how an artificial island is treated under UNCLOS.⁶¹³ This opinion is logically acceptable, since if such purposeful acts by States were carried out with this intention, the maritime feature would not be as what it was naturally supposed to be due to an introduction of outside elements to make it now able to satisfy Article 121(3). Nonetheless, caution must be had before asserting conclusively on the matter whether it is indeed a truly ‘artificial’ element or merely the right of a State to place its human community on the maritime feature. It would indeed be unwarranted to take away the rights of any affected State to position its own people on any territory under its sovereignty which, if deprived from these extended maritime zones, would in turn deprive the very community that now resides there.

Furthermore, it was viewed that ‘former’ habitation does not indicate that a maritime feature is ‘now’ capable of sustaining human habitation or economic life of its own.⁶¹⁴ Using the common sense and logic approach in relation to where legal terminology is applied,⁶¹⁵ Nihoa was cited as an Article 121(3) example due to its general topography and unsuitability for human habitation, being barren, rocky and uninhabited, about 0.8 by 0.2 miles in size, and has a small seepage of water that is not suitable for drinking unless in an emergency.⁶¹⁶ This was despite ample archaeological evidence that it was once inhabited with a large number of dwellings able to sustain about 100 inhabitants, although possibly a short-lived colony⁶¹⁷ since fresh water supply seems to be too

⁶¹² *Ibid.* pp. 487- 488.

⁶¹³ *Ibid.*, p. 438.

⁶¹⁴ *Ibid.* p. 472.

⁶¹⁵ *Ibid.*, p. 465.

⁶¹⁶ *Ibid.*, p. 469.

⁶¹⁷ *Ibid.*, p. 470. citing S. Carlquist, *Hawaii: A Natural History: Geology, Climate, Native Flora And Fauna Above The Shoreline*, 379 (1970) and Ten Bruggencate, *Nihoa Island a World Unto Itself*, Honolulu Advertiser, Sept. 23, 1986, at B1, col. 2 - which informed that "No matter which kind of Hawaii's people lived here, the stay was relatively brief," quoting University of Hawaii zoologist Sheila Conant who visited Nihoa four times in the early 1980s.

minimal for survival.⁶¹⁸ Other examples cited were Necker Island⁶¹⁹ and the Gardner Pinnacles.⁶²⁰

What appears confusing is that some find it worth considering on both practical and policy grounds that a maritime feature “*should be able to generate an EEZ only if it has been supporting a stable community of permanent residents (emphasis added).*”⁶²¹ This can be contradictory to their opinion that permanent habitation is not required.⁶²² Nevertheless, this confusion could be clarified if the words ‘has been’ in their statement mean that ‘they no longer are’ rather than ‘still continuing to be’ when describing the existence of former ‘permanent residents.’

It was also opined that it was sufficient to prove ‘capacity’ to do so as opposed to ‘actual’ habitation,⁶²³ and that an island’s past history of habitation and economic life only proves past capacity; and for present claims, evidence is required that past capacity continues to exist.⁶²⁴ However, in this circumstance, they note the advantageous position of highly industrialized coastal States like Japan and the US due to their highly developed technological capacity to ensure these requirements are met, as compared to developing States such as Africa or Latin America.⁶²⁵ Indeed, if such high-end methods were accepted for this purpose despite that the features would have been uninhabitable had it been in

⁶¹⁸ *Ibid.*, p. 470- citing Emory, *Archaeology of Nihoa and Necker Islands* 8 (B.P. Bishop Museum Bull. No. 53, 1928).

⁶¹⁹ *Ibid.*, p. 471. It has a similar size and archaeological findings to Nihoa with unmistakable evidence of ancient living.

⁶²⁰ *Ibid.*, p. 476. It was described as “*two solid, volcanic rocky formations, barren of vegetation and covered with guano*”, “*extremely small*” and with “*extremely steep slopes and no indigenous life or water source*” for humans to survive or be reached with supplies.

⁶²¹ *Ibid.*, p. 486.

⁶²² *Ibid.*, p. 437.

⁶²³ Kwiatkowska and Soons, *supra* n 74, p. 162. Their findings regarding the requirement to sustain human habitation or economic life incline towards the ‘capacity’ to do so from their deduction that ‘cannot sustain’ in contrast with ‘do not sustain’ proves that it covers the ‘capacity’ to sustain human habitation as opposed to ‘factual’ habitation. Thus, human habitation should also therefore, not need to be permanent (pp. 160, 166); see also Oude Elferink, *supra* n 144, p. 174.

⁶²⁴ Kwiatkowska and Soons, *supra* n 74, p.163 - Where potential or future capacity is concerned, “*it should be established within the limits corresponding to the present (past) conditions of [the] island and the present capacity of a coastal State concerned*” to sustain human habitation and economic life there.

⁶²⁵ *Ibid.*, p.162; see also Hodgson and Smith, *supra* n 555, p.231. They note that any rock could indeed support human habitation if the State is willing to spend on it such as making it habitable by building a lighthouse and so forth. They also pointed out that although a rock may be habitable, people may still not wish to stay there due to other reasons; see also Van Dyke and Brooks, *supra* n 90, p. 267. They note that with ‘*today’s world of high technology, any land protrusion can be made “inhabitable” if a nation is willing to expend sufficient resources,*’ thus resulting in negotiators and observers to feel that Article 121 was meant to provide 200 nm zones to ‘*almost every spot of land that sticks out above the water.*’

their natural situation, Article 121(3) may not serve any purpose since any State as long as they have the means to change the natural condition of any maritime feature, could defeat Article 121(3).

In addition, it was viewed that the determination of Article 121(3) *“is not irrevocably tied to the time when the rock was simply in its natural state”* since the socio-economic circumstances of the moment play an important role due to the direct linkage between ‘economic life’ and ‘human habitation’ and human activities and developments, which varies over time; possibly causing their status to also change.⁶²⁶ Island States thus argued that as long as the maritime features despite being uninhabited are being used for fishing although on a temporary basis, they should generate more than a territorial sea⁶²⁷ since *“such features and their offshore waters contributed to the islands’ resources, just as large landmasses provide resources for continental states.”*⁶²⁸

It was also believed that if there is enough food and water on the rock and is suitable for housing, it would meet the requirement of being able to sustain human habitation.⁶²⁹

Apart from food and fresh water, it was opined that human habitation must be more than just shelter, and able to prove some kind of physical presence of human beings either in the past or present which are not merely scientific personnel or military troops, as well as reasonable to assume that a stable community can live there permanently,⁶³⁰ deeming this interpretation reasonable in the light of the object and purpose of Article 121(3).⁶³¹ It was also considered that tourism involving hotels *“cannot be said to sustain an indigenous habitation on the island if the personnel working at the hotel are being recruited on a temporary basis and are domiciled elsewhere”*⁶³² and that to determine whether the criteria can be fulfilled past and present habitation would have to be looked at.⁶³³

⁶²⁶ Charney, *supra* n 73, pp. 867 -868; see also Prescott and Schofield, *supra* n 379, p. 77; see also Gjetnes, *supra* n 387, p. 199.

⁶²⁷ Charney, *supra* n 73, p. 867.

⁶²⁸ *Ibid.*

⁶²⁹ Song, *supra* n 97, p. 167; see also Gjetnes, *supra* n 387, pp. 195-196 – Gjetnes finds that this include the necessity to possess sufficient resources of its own to sustain economic life (p. 199); see also Van Dyke, Morgan and Gurish, *supra* n 138, p. 472; see also Hart Dubner, *supra* n 149, p. 304; see Brown, *supra* n 266, p. 150.

⁶³⁰ Gjetnes, *supra* n 387, pp. 195-196.

⁶³¹ *Ibid.*, p. 200.

⁶³² *Ibid.*

⁶³³ *Ibid.*, p. 195.

There is also the query whether support from outside including financial assistance provides evidence of habitability,⁶³⁴ but without elaboration on such views, Rockall was highlighted as an example of an area that could attract a continental shelf in the absence of Article 121(3), in comparison to Maro Reef which was considered an island with several atolls that could generate a full EEZ⁶³⁵ despite the existence of this provision.

On the availability of resources, **Hodgson** from his finding for Howland, Jarvis, and Baker Islands (the US), reflects that “the lack of potable water, fertile soils and/or other physical necessities” on these features prove a maritime feature’s inability to sustain human habitation; however, he did not comment on such ‘ability to sustain human habitation’ by those inhabited by “*scientific, usually meteorologic, administrative or service personnel*” despite having made reference to the same.⁶³⁶

In short, it is observed that scholars rely very much on common sense and logic rather than merging these with facts proven from other aspects such as from science experts who can comment on, for instance, the ecology of the situation. This analogy also seems to defeat the reliance on ‘capacity’ in that a conclusion was reached merely on the fact that the features in question are in general, ‘rocky’, ‘barren of vegetation’ with too minimal fresh water for survival. Actual evidence is lacking or at least a clear basis from which reliance has been made on whether indeed such circumstances would mean that the aforementioned maritime features would not be habitable now and in the future.

There must be caution particularly since some of these insular features were once inhabited. To prove them no longer habitable, more valid evidence is required. A common sense and logic approach as is observed used by most scholars vis-à-vis Article 121(3) may be unsuitable in this and many other scenarios.

⁶³⁴ Brown, *supra* n 266, p. 150 - referred to by Hart Dubner; also repeated in Diaz, Hart Dubner and Parent, *supra* n 95, p.535.

⁶³⁵ Hart Dubner, *supra* n 149, p. 305-306; also repeated in Diaz, Hart Dubner and Parent, *supra* n 95, p.537.

⁶³⁶ Hodgson, *supra* n 148, p. 146.

Other criteria

Apart from scholars' views on the requirement to have effective occupation or permanent habitation as well as the necessity to have resources, there are views that are not specifically tied to such requirement.

There is **Brown's** observation of the geographical nature of Rockall which he concluded as uninhabitable and unsuitable as a base for a manned lighthouse⁶³⁷ as well as **O'Connell** who merely questions the 'subjectivity' of the matter namely whether 'sustain' refers to '*natural sustenance (such as availability of water...)*' or '*survivability (which is not a question of size at all but of climate and logistics)*'.⁶³⁸

Churchill has connected size to habitability, referring to some of the islands around South Georgia and the South Sandwich group, perceiving them as so small and inhospitable that they could well be categorised as uninhabitable rocks,⁶³⁹ without elaborating further on the interpretation and application of Article 121(3) to these maritime features. However, Churchill appears to support the fact that Jan Mayen is indeed not a rock within Article 121(3) stressing that its size of 373 km² seems far larger than any definition of a rock.⁶⁴⁰

Tas when referring to the Senkaku Islands, despite acknowledging their description as "*five uninhabited islands and three barren rocks standing above the high-water line in three shoal areas*", considered that those features may possibly project further maritime entitlements given their location which are situated near the edge of the continental shelf, fronting the Okinawa Trough to the south.⁶⁴¹ However, Tas did not relate 'human

⁶³⁷ Brown, *supra* n 472, at p.289. Brown's full reference to the description of Rockall is as follows:

"The Island of Rockall... measures about 80 by 100 ft at its base, rises at high tide to a height of about 70 ft, and has an area of approximately 624 square metres (0.000241 square miles). ...It is about 289 miles from the nearest point of the Scottish mainland....

The Island of Rockall is uninhabited and uninhabitable. It lacks fresh water and, given its inaccessibility, is unsuitable as a base for a manned lighthouse, though it does support a light placed on the rock in 1972 by the UK. Rockall is the only part of the Rockall Bank which rises above sea-level at high tide, although Hasselwood Rock, about 250 metres to the north, is a low-tide elevation."

⁶³⁸ O'Connell and Shearer, *supra* n 566 (including text).

⁶³⁹ Churchill, *supra* n 141, pp. 473-474.

⁶⁴⁰ R.R.Churchill, *Maritime Delimitation in the Jan Mayen Area*, 9 *Marine Policy* (1985) pp. 16, 19-20. See also Kwiatkowska and Soons, *supra* n 74, p. 168 – wherein they find that this opinion by the Conciliation Commission has certainly created an important precedent that the circumstances of Jan Mayen can indeed support the existence of economic life despite the lack of permanent habitation.

⁶⁴¹ D. Tas, *Oil and gas in the East China Sea: Maritime Boundaries, Joint Development and the Rule of Capture*, *International Energy Law Review* (2011) 48, at pp. 49, 53.

habitation or economic life' to his opinion when deciding that these features may project further maritime entitlements. In fact, he noted that these features have 'little value as territory that might be mined or cultivated.'⁶⁴² These conclusions were arrived at without evidence of any reference to the further scientific aspects such as ecology.

In addition, apart from merely relying on Judge Vukas's Declaration in The "Volga" case that exclusive rights to coastal States for purposes of protecting the economic interests of the coastal communities should not be applied to uninhabited islands,⁶⁴³ **Schofield** did not elaborate on what he considers to satisfy the elements in Article 121(3). Indeed, he referred to maritime features such as the famous statement of Rockall being a "*classic example of a rock that fails the tests of habitation and economic life*";⁶⁴⁴ and the Kerguelen Islands, Heard Island and McDonald Island as "*undoubtedly remote and inhospitable in character*"; however, apart from referring to their sizes and distance from the mainland as well as stating that Heard Island and McDonald Island lack permanent inhabitants whilst Kerguelen has a small settlement,⁶⁴⁵ Schofield gave no further elaboration whether he supports the permanency of habitation or otherwise or on what he understood as 'human habitation', 'economic life' and 'of its own' in the Article 121(3) context.

Similarly, whilst acknowledging that artificial islands and man-made structures or installations cannot be regarded as islands, **Borgia** gave no elaboration when concluding that efforts made by Asian States to demonstrate human habitation and economic life on the rocks are insufficient to guarantee avoidance of the consequences of Article 121(3).⁶⁴⁶

Further, **Song's** finding that Okinotorishima is merely an Article 121(3) rock was based mostly on the physical description of the maritime feature before concluding it to be "*completely unsuitable for human habitation and unable to support economic activity.*"⁶⁴⁷

⁶⁴² *Ibid.*, p.50. Tas referred to V. Prescott & G. Triggs, *International Frontiers and Boundaries: Law, Politics and Geography* (Brill Academic Publishers, 2008), p.343.

⁶⁴³ Schofield, *supra* n 69, p. 29-30.

⁶⁴⁴ *Ibid.*, p. 29. Schofield cited Symmons, *supra* n 107, at 78-93 and Prescott and Schofield, *supra* n 145, p. 83.

⁶⁴⁵ *Ibid.*, p. 30.

⁶⁴⁶ Borgia, *supra* n 523, p. 26. However, Borgia believes that the unlawful extension of exclusive rights into the high seas may be prevented by compulsory dispute settlement concerning the provision, a way that may provide a check on the power of States to simply decide on a feature escaping the provision (p. 25).

⁶⁴⁷ Song, *supra* n 97, p. 149.

Examples are, it being ‘an incredibly barren place’,⁶⁴⁸ having only two rocks or reefs exposed above water at high tide at quite a low level,⁶⁴⁹ no fresh water, food, tillable soil as well as no fisheries, oil and gas, or other mineral resources of commercial value in its surrounding territorial waters.⁶⁵⁰ Nonetheless, Song referred to Japanese research that Okinotorishima is sinking, on average one centimetre every year that would result in a submerged land, which Song claims would under international law, cease to be an island and thus deem Japan incapable of having sovereignty over the same.⁶⁵¹ Song finds that Japan’s attempt to transform Okinotorishima from an uninhabited reef into an island,⁶⁵² cannot assist to change the legal status of Okinotorishima with Article 60(8) of UNCLOS clearly providing for artificial islands to not have the status of islands.⁶⁵³ However, Song viewed that if Japan were to later discover seabed oil, gas, other mineral resources, or develop deep sea mineral waters, develop ecological tourism and so forth in the area surrounding Okinotorishima, there is the possibility of the legal status of Okinotorishima to be enhanced.⁶⁵⁴ For now, he concluded that “*Okinotorishima has no means of supporting human habitation or economic life of its own, currently or in the near future*” and would thus be caught by Article 121(3).⁶⁵⁵

Song’s conclusion can however merit consideration. Although the basis of his findings include Okinotorishima’s current ‘physical descriptions’ without going further into science experts’ views to complement his opinion, his reliance on the ‘sinking state’ of Okinotorishima and Japan’s attempts to convert it from a reef to an island by constructing an embankment which he considers may fall under the category of artificial islands, may render his conclusion acceptable. Nevertheless, it may be necessary to determine whether in the event that Okinotorishima remained a reef above water at high tide, whether it can still sustain human habitation or have an economic life of its own. In addition, it may also be argued that Japan’s actions was to prevent Okinotorishima from

⁶⁴⁸ Song, *supra* n 97, p. 149.

⁶⁴⁹ *Ibid.*, p. 174. Song stated that at high tide, the Northern Exposed Rock is only 16 cm and the Eastern Exposed Rock 6 cm above water.

⁶⁵⁰ Song, *supra* n 70, p. 693; see also *Ibid.*, pp. 148 - 149. Song informed of Okinotorishima as not being an atoll and has a flat table reef in the centre. It has a slender elliptical shape with water surrounding it at a depth of about three to five metres.

⁶⁵¹ Song, *supra* n 97, p. 149.

⁶⁵² *Ibid.*, pp. 149-150; see text at *supra* n 518.

⁶⁵³ *Ibid.*, p. 175.

⁶⁵⁴ *Ibid.*, p. 176.

⁶⁵⁵ *Ibid.*, p. 175-176.

deteriorating rather than to enhance its legal status which is arguably acceptable and could even escape Article 121(3) in the event that the reef is proven to be able to sustain human habitation or have an economic life of its own. In this connection however, some reference to the ecology of the situation could perhaps support the findings for Okinotorishima vis-à-vis Article 121(3).

General Comments

There are also general comments regarding this requirement. **Charney** had suggested that “*the phrase ‘human habitation or economic life of its own’ is not an additional qualification but merely a further description of what a ‘rock’ is understood to be from a legal perspective.*” He nonetheless noted that the *travaux préparatoires* do not make reference to one possibly reasonable interpretation, namely the position that a feature would fall under Article 121(3) if, merely ‘traditional’ considerations of sustaining crops and providing water supply for human habitation are considered and thus proving its natural uninhabitable state.⁶⁵⁶ He highlighted that instead, opposing views had arisen, stressing that a feature’s status depends on its actual economic worth rather than these ‘agrarian’ ideas of viability, which he eventually deems as the better interpretation in view of the negotiators’ intentions.⁶⁵⁷

Finally, **Gjetnes** finds that the use of the word ‘rock’ clearly shows that the term ‘sustain human habitation’ should not be over-emphasized since this decision to choose ‘rock’ plainly suggests the restrictions on its meaning as opposed to the intention that may be deciphered had the term ‘island’ been used instead.⁶⁵⁸ He further finds that, due to the size of an island, Article 121(3) can sometimes be avoided.⁶⁵⁹

⁶⁵⁶ Charney, *supra* n 73, p. 870. This also means limiting the ‘*prospective diminution of the commons by coastal state development activities*’.

⁶⁵⁷ *Ibid.*

⁶⁵⁸ Gjetnes, *supra* n 387, pp. 196-197.

⁶⁵⁹ *Ibid.*, p. 199. Gjetnes had mentioned Jan Mayen as an example of an island that has managed to escape Article 121(3) due to size. Gjetnes’s conclusion is presumably due to the ICJ judgment on the *Greenland/Jan Mayen* case where although the ICJ avoided dealing with Article 121(3), it nevertheless conferred some effect upon Jan Mayen, the entirely volcanic island whose rocks are of lava and volcanic material and that has a size of 373 km², giving it some continental shelf and EEZ in maritime delimitation as well as the *Jan Mayen Conciliation Commission* who specifically found Jan Mayen to not fall under Article 121(3) (see texts at *infra* n 764 and 765).

Preliminary Conclusion

Obviously, current legal understanding regarding the element of ‘human habitation’ varies amongst these scholars and experts. In short, there are those who believe that human habitation on the affected maritime feature would have to be permanent, those who view otherwise, those who consider that merely showing its capacity to sustain human habitation is sufficient, those that insist actual habitation to be there or at least provide some concrete evidence to show strong commitment on the existence of habitation and so forth. There are also those who find the availability of resources significant to conclude habitability regardless of actual habitation as well as those who assume a maritime feature is habitable or otherwise due to its size.

Despite all these opinions, one simple observation may be made in general. None had gone in depth to analyse the human ecology of the situation, which is important in view of the fact that the discussion is indeed in relation to human habitation. Indeed, it is necessary to consider this scientific aspect following the earlier argument that inasmuch as a purely geological approach may not be able to assist in resolving this issue, neither does the method pertaining to a purely legal consideration of the situation. Hence, the merging of the appropriate scientific aspects with the legal aspects is hoped to enhance the understanding of this controversial provision.

Having observed the above, the next element to Article 121(3) must also be addressed namely, the ‘economic life’ criterion as below.

19.4 Economic Life

Some overlapping views may be observed under this limb in relation to the previous limb on ‘human habitation’ given the inevitable possibility of its connection to the other.

As highlighted by **Kwiatkowska and Soons**, an increasing number of authors opine that a lighthouse or other aids to navigation on a rock “gives it an economic life of its own due to its value to shipping.”⁶⁶⁰ They found that:

⁶⁶⁰ Kwiatkowska and Soons, *supra* n 74, pp. 167-168, citing e.g. Brown, *supra* n 535, pp. 181, 207; Hodgson and Smith, *supra* n 555 and J.R.V. Prescott, *The Maritime Political Boundaries of the World* (1985) pp. 17-18; On this note, Brown contended that “[s]urely any rock anywhere could arguably be said to have economic life of its own if a lighthouse or other aid to navigation were placed upon it.”.

*“The Jan Mayen Conciliation Commission, by recognizing that Jan Mayen was not a rock within the meaning of Article 121, paragraph 3 certainly **created an important precedent** for regarding navigational need, guano or other resources **as evidence of the existence of economic life despite the lack of permanent habitation**. It also created a suitable climate for possible extension of the notion of economic life to fishing in waters around an island... or exploitation of minerals from the sea-bed which surrounds them...(emphasis added)”⁶⁶¹*

However, as aforementioned, Kwiatkowska and Soons find that an island’s past history of economic life can only serve as evidence of economic life in the past; a present claim should prove that its aforesaid past continues to exist.⁶⁶²

Hart Dubner had also listed activities that he finds six States wanting to rely on, to support their claim that their respective maritime features can sustain economic life.⁶⁶³

These activities, which he regarded as ‘incredulous’, are:

“using military force; occupying and fortifying the rocks where possible; creating structures and markers; creating scientific research stations of sorts; enacting statutes; incorporating the rocks into nearby provinces; publicizing maps showing their respective claims and releasing "historical documents" to back up these claims; allowing tourists and journalists to visit the rocks; granting concessions to oil companies; arresting fishermen; and creating a "tourist resort" complete with hotel and airstrip.”⁶⁶⁴

Charney however makes the crucial point that the available resources surrounding the feature are considered as part of the features’ resources that can in fact entitle the feature to extended maritime zones.⁶⁶⁵ His scrutinization of official texts in their different languages resulted in him finding the difficulty of separating economic life from human habitation in both law and fact; with all texts agreeing that as long as habitation is regular, it does not need to be all year-round.⁶⁶⁶ He finds the ‘uncontravened’ contention therein, to be that *“economic life” may include exploitation of the living or mineral*

⁶⁶¹ Kwiatkowska and Soons, *supra* n 74, p. 168.

⁶⁶² *Ibid.*, p.162; see also *supra* n 624 including text.

⁶⁶³ Hart Dubner, *supra* n 149, p. 292. Dubner had referred to China (including Taiwan separately), Vietnam, Philippines, Malaysia, and Brunei in considering the Spratly ‘Rocks’ dispute. Nevertheless, Hart noted Malaysia as the only country which has expressed any interest in preserving the resources for the "common heritage of mankind" wherein he referred to B.A. Hamzah, *The Spratlies: What Can Be Done To Enhance Confidence*, (Malaysia: Institute of Strategic and International Studies, 1990) 29 at p. 36.

⁶⁶⁴ *Ibid.*, pp. 304-305.

⁶⁶⁵ Prescott and Schofield, *supra* n 379, p. 80.

⁶⁶⁶ Charney, *supra* n 73, p. 871.

resources found in the territorial sea."⁶⁶⁷ This point is arguably acceptable given the fact that even rocks under Article 121(3) are entitled to both a territorial sea and a contiguous zone. Thus, if the resources are derived from these maritime zones, surely it would be unjust to deprive the maritime feature of the right to prove its economic viability by depending on the resources surrounding it, in accordance with Article 121(3).

Thus, Charney believes that a feature would not fall under Article 121(3) if there exists for example, valuable hydrocarbons or other characteristics of value such as fisheries whose exploitation could sustain economic life even though support from external sources were received.⁶⁶⁸ It is argued nonetheless, that where support is received externally in this context, caution must be had as to the extent and manner it is received and its consideration should be deliberated together with all surrounding factors required by Article 121(3).

A simple scenario would be where a small sized rocky feature that is proven totally 'useless' economically and habitability if strictly basing on the feature itself, was to exist in the ocean at a far distance from other lands but has indeed valuable hydrocarbons and fisheries surrounding it. Therein, it may be quite unreasonable to now allow external sources from its faraway mainland State to set up shelter there ensuring that all support is given to make it able to satisfy the criteria of economic viability under Article 121(3); and thus resulting in it being entitled to a 200 nm EEZ and CS. This would reduce the common areas meant for all and thus could defeat the 'common heritage of mankind' principle.

One interesting uncommon view is **Hafetz's**. He argued for marine conservation to be amongst the things that can constitute economic life under Article 121(3), wherein economic benefits and sustainable development may be derived through schemes such as establishing marine and coastal protected areas.⁶⁶⁹ To Hafetz, preserving the marine environment is highly important under UNCLOS wherein Article 121(3) would have to be

⁶⁶⁷ *Ibid.*, p. 868.

⁶⁶⁸ *Ibid.*, p. 870.

⁶⁶⁹ J.L. Hafetz, *Fostering Protection of the Marine Environment and Economic Development: Article 121(3) of the Third Law of the Sea Convention*, 15 American University ILR (2000), pp. 586, 626–627. e.g. establishing a marine park or protected area around a coral reef for economic development which could result in, increased fishing stocks, having tourists, products from coral reefs and obtaining health benefits from reduced pollution; see also Song, *supra* n 70, p. 683.

interpreted without violating the provisions of UNCLOS.⁶⁷⁰ Hafetz stresses that the ‘economic life’ criterion requires the claiming State to demonstrate that the economic benefit is real rather than a mere assertion⁶⁷¹ and that if it decides to proceed on the grounds that its marine preservation would deliver economic benefits through one of its environmental valuation techniques, it must commit to maintain the marine preserve in perpetuity⁶⁷² and ensure that such method is not *‘merely to serve as a convenient and costless predicate by which [it] may expand maritime jurisdiction’*.⁶⁷³ Hafetz also opines that the techniques that may be derived from ‘cost-benefit’ analysis can make it possible to determine whether an island has an economic life of its own under Article 121(3).⁶⁷⁴ Although this idea of marine conservation as constituting economic life requires further consideration before any comments may be made, this proposal for a ‘cost-benefit’ analysis does appear reasonable given that some actual expertise is now being relied on before concluding on the status of a maritime feature with respect to its economic viability.

Further, **Gjetnes**’s argument for ‘economic life of its own’ to exist, would be for that feature itself to have resources utilized for economic activity.⁶⁷⁵ Nevertheless, he notes the problem that may arise from adding a test of economic viability to the requirements for islands, since an otherwise useless feature may be transformed into a land of great economic significance due to its adjacent waters that may be the basis for economic life.⁶⁷⁶ However, he highlighted the necessity to use local resources before *“government-paid military occupation or scientific work, navigational aid, and activities”* can be accepted as proof.⁶⁷⁷ Gjetnes’ opinion that a natural source’s mere existence is insufficient, necessitating the need to represent economic value over a certain duration⁶⁷⁸ does make sense. This argument fairly limits the possible abuse by those who are determined to obtain extended maritime zones for a feature when its actual ‘condition’ would not entitle it to such.

⁶⁷⁰ *Ibid.*, p. 596.

⁶⁷¹ *Ibid.*, p. 614.

⁶⁷² *Ibid.*, p. 629.

⁶⁷³ *Ibid.*, pp. 634-635.

⁶⁷⁴ *Ibid.*, p. 621.

⁶⁷⁵ Gjetnes, *supra* n 387, p. 197.

⁶⁷⁶ *Ibid.*, p. 196.

⁶⁷⁷ *Ibid.*, p. 199.

⁶⁷⁸ *Ibid.*, p. 197.

In addition, **Prescott and Schofield**'s consideration that Scarborough Reef can sustain economic life of its own under Article 121(3)⁶⁷⁹ due to its attraction to fishermen for many years,⁶⁸⁰ was despite them describing the feature as "*having no island on [it] but.. rocks with the most prominent one being South Rock*" at 10 feet above high tide;⁶⁸¹ which upon close consideration appears to be a reasoning of personal logical approach. Similarly, there is no reasoned explanation of their reference to the Senkaku Islands as having "*little value as territory that might be settled, cultivated or mined*"⁶⁸² and to Scott Reef as a rock that escapes Article 121(3) described to consist of three reefs wherein "*North and South Reefs are large and dry with some rocks around their perimeters standing above high water*" whilst "*[b]etween them on a small reef stands Sandy Islet.*"⁶⁸³ They further opine that Article 121(3) is not applicable to features that are part of an archipelago.⁶⁸⁴

Having observed all these views, it is now necessary to consider the conjunction 'or' that appears between 'sustain human habitation' and 'economic life of their own'.

19.5 Conjunction "or"

The conjunction 'or' used in the phrase 'sustain human habitation or economic life of their own' in Article 121(3) has also been discussed by scholars. Arguments however incline more towards 'or' being interpreted as in the alternative as opposed to 'and'.

Amongst scholars who opine 'or' to mean in the alternative are for example, **Charney** who argued its clear intention to be that either one of the criteria needs to be proven, particularly because prior to this, the word 'and' was used during the debate whilst formulating UNCLOS.⁶⁸⁵ **Oude Elferink**, observing the lacking in clarification from the drafting history, viewed it also as disjunctive, although he noted the result on the

⁶⁷⁹ Prescott and Schofield, *supra* n 145, p. 434.

⁶⁸⁰ *Ibid.*

⁶⁸¹ *Ibid.*, pp. 433-434. What exactly was meant by "no island" was no elaborated, although they may have meant it in the Article 121(1) context that escapes Article 121(3).

⁶⁸² *Ibid.*, p. 437.

⁶⁸³ Prescott, *supra* n 129, p. 394.

⁶⁸⁴ Prescott and Schofield, *supra* n 379, p. 85.

⁶⁸⁵ Charney, *supra* n 73, p. 868 and footnote 26.

threshold to be met to be rather low since satisfying either criterion in the phrase would enable an island to have an EEZ and continental shelf.⁶⁸⁶

Gjetnes, agreeing for “or” as in the alternative, nevertheless highlighted that this weakens the argument that there really must be a minimum of at least human habitation in the first place.⁶⁸⁷ This view was regardless of Gjetnes’s acknowledgment that the concept of extended maritime zones in UNCLOS was to enable coastal populations to manage and exploit resources in their adjacent waters, necessitating the existence of population in the first place; since the underlying purpose of this concept indicate it unreasonable to accept a category of island that can sustain economic life of its own if it cannot also sustain human habitation.⁶⁸⁸ This makes it not in accordance with the EEZ regime that is intended to accord rights and responsibilities to the ‘population’ that can generate the maritime zones.⁶⁸⁹ He nevertheless viewed that one criterion is sufficient to be fulfilled to escape the consequences of Article 121(3).⁶⁹⁰

Kwiatkowska and Soons however highlighted the possibility of problems arising if “or” is interpreted as an alternative, since States could always fall back on either one of the criteria and thus could prevent many maritime features from qualifying as rocks where for instance, a ‘*station or installation placed on them is remotely controlled or manned*’.⁶⁹¹ However, they find that in view of the progressive development of science and technology, this may be unavoidable.⁶⁹²

It may be deduced that unfortunately, reading ‘or’ as in the alternative would mean that fewer maritime features would be caught by Article 121(3) which could reduce maritime spaces for the common heritage of mankind or even defeat the very existence of Article 121(3) to the advantage of more developed States. Nevertheless, since ‘and’ was initially used during the debate for UNCLOS, the arguments put forth strongly incline towards the

⁶⁸⁶ Oude Elferink, *supra* n 144, pp. 173-174.

⁶⁸⁷ Gjetnes, *supra* n 387, pp. 194-195. This was because if economic life is proven, there is then no necessity to prove human habitation.

⁶⁸⁸ *Ibid.*, p. 194.

⁶⁸⁹ *Ibid.*,

⁶⁹⁰ *Ibid.*, p. 199; see also Song, *supra* n 70, p. 695.

⁶⁹¹ Kwiatkowska and Soons, *supra* n 74, p. 164.

⁶⁹² *Ibid.* p. 165.

intention for the meaning to be in the alternative. Despite this, it must be reminded that the formulation of Article 121(3) is a compromise amongst States.⁶⁹³

19.6 “Of their Own”

The next important element for consideration is the phrase ‘of their own’. A few main situations may be observed regarding the reliance of a given maritime feature on external support to prove its ability to sustain human habitation, economic life, or even for purposes of enhancing its legal status by adding artificial extensions.

In this respect, **Papadakis** when referring to natural islands that are in the process of gradually disappearing beneath the waves, agrees with the position of **McDougal and Burke** regarding artificially formed areas of land.⁶⁹⁴ They stress the purpose and use of these artificial enhancements, finding that the criteria of ‘reasonableness’ and ‘construction for practical use’ important and could be the decisive factor in determining whether areas of land or constructions can be considered as having island status, or considered in maritime delimitation situations,⁶⁹⁵ before such enhancements may be relied on to change a maritime feature’s legal status. Arguably, the same rationale may be applied to Article 121(3).

On this note, **Soons** finds that artificial works are permissible if for the purpose of enabling a maritime feature to maintain its status as a full-fledged island from degenerating to a ‘rock’ under Article 121(3);⁶⁹⁶ whilst **Symmons** differentiates the act of creating an area of land in order to give the legal status of an island to a maritime feature and the act of preserving an area of land to maintain its legal status as an island, viewing

⁶⁹³ Chapter 3, Section 14.2.

⁶⁹⁴ Papadakis, *supra* n 38, p. 94 citing McDougal and Burke as stating that:

*“The **chief criterion** for appraising the reasonableness of a claim to delimit the territorial sea, or an area of internal waters, from an artificially formed area of land surrounded by water, is **whether it is constructed for practical use or rather only as a disguised attempt to extend the territorial sea or internal waters without other relation to local interest**. When the construction of an area of land serves a consequential coastal purpose, it would seem to be in the common interest to permit the object to be used for delimitation purposes... (emphasis added)”.*

See also Kwiatkowska and Soons, *supra* n 74, p. 173 - citing in footnote 97: M.S. McDougal and W.T. Burke, *The Public Order of the Oceans* (1962) pp. 387-388.

⁶⁹⁵ Papadakis, *supra* n 38, p. 94 (*Ibid*).

⁶⁹⁶ Soons, *supra* n 47, p. 223.

only the latter acceptable.⁶⁹⁷ Nevertheless, **Van Dyke** opines that extensive reinforcement work on a feature such as Okinotorishima can change a reef into an artificial island, which would be caught by Article 60 of UNCLOS, and would not possess the legal status of an island.⁶⁹⁸

Soons also highlighted that due to sea level rise or like scenarios, causing the landward shifting of the baseline, a new rule may emerge entitling coastal States to maintain the outer limits of their territorial sea and EEZ according to their location at a point in time in line with current general rules in force.⁶⁹⁹

In addition, **Hart Dubner** when referring to the 1923 Imperial Conference and its explanatory memorandum, finds that the struggle to have a proper interpretation of Article 121(3) could have been avoided had the phrase 'without artificial addition' been added to the provision.⁷⁰⁰

Despite this lack of clarity, **Hart Dubner, Diaz and Parent** disagree with Japan's methods to expand Okinotorishima's landmass to hold a permanent population by accelerating coral growth or accumulating a great abundance of *Foraminifera* whose bodies become sand as they die,⁷⁰¹ highlighting Article 60(8) of UNCLOS.⁷⁰² They viewed that such activities should not affect the environment.⁷⁰³ They stressed that although Article 73(1) of UNCLOS provides for a coastal State to exercise sovereign rights in the EEZ, the drafters never intended this provision "*to include giving a State such powers in a faraway place over such a small entity or rock, which would give that State thousands of square miles of a geographic area.*"⁷⁰⁴

⁶⁹⁷ C. Symmons, *Some Problems Relating to the Definition of Insular Formations in International Law: Islands and Low-Tide Elevations*, Int'l Boundaries Res Unit, Maritime Briefing No. 5 at 3 (1995) as cited by Song *supra* n 97, p. 165; See also Freestone and Pethick, *supra* n 47.

⁶⁹⁸ J.M. Van Dyke, *Legal Status of Islands – With Reference to Article 121(3) of the United Nations Convention on the Law of the Sea* at 5, paper presented in Seoul, Korea, Dec 9, 1999, <<http://www.hawaii.edu/law/faculty/publications/KoreanPaper-Islands12999.htm>> as cited by Song, *supra* n 97, p. 165.

⁶⁹⁹ *Ibid.*, p. 225; see also Freestone and Pethick, *supra* n 47, p. 76. They found considerable merit in Soons's concept.

⁷⁰⁰ Hart Dubner, *supra* n 149, p. 305. Hart Dubner referred to the 1923 Imperial Conference and its explanatory memorandum concerning the capability of use and habitation in relation to artificial additions (see text at *supra* n 269).

⁷⁰¹ Diaz, Hart Dubner and Parent, *supra* n 95, pp. 547-548. Diaz, Hart Dubner and Parent referred to Fackler, *supra* n 98 that defines *Foraminifera* as "hard-shelled microscopic organism."

⁷⁰² *Ibid.*, p. 548. i.e. which explicitly excludes such artificialities from having their own maritime zones.

⁷⁰³ *Ibid.*, p. 550-553.

⁷⁰⁴ *Ibid.*, p. 548.

Where the **economic life criterion** is concerned, views include, the denial of an EEZ and a CS for a rock that relies on artificial economic life which base on resources from other land territory;⁷⁰⁵ that the exploitation of resources in a feature's own territorial sea can be economic life since it is not expressly limited to traditional agrarian activities, regardless of external support;⁷⁰⁶ that some outside support should be allowed for purposes of realizing an island's economic potential;⁷⁰⁷ and that the phrase 'of their own' suggests that an island 'must provide at least part of the basis for its economic life' although not necessarily requiring to have complete self-sufficiency.⁷⁰⁸ Indeed, the ability of the maritime feature itself to generate part of the economic life should be considered. To ignore this could result in reducing the threshold, giving added advantage to any 'able' State that wishes to ensure that this criterion is fulfilled to avoid being caught by Article 121(3).

Where the **human habitation criterion** is concerned, opinions include, an island's ability to support a stable population without external support as the key factor and necessary in order to generate extended maritime zones;⁷⁰⁹ that artificial extension would not make a rock habitable and should be caught by Article 60 of UNCLOS;⁷¹⁰ that there should be no external support for purposes of Article 121(3);⁷¹¹ and the somewhat dissimilar view by three jurists in the Jan Mayen Conciliation Commission case that the phrase would not necessarily exclude external support for a not necessarily permanent population,⁷¹² as well as that the supporting of an oceanographic research base manned and operated throughout the year under navy protection can be considered sustaining habitation and economically viable.⁷¹³

⁷⁰⁵ Bowett, *supra* n 12, p. 34; see also Kwiatkowska and Soons, *supra* n 74, p. 169.

⁷⁰⁶ Charney, *supra* nn 667 and 668 (including text).

⁷⁰⁷ Gjetnes, *supra* n 387, p. 199.

⁷⁰⁸ *Ibid.*, p. 198.

⁷⁰⁹ Van Dyke and Brooks, *supra* n 609 (including text).

⁷¹⁰ Kwiatkowska and Soons, *supra* n 74, p. 169, referring to L.D.M. Nelson, "The Delimitation of Maritime Boundaries in the Caribbean", in D.M. Johnston and P.M. Saunders, eds., *Ocean Boundary Making: Regional Issues and Developments* (1988) pp. 142, at pp.174-175 who in turn quoted Bowett, *supra* n 12, p. 34.

⁷¹¹ i.e. views by Nelson, Bowett, Van Dyke and Brooks, as cited by Kwiatkowska and Soons, *supra* n 74, p. 169.

⁷¹² Kwiatkowska and Soons, *supra* n 74, p. 169 citing the views of Ambassadors Richardson, Evensen and Andersen from "Report & Recommendations to the Governments of Iceland and Norway" (1981, Washington).

⁷¹³ *Ibid.*, p. 169. Kwiatkowska and Soons made an analogy to Jan Mayen, Aves Island.

In a nutshell, there are quite diverse views amongst scholars regarding this phrase although what may be argued to be reasonable are, where enhancing a legal status of a maritime feature by artificial means is concerned, the purpose and use as pointed out by Papadakis⁷¹⁴ seems acceptable although must inevitably be scrutinised; where the reliance of external sources for economic purposes is considered, Gjetnes's argument seems fair in that an island 'must provide at least part of the basis for its economic life' as this would curtail the existence of a lower threshold to satisfy avoiding Article 121(3); while however, on the reliance of external sources for purposes of sustaining human habitation, the too diverse views requires further consideration before more reasonable conclusions may be made.

19.7 Common Heritage of Mankind

Despite the above, the matter concerning 'common heritage of mankind' cannot be avoided when discussing Article 121(3). Views regarding the importance of the issue have been raised numerous times falling back on the intent and purpose on why Article 121(3) has to also be read along these lines.

Judge Vukas particularly highlighted **Pardo's** concern⁷¹⁵ who in 1969 stressed the importance of 'common heritage of mankind' in the oceans, particularly where rocks and remote and uninhabited islands are in issue.⁷¹⁶ Pardo finds it "*entirely unacceptable that the 'Continental Shelf doctrine' should apply without modification*" to the features.⁷¹⁷

Pardo's views came even before UNCLOS showing the necessity to protect as much ocean space possible for the common benefit of mankind, which importance **Van Dyke and Brooks** had unsurprisingly echoed in 1983.⁷¹⁸ Nonetheless, Pardo's opinion appears to lack the desired impact in view of the end result of UNCLOS which incorporated provisions on the EEZ and the CS, although this may be argued to be balanced by the

⁷¹⁴ Papadakis, *supra* n 695 (including text).

⁷¹⁵ Declaration of Vice President Vukas in the "The Volga case", *supra* nn 126 & 127, para 10. Judge Vukas had stated, in relation to the establishment of the EEZ around rocks and other small islands, that "*...Ambassador Arvid Pardo - the main architect of the contemporary law of the sea - warned of the danger of such a development in 1971*" where he highlighted Pardo's concern as reflected in the UN Sea-Bed Committee, Doc. A/AC.138/SR.57, p. 167- see *supra* n 302.

⁷¹⁶ Pardo, *supra* n 302, p. 210.

⁷¹⁷ *Ibid.*

⁷¹⁸ Van Dyke and Brooks, *supra* n 90, p. 266.

existence of Article 121(3). Van Dyke and Brooks point out that although negotiations began under the ‘common heritage’ theme, these negotiations ended up in a treaty entitling coastal States to the vast majority of resources of the oceans.⁷¹⁹ Thus, they believe that to ensure that the common heritage of mankind as the core purpose is substantially adhered to, Article 121 needs to be interpreted to grant maritime zones beyond a territorial sea and contiguous zone only to maritime features that can truly sustain stable communities.⁷²⁰ Similar views stressing the importance of the common heritage of mankind may be seen in other scholars’ arguments such as **Kwiatkowska and Soons’s**⁷²¹ and **Diaz, Hart Dubner and Parent’s**.⁷²²

Relying on legislative history, the judgment by the ICJ in the Fisheries Jurisdiction (UK/Iceland) case⁷²³ and Judge Vukas’s statement in the “Volga” case, Diaz, Hart Dubner and Parent noted that the EEZ is actually a consequence of a resolution adopted at LOSC I *“considered for special situations of countries whose coastal population depended ‘upon coastal fisheries for their livelihood or economic development in an area of high seas adjacent to the territorial sea of the coastal state’.”*⁷²⁴ Regardless, they believe that while preferential rights to fishing in the adjacent waters of a State includes having an EEZ supposedly for coastal States and mid-ocean archipelagic States, *“the only legitimate purpose for an EEZ around a rock (assuming that one could do so in international law-which it cannot currently) is to preserve marine resources for the ‘common heritage of mankind’.”*⁷²⁵

⁷¹⁹ *Ibid.*

⁷²⁰ *Ibid.* p.288.

⁷²¹ Kwiatkowska and Soons, *supra* n 74, p. 144. They argued that the very words of Article 121(3) only show the objective to limit the category of islands that can generate an EEZ and a CS which has a view to prevent a further substantial limitation of the area of the common heritage of mankind.

⁷²² Diaz, Hart Dubner and Parent, *supra* n 95 pp. 541-543. They referred to Charney’s view that *“[t]he whole purpose of Article 121(3) was to make certain that ‘insignificant features, particularly those far from areas claimed by other states, could not generate broad zones of national jurisdiction in the middle of the ocean.’”* -see Charney, *supra* n 73, p. 866; They find that identifying the reasons for the establishment of the EEZ is necessary to find the meaning of ‘rock’ under Article 121(3), and cited Japan’s claim for an EEZ for Okinotorishima was without giving reason apart from protecting the area from possible intrusion by other States (pp. 521, 543 - referring to Fackler, *supra* n 98).

⁷²³ Fisheries Jurisdiction (United Kingdom v. Iceland), Merits, Judgment, ICJ Reports 1974, p. 4.

⁷²⁴ Diaz, Hart Dubner and Parent, *supra* n 95 – citing The “Volga” case, *supra* n 126. They highlighted Judge Vukas’s statement that the EEZ’s main purpose is to protect the economic interests of coastal States and their population in coastal areas.

⁷²⁵ *Ibid.*, p. 545. –Reference was made to Judge Vukas’s illustration on this point, which may perhaps explain as to why they had arrived to the aforesaid deduction. Therein, States are to cooperate in the aforesaid maritime area by applying international treaty rules that are generally applicable for the required purpose,

Indeed, legislative history supports the importance of the common heritage of mankind, and its consideration when interpreting Article 121(3) appears to be most reasonable and valid wherein the rights of States to extended maritime zones should certainly be balanced with the rights of mankind as a whole. When considering a maritime feature's entitlement to extended maritime zones, the importance of the main purpose on why the EEZ was first considered vis-à-vis Article 121(3) must be carefully deliberated.

Despite all the above, **Judge Choon-ho Park** of ITLOS in his personal capacity opined that ambiguities had to be allowed for Article 121(3) due to the different geographical circumstances of islands throughout the world.⁷²⁶ It is however argued that if such ambiguities were to remain, there will be continuous inconsistencies when interpreting Article 121(3). Certainly it is quite impossible to address each and every of the thousands of maritime features that exists in the oceans in relation to Article 121(3), and thus, Judge Park's views do appear reasonable. Yet again, his suggested ambiguity should only be allowed to a certain extent and that more detailed characteristics of the elements in Article 121(3) must be elaborated with more concrete irrefutable scientific evidence so as to avoid inconsistencies and problems in its application that is clearly seen occurring even till today.

which should therefore be beneficial and fair to all States, as opposed to if they apply individual measures which may result otherwise. Judge Vukas's illustration on this point reads:

*"There are **two sets of international treaty rules generally applicable** to the conservation of the living resources of the high seas: the 1958 Convention on Fishing and Conservation of the Living Resources of the High Seas, and Part VII, section 2, of the LOS Convention, entitled "Conservation and Management of the Living Resources of the High Seas". **Both Conventions call for cooperation between States whose nationals exploit the same marine areas.** One of the best examples of such cooperation is the conclusion of the Convention on the Conservation of Antarctic Marine Living Resources (CCAMLR-Canberra, 20 May 1980).*

*... It is **therefore unnecessary and confusing if individual States adopt and apply their own measures in the exclusive economic zone they have proclaimed inside the area of application of the CCAMLR.** In this sense, referring to the French exclusive economic zone, Bruce W. Davis remarked that "consistency has had to give way to the requirements for internal acceptance" (emphasis added)."*

⁷²⁶ ITLOS Judge Choon-ho Park's paper entitled "The Changeable Legal Status of Islands and 'Non-Islands' in the Law of the Sea: Some Instances in the Asia-Pacific Region" was included and published in *Bringing New Law to Ocean Waters*, edited by David D. Caron and Harry N. Scheiber (Leiden, Netherlands: Martinus Nijhoff Publishers, 2004), Ch. 21, 490 -491 - as cited by Song, *supra* n 70, p.697.

20. Preliminary conclusion

Based on the above discussion, it is reiterated that scholars including even amongst the non-legal experts themselves, do certainly have different views when attempting to clarify Article 121(3).

Consideration has been given to the various possible issues arising out of Article 121(3) which include general comments to the provision, the understanding of the words or phrases 'rock', 'human habitation', 'economic life', 'or', 'of their own', as well as the importance of 'common heritage of mankind' principle.

With regard to the understanding of 'rock' in Article 121(3), it is observed that discrepancies and diverse views still exist to this date with some finding it necessary to have a mathematical definition for 'rock' whilst others reasoning that this will not resolve the matter given the numerous physical descriptions and affecting factors surrounding such maritime feature. Herein, most legal scholars reject a purely geological/geographical definition. Diverse views may similarly be said with regard to the discussions on the other aforesaid words or phrases in Article 121(3).

In this regard, whilst most scholars agree that Article 121(3) is ambiguous, and had attempted to clarify the provision with various approaches, the matter has still yet to be resolved. Upon observation, the majority of methods used to decode Article 121(3) are typically revolving around the normal legal facets of the matter such as State practice, national legislation, case law, judicial decisions, legislative history and proposals to amend related provisions of UNCLOS with merely some cursory references to some scientific aspects such as geological/geographical considerations. Upon close scrutiny, these scientific aspects should be given more consideration and examined further involving other relevant environmental science aspects that can aid in providing more clarity in the interpretation of Article 121(3).

Furthermore, although reference was made to the surrounding environment or circumstances of the maritime feature in question, what is blatant here is that the basis relied by scholars that brought about conclusions in clarifying Article 121(3) seems to come mostly from visual, common sense and logical approaches with attempts to fit the same into the existing legal framework of Article 121(3). It lacks the necessary important step of looking into the relevant aspects of environmental science such as ecology.

Indeed, there lacks reference to the ecological aspect of such situation. This is essential in order to address this 'conundrum'; although certainly, these 'scientific aspects' would have to be addressed within the legal framework of Article 121(3).

In support of the necessity to involve in-depth scientific aspects, is the indisputable fact that the aforesaid typically 'legal'/common sense aspects that have been tried, tested and referred to by scholars seem to come to no avail. Hence, despite the reasoning that a purely geological/geographical approach may be unhelpful in this respect, equally so, an approach which is typically 'legal'/common sense should be avoided particularly because the very essence of Article 121(3) involves 'scientific' examination, and thus a more reasonable solution would be to merge both legal and scientific aspects at a deeper level.

Indeed, if scientific evidence could be proven and could reasonably be shown to fit into the legal framework of Article 121(3) without contravening any of the main principles, such as the intention and purpose of the provision in accordance with the VCLT, it certainly would not be easy to refute such 'merged' findings without justifiable explanation.

Before concluding as to whether Article 121(3) does indeed require to be clarified and whether there is a clear "guideline" on how to apply Article 121(3), the final chapter on current legal understanding would first have to be deliberated. In this regard, a look at the findings by international adjudicating bodies as will be seen in the next chapter is pertinent to identify whether Article 121(3) has been sufficiently addressed to cater for the provision's aforementioned ambiguities.

Chapter 6 FINDINGS BY INTERNATIONAL ADJUDICATING BODIES

21. Introduction

Adjudicating bodies have occasionally been sought by States to decide on various maritime issues including those relating to the legal status of insular features under Article 121(3). However, very few cases have made reference to this provision whilst most others merely mentioned the relevance of these insular features in maritime boundary delimitation.

With the exception of the recent Award in the South China Sea Arbitration,⁷²⁷ an analysis of other related judgments and decisions by international courts and tribunals, shows inclination to consider for purposes of maritime delimitation which can affect maritime entitlement rather than deciding first or directly on maritime entitlement under Article 121(3). Granted that these bodies have yet to address precisely what is meant by those identified terms under Article 121(3),⁷²⁸ the examination of some rulings is necessary to determine their stand on the issue to a certain extent.

22. International Adjudication findings

22.1 Cases where Article 121(3) was mentioned

At the outset, the Tribunal in the recent South China Sea Arbitration is the only international adjudication body that had directly applied and addressed Article 121(3) as is required for its purpose, and not merely making cursory references to the provision. Nevertheless, it is argued that some points raised by the Tribunal are questionable and its reasonings for some of the findings could have been made clearer or further improved. However, this Section will first address all other cases that mentioned Article 121(3) to determine the adjudicating bodies' general findings and inclination, before subsequently discussing in detail the South China Sea Arbitration.⁷²⁹

⁷²⁷ See text at *supra* n 11 and relevant texts thereafter; see also Section 22.1.1 below.

⁷²⁸ See text at *supra* n 86.

⁷²⁹ See Section 22.1.1 below; see also text at *supra* n 11 and relevant texts thereafter.

Basically, very few cases concerning Article 121(3) were mentioned by the Courts, and none, except for the **South China Sea Arbitration**, actually applied the provision in the cases, let alone clarify the elements contained therein in detail.

These very few cases are for example, the **Romania/Ukraine case**.⁷³⁰ Although the parties raised Article 121(3) as one of their arguments in maritime delimitation,⁷³¹ the ICJ did not consider this provision in relation to Serpents' Island whose sovereignty comes under Ukraine, finding it unnecessary to be dealt with in the circumstances.⁷³² This was due to the overlapping entitlements that can be generated by both Romania and Ukraine (Serpents' Island),⁷³³ thus resulting in "*Serpents' Island... not... [requiring] an adjustment of the provisional equidistance line.*"⁷³⁴ The ICJ highlighted that occasionally, it may decide not to consider very small islands or not give them full potential maritime zones entitlement if such would cause a disproportionate effect on the delimitation line under consideration.⁷³⁵

In the **Nicaragua/Colombia case**, the ICJ merely ruled that the legal regime of islands under Article 121 has the status of customary international law, basing its finding with specific reference to paragraph 3 of the Article, that there exists a fundamental link between 'the long-established principle that "*islands, regardless of their size,... enjoy the same status, and therefore generate the same maritime rights, as other land territory*" and the more extensive maritime entitlements recognized in UNCLOS'.⁷³⁶ However, there is no specific ruling on what is meant by the phrases 'sustain human habitation' or 'economic life of its own' under Article 121(3). Of course the ICJ did consider that *Quitasueño*, whose sovereignty it adjudged as Colombia's⁷³⁷ does not generate any EEZ or CS; although, rather than explaining how the maritime feature's 'circumstances' had satisfied the elements in Article 121(3), its decision was based on the fact that neither party suggested for the feature to be anything other than an Article 121(3) rock.⁷³⁸ Notably however, the ICJ disregarded *Quitasueño* because its features "*are so small that*

⁷³⁰ *Romania/Ukraine case, supra* n 86.

⁷³¹ *Ibid.*, see arguments by Romania and Ukraine at paras. 180 and 184.

⁷³² *Ibid.*, para 187; see also text at *supra* n 122.

⁷³³ *Ibid.*, paras 114 and 187:

⁷³⁴ *Ibid.*

⁷³⁵ *Ibid.*, para 185.

⁷³⁶ Texts at *supra* nn 78 and 79.

⁷³⁷ *Nicaragua/Colombia case, supra* n 77, para 103.

⁷³⁸ *Ibid.*, para 183.

they cannot make any difference to the length of Colombia's coast".⁷³⁹ The ICJ also found it unnecessary to decide on the legal status of Roncador, Serrana, the Alburquerque Cays and East-Southeast Cay which Nicaragua contended as falling within Article 121(3) due to the 'overlapping' situation that the additional maritime entitlement of these features would have with other features' maritime entitlement.⁷⁴⁰

This reasoning by the ICJ in dismissing at the first instance the necessity to decide on the legal status of maritime features with regard to Article 121(3) simply because they are located in such overlapping situations may however have its drawback. Herein, imagine a situation where a maritime feature located within such overlapping 200 nm area, was actually analysed prior to maritime delimitation and found to be not caught by Article 121(3), the maritime area that could be generated for the State that has sovereignty over the maritime feature would indeed be more extensive and would at the original instance go beyond the 200nm as opposed to the mere 200nm that is measured only from its main coast. If this first step was to be undertaken, the subsequent steps pertaining to maritime delimitation may most likely result in a median line which favours a larger maritime area for the aforesaid State, although certainly special circumstances must be considered as required by the provisions pertaining to maritime delimitation under UNCLOS. This raises the question as to whether the provisions concerning maritime delimitation would prevail over Article 121(3) which is argued to not be the case since there is no 'qualifying' provision or phrase in UNCLOS that clearly states so. The ICJ's statement also raises the question as to 'when' therefore, will it be necessary to determine if a maritime feature is entitled to a CS or EEZ.⁷⁴¹

⁷³⁹ *Ibid.*, para 152.

⁷⁴⁰ *Ibid.*, *supra* n 86, para 180 and 183. Para 180 provides:

*"... It concludes that Roncador, Serrana, the Alburquerque Cays and East-Southeast Cays are each entitled to a territorial sea of 12 nautical miles, **irrespective of whether they fall within the exception stated in Article 121, paragraph 3, of UNCLOS.** ...*

*... [T]he Court similarly concludes that it is **not necessary to determine** the precise status of the smaller islands, since any entitlement to maritime spaces which they might generate within the relevant area (outside the territorial sea) **would entirely overlap with the entitlement** to a continental shelf and exclusive economic zone generated by the islands of San Andrés, Providencia and Santa Catalina (emphasis added)."*

The ICJ also decided Colombia has sovereignty over all these maritime features - see *supra* n 77, para 103.

⁷⁴¹ *Ibid.*, para 180. The ICJ had stated in the same paragraph that *"Whether or not any of these islands falls within the scope of that exception is therefore relevant **only to the extent that it is necessary to determine if they are entitled to a continental shelf and exclusive economic zone.**"* (emphasis added).

Likewise, in the **St Pierre and Miquelon case**⁷⁴² between Canada and France, Article 121(3) was mentioned. France had opposed against Canada's submission that the French Islands of St Pierre and Miquelon be awarded only 12nm of maritime area as this would result in assimilating these features to rocks under Article 121(3).⁷⁴³ The Court however did not make reference to Article 121(3) but found that “[t]he extent of the seaward projections will depend, in every case, on the geographical circumstances”; and that “a particular coast, however short, may have a seaward projection as far as 200 miles, **if there are no competing coasts** that could require a curtailed reach (emphasis added).”⁷⁴⁴

The Court also viewed that “there are no grounds for contending that the extent of the maritime rights of an island depends on its political status”⁷⁴⁵ and that “the case of the Channel Islands must... be differentiated from that of rocks or small islands” due to the presence of “considerable population and a substantial agricultural and commercial economy.”⁷⁴⁶ In this relation, the Court found some of these factors present in St Pierre and Miquelon⁷⁴⁷ although without specifying exactly which, and concluded from a strictly legal point of view without comparing or equating the economic or political significance of the territories, that “[Canada’s] Newfoundland, although much larger in size than [St] Pierre and Miquelon, is equally an island which does not enjoy the status of a politically independent or semi-independent State.”⁷⁴⁸ Hence, when concluding the boundary limits for the case, the Court had awarded extended maritime zones to St Pierre and Miquelon beyond merely a territorial sea, giving it a full 200 nm outer limit towards the South

⁷⁴² Court of Arbitration for the Delimitation of the Maritime Areas between Canada and France, Decision of 10 June 1992, 31 I.L.M. 1149 (1992) (“*St Pierre and Miquelon case*”).

⁷⁴³ *Ibid.*, para 43. France found Canada’s submission inequitable as well as “..divorc[ing] the legal title to maritime areas from the delimitation operation” when there should be “equal capacity of islands and mainland countries to generate maritime areas”, whilst Canada viewed that all coasts’ seaward projection is relative to their length with correspondingly diminished prolongation as against longer coasts (para 44). The Court found Canada’s contention unacceptable (para 45).

⁷⁴⁴ *Ibid.*, para 45; See also M.D. Evans, *Less than an ocean apart: The St Pierre and Miquelon and Jan Mayen Islands and the Delimitation of Maritime Zones*, 43 Int’l & Comp. L.Q. (1994) p. 678 at p. 690.

⁷⁴⁵ *St Pierre and Miquelon case*, *supra* n 742, para 49. In this regard, Canada had also argued that the status of political dependency of islands with regard to Metropolitan France would be a factor justifying less extensive maritime rights compared to an independent island State (para 48). Canada had relied on the *Anglo-French Continental Shelf Case* in which the Court in that case had attached significance to the status of Channel Islands as islands of the UK and not as semi-independent States (para 51) i.e. see *Delimitation of the Continental Shelf between the United Kingdom of Great Britain and Northern Ireland, and the French Republic (UK, France)*, Reports of International Arbitral Awards, Decision 30 June 1977 - 14 March 1978, Vol. XVIII, pp. 3-413 at para. 122 (“*Anglo-French Continental Shelf Case*”).

⁷⁴⁶ *St Pierre and Miquelon case*, *ibid.*, para 52.

⁷⁴⁷ *Ibid.*

⁷⁴⁸ *Ibid.*

although limited to a certain extent in certain segments due to the overlapping situation between affected maritime features and the mainland of Canada.⁷⁴⁹

Notably, the extent of maritime rights granted to these maritime features had not been addressed by the Court in connection with the political dependency of the islands. What is observed however is the Court's purposeful reference to the aforementioned distinction made in the **Anglo-French Continental Shelf case** regarding the Channel Islands which had population and economy as opposed to that of rocks and small islands.

Hence, although the Court had not clearly stated why it had decided to confer upon St Pierre and Miquelon those extended maritime rights beyond the territorial sea, it may be implied that such decision was due to its similar circumstances to the Channel Islands, also having some of the factors appertaining to the latter, which relate to population and economy. Despite this assumption, the actual circumstances of St Pierre and Miquelon that led to the Court's decision were not made clear, let alone clarifying in detail what actually is meant by 'human habitation' and 'economic life of its own' under Article 121(3). The Court's ruling was more concerning 'overlapping areas' in which all coasts may have a maritime area of up to 200 nm if there are no other competing coasts.⁷⁵⁰

Similarly, in the **Greenland/Jan Mayen case**,⁷⁵¹ the consideration before the ICJ was with regard to maritime delimitation. Nevertheless, the arguments raised included Article 121(3) wherein Denmark contended that Norway's *Jan Mayen* cannot sustain human habitation or have an economic life of its own and thus should be given no effect. Denmark based its argument on 'geography, population, constitutional status of the respective territories of *Jan Mayen* and Greenland, socio-economic structure, cultural heritage, proportionality, the conduct of the Parties, and other delimitations in the region.'⁷⁵² Particular reference was made to the presence of drift ice which can

⁷⁴⁹ *Ibid.*, para 69-70.

⁷⁵⁰ See text at *supra* n 744.

⁷⁵¹ Maritime Delimitation in the Area between Greenland and Jan Mayen, Judgment, ICJ Reports 1993 ("*Greenland/Jan Mayen case*"), p. 38.

⁷⁵² *Ibid.*, para 60. Denmark's assertions were firstly, *Jan Mayen* has no settled population and that 'only 25 persons temporarily inhabit the island for purposes of their employment; secondly, '*Norwegian fishing interests in the waters surrounding Jan Mayen are... the interests of mainland Norway, [and] not of Jan Mayen... where there are no fishermen*'; and thirdly, Denmark's 'cultural factor' argument, which are the Greenlanders' (Denmark) needs and attachment to their land and surrounding sea, would make it difficult for them to accept the curtailing of their sea area merely because of the interests of the inhabitants of *Jan Mayen* of a remote and highly developed industrial State (para 79).

significantly hinder access to marine resources in which the ICJ itself acknowledged would have a substantial impact on human activity on the maritime feature.⁷⁵³ Nevertheless, the ICJ found this situation to *'not materially affect access to migratory fishery resources in the southern part of the area of overlapping claims.'*⁷⁵⁴

When addressing Denmark's argument based on Article 121(3), the ICJ merely highlighted that Denmark did not argue on *Jan Mayen's* 'entitlement' to a CS or fishery zones, but rather regarding 'delimiting the boundary' between Iceland, Greenland and *Jan Mayen*;⁷⁵⁵ which thus possibly explains the ICJ's abstention from addressing this provision and thus no clear ruling on the same. It based its decision on maritime delimitation finding Denmark's contention for *Jan Mayen* not to be given full effect, unacceptable.⁷⁵⁶ Further, Denmark's 'cultural factor' argument did not alter the ICJ's conclusion and that the issue was *"whether the size and special character of Jan Mayen's population and the absence of locally based fishing, are circumstances which affect the delimitation."*⁷⁵⁷

Despite this, the ICJ found 'the attribution of maritime areas to the territory of a State, which by its nature, is destined to be permanent, is a legal process based solely on the possession by the territory concerned of a coastline'⁷⁵⁸ and thus 'there is no reason to consider either the limited nature of the population of Jan Mayen or socio-economic factors as circumstances to be taken into account.'⁷⁵⁹ The ICJ had referred to the **Libya/Malta case**, stressing for delimitation not to be persuaded by the affected States' relative economic position in a manner that confers the less rich State more CS area just so to compensate for its inferior economic resources, finding this consideration absolutely unrelated to the intention of applicable rules of international law.⁷⁶⁰ It stressed that

⁷⁵³ *Ibid.*, para 78.

⁷⁵⁴ *Ibid.*

⁷⁵⁵ *Ibid.*, para 80.

⁷⁵⁶ *Ibid.* The ICJ also made reference to its earlier finding in the case before addressing Denmark's argument on Article 121(3) stating that:

"The coast of Jan Mayen, no less than that of eastern Greenland, generates potential title to the maritime areas recognized by customary law, i.e., in principle up to a limit of 200 miles from its baselines. To attribute to Norway merely the residual area left after giving full effect to the eastern coast of Greenland would run wholly counter to the rights of Jan Mayen and also to the demands of equity." (para 70)

See also Evans, *supra* n 744, at 690.

⁷⁵⁷ *Ibid.*, para 80 - see *supra* n 752 for Denmark's 'cultural factor' argument.

⁷⁵⁸ *Ibid.*

⁷⁵⁹ *Ibid.*

⁷⁶⁰ *Ibid.* The ICJ stated that-

“neither the rules determining the validity of legal entitlement to the continental shelf, nor those concerning delimitation between neighbouring countries, leave room for any considerations of economic development of the States in question.”⁷⁶¹

It is observed that the ICJ seems to dismiss the criterion of ‘population’ and ‘economic position’ when it comes to deciding on delimitation or even on the attribution of maritime areas to the territory of a State. The ICJ had referred to the Libya/Malta case to reiterate its position that this finding applies to situations concerning both delimitation as well as the legal entitlement to the CS and the EEZ.

This ruling by the ICJ could be misconstrued if its deliberate statements to disregard any consideration of population, socio-economic factors or economic position in both ‘delimitation’ and ‘legal entitlement’ situations, are read vis-a-vis Article 121(3) which in itself requires clear evidence of either of these factors. It must be stressed that the ICJ’s aforesaid decision was pronounced in full awareness of the existence Article 121(3) rather than discussing solely delimitation issues.

Nevertheless, if this ruling is to be reconciled with Article 121(3), a closer look suggests that what the ICJ meant was for such extended maritime areas not to be granted based on a State’s needs for a ‘better’ economy or the fact that the population requires them, as opposed to the different context in Article 121(3) where the intention was for a State to prove at the outset either the existence of an economic life or human habitation on its maritime feature before it can generate extended maritime zones.

*“...**delimitation** should **[not] be influenced by the relative economic position** of the two States in question, in such a way that the area of continental shelf regarded as appertaining to the less rich of the two States would be somewhat increased in order to compensate for its inferiority in economic resources. Such considerations are **totally unrelated** to the underlying intention of the applicable rules of international law. It is clear that **neither the rules determining the validity of legal entitlement to the continental shelf, nor those concerning delimitation** between neighbouring countries, **leave room for any considerations of economic development** of the States in question. While the concept of the **exclusive economic zone** has, from the outset, included certain special provisions for the benefit of developing States, **those provisions have not related to the extent of such areas** nor to their delimitation between neighbouring States, but **merely to the exploitation of their resources**. (I.C.J. Reports 1985, p. 41, para. 50). (emphasis added)”; (para 80) and that-*

*“... maritime boundary claims have the particular feature that there is an area of **overlapping entitlements**, in the sense of overlap between the areas which each State would have been able to claim had it not been for the presence of the other State; **this was the basis of the principle of non-encroachment**... It is clear that in this case **a true perspective** on the relationship of the opposing claims and the opposing entitlements **is to be gained by considering both the area of overlapping claims and the area of overlapping potential entitlement**...” (emphasis added) (para 59).*

⁷⁶¹ *Ibid.*, para 80.

It is observed however that where the 'human habitation' factor is concerned, the ICJ's decision that there is "no reason to consider... the limited nature of the *population of Jan Mayen*" when considering the entitlement to a CS or an EEZ can be construed to mean that as long as there is population, no matter how limited, a maritime feature should be able to generate extended maritime zones without discrimination.⁷⁶²

Another possible meaning by the ICJ, so as to avoid inconsistency with Article 121(3) is that its aforesaid ruling was meant to specifically address the entitlement to maritime areas in general, namely the long standing principle that the 'land dominates the sea',⁷⁶³ without going further into the extent that such land can generate. Hence, this ruling may perhaps be made clearer if it is looked at in general and totally separate from Article 121(3) or maritime delimitation issues.

Regardless, even before the ICJ judgment on the **Greenland/Jan Mayen case** in 1993 and before UNCLOS was in force, the **Jan Mayen Conciliation Commission** in 1981 had addressed Article 121(3) with regard to *Jan Mayen*, although in this instance it was between Iceland and Norway. Therein, despite describing *Jan Mayen* as an entirely volcanic island whose rocks are of lava and other volcanic material and characterised by large mountains with frequent earthquakes, the Commission recognized it to be an island that escapes Article 121(3).⁷⁶⁴ The Commission had directly addressed Article 121(3) and seemed to arrive at this conclusion based on different reasons compared to the ICJ in its 1993 judgment that had avoided dealing with the provision but had nevertheless also conferred upon *Jan Mayen* some effect that entitles it to a CS and EEZ in maritime delimitation. There was however no elaboration by the Commission on how it had arrived to the finding that *Jan Mayen* is not an Article 121(3) rock although upon observation, this may be due to its reference to *Jan Mayen's* size of 373km², the existence of a meteorological station established on it in 1912 which has been permanently staffed

⁷⁶² *Ibid.*; text at *supra* n 759.

⁷⁶³ Maritime Delimitation and Territorial Questions between Qatar and Bahrain, Merits, Judgment, ICJ Reports 2001 ("*Qatar/Bahrain case*"), p. 40, para 185.

⁷⁶⁴ Conciliation Commission on the Continental Shelf Area Between Iceland and Jan Mayen: *Report and Recommendations to the Governments of Iceland and Norway*, Decision of June 1981, Reports of International Arbitral Awards, Vol. XXVII pp.1-34 ("*Conciliation Commission Decision*"), at pp. 9-11; Also accessible at 20 ILM (1981) p. 797, at pp. 802-804.

then, as well as other stations, installations, living quarters and an airport with about 30 to 40 people living on the island throughout the winter.⁷⁶⁵

If 'size' was to be disregarded, this opinion by the Commission seems to demonstrate that even volcanic maritime features could escape Article 121(3) if meteorological stations and their like are built on them. The Commission also appears to allow external support despite the term 'of their own' in the provision by concluding *Jan Mayen* to be an island that escapes Article 121(3) since human habitation on *Jan Mayen* seems to be for 'scientific' purposes with an airport which could be argued to be built for reasons of transportation to and from the island, and with working staff for the mainland State rather than people living there as actual residents of the maritime feature.

In **The "Volga" case**,⁷⁶⁶ Article 121(3) was briefly mentioned by Judge Vukas without going into further detail on the meaning of the elements in the aforesaid provision. He merely concluded that rocks in Article 121(3) should not be construed to imply to mean any specific geological features but should refer to the characteristics described, namely, "*cannot sustain human habitation or economic life of their own.*"⁷⁶⁷

Judge Vukas found that "*[t]here can be no 'coastal fishing communities' [on Heard Island and the McDonald Islands] as [t]here is no permanent habitation.*"⁷⁶⁸ An analysis of this conclusion by Judge Vukas illustrates that if fishermen from their mainland State were to occasionally fish near the coasts of a maritime feature belonging to that same State, such act would not be considered as constituting a coastal fishing community of that maritime feature since they do not permanently inhabit there. This can result in dismissing the relevance of the existence of coastal fishing communities merely because they do not permanently inhabit there. Hence, if the argument regarding 'human habitation' in Article 121(3) means that there has to be permanence in residence on a 'questionable' maritime feature, mere fishing around its coasts by fishing communities regardless of how frequent, may not assist in proving permanent habitation and may fail the Article 121(3) 'human habitation' test.

⁷⁶⁵ *Ibid.*, pp. 802-803.

⁷⁶⁶ The "Volga" case, *supra* n 126.

⁷⁶⁷ *Ibid.* para 6. In making this statement, Judge Vukas referred to Kwiatkowska and Soons, *supra* n 74, p. 153.

⁷⁶⁸ *Ibid.*

Referring to the reasons for the establishment of the EEZ regime, Judge Vukas had highlighted that “*the special situation of countries whose coastal population depended ‘upon coastal fisheries for their livelihood or economic development in an area of high seas adjacent to the territorial sea of the coastal state...’*” resulted in Resolution VI adopted at the LOSC I.⁷⁶⁹ He pointed out that this resolution was a consequence of the fact that “[m]any coastal States have considered it just and equitable to secure for their coastal population some priority in the fisheries even ***beyond the outer limits of their territorial sea***”⁷⁷⁰ and that “*the protection of the economic interests of the coastal States, and in particular of ***their population in the coastal areas***, has been the ***essential factor in establishing this new régime*** at sea.*”⁷⁷¹ He believed that “*the establishment of [an EEZ] around rocks and other small islands serves no useful purpose and that it is contrary to international law.*”⁷⁷²

Judge Vukas’s beliefs clearly incline to the fact that before any maritime feature can be considered to generate an EEZ, this ‘right’ should first and foremost stem out of the necessity to protect the economic interests of the population in the coastal areas and thus, rocks or small islands without population should not have an EEZ.

Upon reflection of the aforesaid very few cases which mentioned Article 121(3), it is observed that the adjudicating bodies do not go into greater detail as to how to interpret the aforesaid provision. In fact, with the exception of the **South China Sea Arbitration**,⁷⁷³ and apart from the **Jan Mayen Conciliation Commission**, there is no other case at the current stage, that had clearly and directly decided whether a maritime feature is indeed caught by Article 121(3) or otherwise. The adjudicating bodies in other cases although had mentioned Article 121(3) had not taken a ‘clear’ and ‘direct’ stand on the legal status of a ‘questioned’ maritime feature in relation to the provision. The most that can be deciphered from their rulings are merely by implication, where ‘questioned’ maritime features that were disregarded in maritime delimitation such as Quitasueño, may possibly be implied to be caught by Article 121(3). Even the Commission when attributing Jan

⁷⁶⁹ *Ibid.*, para 3. Judge Vukas referred to Resolution VI, “*Special situations relating to coastal fisheries*”, First United Nations Conference on the Law of the Sea, Official Records, Vol. II (Doc. A/CONF.13/38), p. 144.

⁷⁷⁰ *Ibid.* (emphasis added)

⁷⁷¹ *Ibid.*, para 5 (emphasis added).

⁷⁷² *Ibid.*, para 10.

⁷⁷³ See Section 22.1.1 below.

Mayen with the full capacity of an island that escapes Article 121(3) had not clearly stated its reasons for doing so.

Having noted this, it is now be prudent to observe the findings of the Tribunal in the **South China Sea Arbitration** in relation to Article 121(3). Specific focus has been given to this particular dispute in view of it being the only case that had actually applied Article 121(3) together with reasons by the Tribunal in its application.

22.1.1 The 12 July 2016 Award on the South China Sea Arbitration: Article 121(3)

A. Introduction

The Award by the Tribunal in the South China Sea Arbitration was announced on 12 July 2016.⁷⁷⁴

In this regard, it may be said at the outset that there are certain aspects of the Tribunal's findings which are arguably questionable, requiring further clarification and justification as will be pointed out below. In addition, although it may seem that such findings may be referred to as a way forward in future Article 121(3) situations, the findings are quite generalized and a clear 'step-by-step' approach is still non-existent. It is via this thesis that this 'step-by step' approach is proposed to facilitate the way forward, the arguments of which will be seen in the next Section and in the following Chapters.

A discussion on the relevant parts of the Award may thus be seen in the next Section.

B. Findings by the Tribunal and discussion

Briefly, the arbitration concerns disputes between the Philippines and China regarding the legal basis of maritime rights and entitlements, the status of certain geographic features, and the lawfulness of certain actions by China, all of which are in the South China Sea.⁷⁷⁵ Both States are parties to UNCLOS which formed the basis of the aforesaid arbitration.⁷⁷⁶

⁷⁷⁴ South China Sea Arbitration Award, *supra* n 11.

⁷⁷⁵ *Ibid.*, paras 1-2.

⁷⁷⁶ *Ibid.*, para 4.

Pursuant to Articles 286 and 287, and Article 1 of Annex VII of UNCLOS, the Philippines initiated arbitration proceedings against China in 2013 seeking an Award for amongst other things, the determination of the status of certain maritime features claimed by both China and the Philippines in the South China Sea under Article 121 of UNCLOS and whether they are capable of generating an EEZ and a CS.⁷⁷⁷ China however rejected the arbitration via Note Verbale stating amongst other things that both parties 'had agreed to settle the dispute through bilateral negotiations and friendly consultations'.⁷⁷⁸ This eventually led to the necessity for the Tribunal to first hear on jurisdiction and admissibility of the dispute which finally took place in July 2015.⁷⁷⁹ The Tribunal delivered its Award on jurisdiction and admissibility, without addressing the merits of the Parties' dispute on 29 October 2015, finding amongst other things that the Tribunal has been properly constituted in accordance with UNCLOS, and that it has jurisdiction to consider the Philippines' Submissions.⁷⁸⁰ The hearing on the merits of the case took place on 24, 25, 26 and 30 November 2015 which was not open to the general public.⁷⁸¹ The Award on the hearing was delivered on 12 July 2016.⁷⁸²

Amongst the issues that were heard before the Tribunal included Article 121(3) matters. The Philippines sought amongst other things, determination that all of the high-tide features in the Spratly Islands are Article 121(3) rocks.⁷⁸³ The arbitration was however not concerning sovereignty over maritime features although notably, where the Spratly Islands are concerned, six States claim either all or part of the Spratly Islands or the maritime area within the same. China, Taiwan and Vietnam claim sovereignty and jurisdiction over all of the Spratly Islands whilst the claims of Malaysia and the Philippines are limited to parts of the Spratly Islands. Brunei claims only certain parts of the maritime area north of Borneo.⁷⁸⁴

⁷⁷⁷ *Ibid.*, para 28.

⁷⁷⁸ *Ibid.*, para 29.

⁷⁷⁹ *Ibid.*, paras. 30-53. The hearing on jurisdiction and admissibility was not open to the general public (para 69).

⁷⁸⁰ *Ibid.*, para 60. The full list of the Tribunal's findings concerning 'jurisdiction and admissibility' are detailed out in para 60.

⁷⁸¹ *Ibid.*, para 69.

⁷⁸² See text at *supra* n 774.

⁷⁸³ *Ibid.*, para 393.

⁷⁸⁴ See Chapter 1, texts from *supra* nn 143-145.

Indeed, if the matter were to be analysed as between China and the Philippines, their aforementioned claims would necessarily overlap between each other. In this respect, the Philippines' claim for all high tide features in the Spratly Islands to be Article 121(3) rocks⁷⁸⁵ can benefit the Philippines in some ways. For example, if indeed the Philippines' claim materializes into 'making' all the features as Article 121(3) rocks, and at a future date the sovereignty of any of the maritime features are determined to be China's, China would then not be able to claim that its maritime features are entitled to an EEZ and a CS which otherwise would overlap with the Philippines' currently claimed EEZ and CS in the said maritime area. This clearly shows the importance of Article 121(3) where the need arises.

Hence, indeed amongst the rulings and findings by the Tribunal in the Award were matters concerning Article 121(3) of UNCLOS. In arriving at its conclusion in the aforesaid dispute between the Philippines and China, the Tribunal had, where Article 121(3) is concerned, mainly addressed firstly, the text of Article 121(3); secondly, its context and the object and purpose of UNCLOS; and finally, the *travaux préparatoires* of the provision.⁷⁸⁶ The Tribunal had also referred to the relevance of State practice in the implementation of the provision.⁷⁸⁷

The discussions in this part of the thesis will thus address the considerations and conclusions put forward by the Tribunal. For ease of reference, the discussions will be highlighted according to the topics as underlined by the Tribunal.

(a) The text of Article 121(3)

With regard to the text of Article 121(3), the Tribunal had selected the words or phrases "Rocks", "cannot", "sustain", "human habitation", "or" and "economic life of their own" in order to decipher Article 121(3).

⁷⁸⁵ See text at *supra* n 783.

⁷⁸⁶ South China Sea Arbitration Award, *supra* n 11, paras 477-551.

⁷⁸⁷ *Ibid.*, paras 552-553.

(i) “Rocks”

The findings by the Tribunal in relation to this term are that there should not necessarily be any restriction in meaning from the use of the term ‘rock’ in Article 121(3) given that the dictionary does not confine it to a specific meaning so strictly.⁷⁸⁸ The Tribunal thus concluded that “*the term ‘rock’ does not require that a feature be composed of rock in the geologic sense in order to fall within the scope of the provision.*”⁷⁸⁹ The Tribunal also referred to the conclusion by the ICJ in the **Nicaragua/Colombia case** understanding that the ICJ had held Quitasueño to be a rock under Article 121(3)⁷⁹⁰ thus reflecting the Tribunal’s view in its current Award that ‘rock’ can include any such composition and in whatever size, including ‘minuscule’ coral protrusions such as Quitasueño.⁷⁹¹

The crucial point that needs to be highlighted is that, confining the meaning of an Article 121(3) ‘rock’ to more specific geological criteria apart from merely maintaining it generally to that of an island that is naturally formed and above high tide under Article 121(1), would be absurd and cannot be the intent of Article 121(3).⁷⁹²

On this note, this thesis argues that the strict interpretation that confines ‘rock’ to specific geological criteria may render those outside such criteria automatically able to generate an EEZ and a continental shelf even if the actuality is such that these other features are found to be truly incapable of sustaining human habitation or economic life of their own.⁷⁹³ Indeed, there may be reasons for the usage of the term ‘rock’ by the drafters despite the fact that confining its meaning within a specific description may lead to an inequitable and unfair result of the maritime feature’s entitlement.⁷⁹⁴ It may have been in the mind of the drafters that the visual outlook of rocks would normally indicate the lack

⁷⁸⁸ *Ibid.*, para 480.

⁷⁸⁹ *Ibid.*, para 504.

⁷⁹⁰ *Ibid.*, para 480 – referring to the *Territorial and Maritime Dispute (Nicaragua v. Colombia)*, *Merits Judgment*, *ICJ Reports 2012*, p. 624 at p. 645, para. 37. It may nevertheless be noted that the ICJ in the case did not actually state that Quitasueño is indeed an Article 121(3) rock, and that this categorization by the Tribunal in the **South China Sea Arbitration** appears to be an assumption by the Tribunal that arrived at this conclusion from the statement it quoted from the case in the aforesaid paragraph, namely -

“International law defines an island by reference to whether it is “naturally formed” and whether it is above water at high tide, not by reference to its geological composition.”

⁷⁹¹ *Ibid.*, para 480.

⁷⁹² Chapter 10 at Section 35.1; see also *Ibid.*, para 481.

⁷⁹³ Chapter 10 at Section 35.1.

⁷⁹⁴ *Ibid.*

of those basic needs at the outset and hence focus was probably on those that look like such typical ‘rocks’ which lack these basics, neglecting to consider further that there may be other maritime features beyond such typical visualization that could equally fail to sustain human habitation or economic life of their own. This leads to the possible reason on why the drafters had chosen the confining term ‘rock’ despite the fact that the term ‘island’ would be the more appropriate terminology since an Article 121(3) maritime feature must still be an island under Article 121(1). In this respect, it will be seen in the findings in **Chapter 9** that environmental science had indeed proven that the survival of humans require those basic needs which are fresh water, food and shelter.⁷⁹⁵ This visual outlook of such maritime features may be the reason that led to the drafters settling on the term ‘rock’ without carefully considering the implications of such usage.

However, the Tribunal did not elaborate on the possible intent of the drafters when the latter opted for the term ‘rock’ instead of simply ‘island’. Such information as explained in the preceding paragraph is regarded as important as it had assisted in arriving at the current conclusion that an Article 121(3) rock should not be confined to the strict geological sense. In this regard, given that the intent by the drafters has not been found clearly stated till today, the best reliance would be their possible intent as discussed above. This possible intent assists in showing that the conclusion that ‘rock’ should not be confined to its strict geological sense does not go against the true intention of Article 121(3). This is so, since it is highly likely that the term ‘rock’ was used due to its visual outlook merely as a fast way forward to identify whether ‘likely’ features would most probably be unable to fulfil the criteria in Article 121(3). Indeed the drafters could not have meant for other ‘unlikely’ features to automatically escape the Article 121(3) test.

(ii) *“cannot”*

The Tribunal next addressed the term “cannot” in the provision with the finding that the term indicates a concept of capacity, and is thus concerned with whether the feature is ‘apt, able to, or lends itself to human habitation or economic life.’⁷⁹⁶ The Tribunal elaborated that ‘the fact that a feature is currently not inhabited does not prove that it is

⁷⁹⁵ Chapter 9, Section 29 and Section 30.

⁷⁹⁶ South China Sea Arbitration Award, *supra* n 11, para 483.

uninhabitable' and that '[t]he fact that it has no economic life does not prove that it cannot sustain an economic life.'⁷⁹⁷ It concluded that the "*term 'cannot' makes clear that the provision concerns the objective capacity of the feature to sustain human habitation or economic life. Actual habitation or economic activity at any particular point in time is not relevant, except to the extent that it indicates the capacity of the feature.*"⁷⁹⁸

Whilst the Tribunal's aforesaid ruling appears reasonably logical,⁷⁹⁹ it should be pointed out that it finds the historical evidence of human habitation and economic life in the past relevant for establishing a feature's capacity.⁸⁰⁰ Although the Tribunal may have stated that historical evidence 'may' be relevant, its continuing statements and application of the Article 121(3) on maritime features suggest otherwise, clearly showing the Tribunal's heavy reliance on such evidence just before concluding on a maritime feature's status vis-à-vis Article 121(3). The Tribunal seems to stress the importance of historical evidence concluding that '*[i]f a known feature proximate to a populated land mass was never inhabited and never sustained an economic life, this may be consistent with an explanation that it is uninhabitable' and that 'positive evidence that humans historically lived on a feature or that the feature was the site of economic activity could constitute relevant evidence of a feature's capacity.'*⁸⁰¹

It is nevertheless argued that although this conclusion or reliance on historical evidence by the Tribunal may to a certain extent be helpful, it is not conclusive and should not be the deciding factor since past evidence may not necessarily mean that a maritime feature will continue to be as it was. In fact, it is risky to put too much stress on historical evidence without other supporting evidence since what was, may not necessarily be or will be in the future.⁸⁰² It will be seen in **Chapter 10** that there are challenges that are clearly being faced today particularly climate change which among other things can affect sea level rise and consequentially have an impact on questionable maritime features which may deem them unsuitable for human habitation or economic life under Article

⁷⁹⁷ *Ibid.*

⁷⁹⁸ *Ibid.*, para 504.

⁷⁹⁹ See Chapter 10, Section 35.2, texts after n 1345 of Chapter 10 where relevant. The Tribunal's findings are clearly in line with the findings established in Chapter 10.

⁸⁰⁰ South China Sea Arbitration Award, *supra* n 11, para 484.

⁸⁰¹ *Ibid.*

⁸⁰² See full arguments in Chapter 10, Section 35.2, relevant texts before and after n 1347.

121(3).⁸⁰³ It will be observed therein that, environmental science shows that ‘islands are less able to absorb environmental impact than larger areas.’⁸⁰⁴

Hence, it is argued that the Tribunal should not have put too much emphasis on historical evidence as is seen in its aforementioned ruling including its persistent usage of this factor in almost all its evaluation on the maritime features when deciding whether these features would be caught by Article 121(3) or otherwise.⁸⁰⁵ Apparently, the Tribunal relied heavily on historical evidence on all issues discussed when determining the status of the Spratly Islands under Article 121(3), selecting certain features in its evaluation and goes on to “automatically” apply the same finding for the rest of the features.⁸⁰⁶

Indeed, it is noted that this move by the Tribunal was due to the fact that it found these features to ‘fall close to the line in terms of their capacity to sustain human habitation’ pointing out that they are not barren rocks or sand cays but yet devoid of fresh water, and hence the necessity to look at historical evidence.⁸⁰⁷ It is nevertheless argued that although relying on historical evidence may to a certain extent be helpful, there is a risk in making this factor as ‘*the*’ factor that ultimately concludes the maritime feature’s capacity. It is observed that the process which the Tribunal seemed to have followed was that the last factor it looked at before deciding whether a feature is caught by Article 121(3) or otherwise was historical evidence. Rather, the more appropriate method should have been to evaluate in greater depth the environmental science aspects to ascertain whether these features would truly survive Article 121(3) or otherwise, particularly given the inevitable existence of the climate change challenges faced as aforementioned, and even more importantly, due to the possibility of a vast difference in maritime zones that a maritime feature may generate depending on the results of this environmental science evaluation.

Accordingly, although it is indeed agreed that the term ‘cannot’ clearly indicates capability as will be seen argued in **Chapter 10**, the subsequent heavy reliance by the Tribunal on historical evidence calls for careful consideration. In fact, given the Tribunal’s aforementioned opening ruling that ‘*the fact that a feature is currently not inhabited does*

⁸⁰³ *Ibid.*

⁸⁰⁴ *Ibid.*

⁸⁰⁵ South China Sea Arbitration Award, *supra* n 11, paras 578-626.

⁸⁰⁶ *Ibid.*

⁸⁰⁷ *Ibid.*, para 616.

not prove that it is uninhabitable' and that '[t]he fact that it has no economic life does not prove that it cannot sustain an economic life',⁸⁰⁸ the Tribunal's consequent reliance on historical evidence appears contradictory to its own finding.

In this regard, it will be seen that **Chapter 10** establishes the fact that the capability or ability of the island to support and provide for humans must have the necessary basic needs in place, which may be evaluated. This ability must also still exist without external assistance, a crucial factor that is elaborated below at Section 22.1.1(B)(a)(vi) .

(iii) *"sustain"*

Basically, the Tribunal finds that the term 'sustain' involves both time and qualitative elements in which '[h]abitation and economic life must be able to extend over a certain duration and occur to an adequate standard.'⁸⁰⁹ The Tribunal arrived at this conclusion from finding the ordinary meaning of "sustain" to comprise the meaning "support, maintain, uphold."⁸¹⁰ It further explained that "sustain" comprises three components, which are the concept of "support and provision of essentials"; a temporal concept in which "the support and provision must be over a period of time and not one-off or short-lived;" and finally, a qualitative concept "entailing at least a minimal 'proper standard'" for the final component.⁸¹¹ The Tribunal concluded that "sustaining human habitation" therefore means "*to provide that which is necessary to keep humans alive and healthy over a continuous period of time, according to a proper standard*" whilst in relation to economic life, it means "*to provide that which is necessary not just to commence, but also to continue, an activity over a period of time in a way that remains viable on an ongoing basis.*"⁸¹²

As discussed in **Chapter 10**,⁸¹³ it is indeed agreed that the necessary requirement of "support" and "continuity" to be part of the meaning of "sustain."⁸¹⁴ Therein, also basing it on the ordinary meaning and the definitions by dictionaries which include both the

⁸⁰⁸ Text at *supra* n 797.

⁸⁰⁹ South China Sea Arbitration Award, *supra* n 11, para 504.

⁸¹⁰ *Ibid.*, para 487.

⁸¹¹ *Ibid.*

⁸¹² *Ibid.*

⁸¹³ Chapter 10, Section 35.4.

⁸¹⁴ *Ibid.*

Oxford Dictionary and Webster's Dictionary, the choice of these two elements is similar to the components arrived at by the Tribunal.⁸¹⁵

On this note, whilst "support" is the same choice of word concluded to be one of the components by the Tribunal, "continuity" in relation to the human habitation criteria under Article 121(3) is argued to clearly include a more permanent time factor as opposed to temporary support that could defeat the object and purpose of Article 121(3), and this endorses the fact that a temporary measure for human survival is insufficient since States can abuse this element, acting in bad faith, if this "continuity" element is not highlighted as essential.⁸¹⁶

It is also noted that the Tribunal finds necessary to include the requirement of a minimal proper standard for such support for human habitation. Indeed as will be seen in the discussion of the "human habitation" element in **Chapter 10**,⁸¹⁷ it has been much emphasized that the criteria that make up human habitation would have to include a minimum standard that environmental science can assist in determining. This is an important factor as discussed under Section 35.2 of **Chapter 10**. However, it will be seen argued in **Chapter 10** that simple dictionary terms should first be referred to by virtue of Article 31(1) of the VCLT which simply mentioned the need to identify the ordinary meaning of the term if the meaning intended by parties when formulating the provision is lacking, as is the case already discussed in **Chapter 2**.⁸¹⁸

The same applies to the economic life criterion. When evaluating the economic life element, it was found that the phrase includes some permanency or continuity.⁸¹⁹ However, it is observed that the Tribunal did not consider the terminology "economic life" used in Article 17 of Annex III of UNCLOS. It is argued that reference to this can greatly assist to find the meaning of sustain since this provision is part of UNCLOS which involves the same parties to Article 121(3). In this regard, the terminology "economic life" used in Article 17 of Annex III of UNCLOS clearly indicates the necessity of the "continuity"

⁸¹⁵ *Ibid.*

⁸¹⁶ *Ibid.*

⁸¹⁷ Chapter 10, Section 35.2.

⁸¹⁸ Chapter 2, Section 5.4.

⁸¹⁹ See discussions under the headings "sustain" and "economic life" at Chapter 10, Sections 35.4 and 35.3 respectively.

factor even from the mere usage of the words “depletion of ore”.⁸²⁰ The very fact that “depletion” was used by UNCLOS to be taken as one of the factors necessary for consideration highlights the fact that some permanency or continuity is necessary. As such, where continuity is concerned, reference to Article 17 of Annex III of UNCLOS, which the Tribunal has failed to refer to, supports the findings in this thesis. In addition, the very usage of the terms “commercial viability” as another factor to be taken into account under Article 17 of Annex III of UNCLOS clearly reflects the fact that some standard is required as opposed to merely having the existence of resources at the maritime feature.⁸²¹

In short, the findings discussed in **Chapter 10** where the term “sustain” is in consideration are also supported by the arguments that referred to Article 17 of Annex III of UNCLOS. The Tribunal’s findings could have been strengthened if it had also made reference to the aforesaid provision.

(iv) “*human habitation*”

Briefly, the Tribunal’s view on the meaning of the phrase “human habitation” includes, ‘notions of settlement and residence’; ‘a non-transient presence of persons who have chosen to stay and reside on the feature in a settled manner’; ‘conditions sufficiently conducive to human life and livelihood for people to inhabit, rather than merely survive on, the feature’; and the maritime feature to have a minimum ability to ‘support, maintain, and provide food, drink, and shelter to some humans to enable them to reside there permanently or habitually over an extended period of time.’⁸²² All these findings are agreed to be logically acceptable as will be seen argued in **Chapter 10**.⁸²³ Despite this, the Tribunal neglected to elaborate on what constitutes these elements. There is no explanation as to what is understood by food, water and shelter as will be seen elaborated in **Chapter 9** and argued in **Chapter 10**.

⁸²⁰ See discussions at Chapter 10, Section 35.3 and Section 35.4. Basically, Article 17 of Annex III of UNCLOS amongst other things include, the duration of operations in which the exploitation in an identified area “*should be related to the **economic life** of the mining project, taking into consideration such factors as the **depletion of the ore**, the useful life of mining equipment and processing facilities and **commercial viability** (emphasis added)*”.

⁸²¹ *Ibid.*

⁸²² South China Sea Arbitration Award, *supra* n 11, para 489-490.

⁸²³ See discussions at Chapter 10, Section 35.2.

In addition, it may be noted that the Tribunal finds that a minimum number of humans needs to be involved or be in existence before it may be deduced that the maritime feature has passed the human habitation test. In this regard, although the Tribunal added that the 'mere presence of a small number of persons on a feature does not constitute permanent or habitual residence... and does not equate to habitation,'⁸²⁴ it finds that 'habitation' generally implies 'the habitation of the feature by a group or community of persons' in which 'providing the basic necessities for a sole individual would not typically fall within the ordinary understanding of human habitation' since 'humans need company and community over sustained periods of time.'⁸²⁵ This clearly means that the Tribunal requires more than merely the presence of a sole individual that has those basic necessities for an indefinite time⁸²⁶ before the human habitation test may be satisfied.

Regardless, the Tribunal acknowledges that Article 121(3) has no direct indication of 'the threshold that would separate settled human habitation from the mere presence of humans'; as well as no explanation on the required physical characteristics of the questioned maritime feature 'to sustain the more settled mode of human habitation, rather than merely ensuring human survival.'⁸²⁷ This is indeed the point that must be highlighted and will be seen to be continuously emphasized throughout this thesis, particularly since Article 121(3) is left open to various interpretations.

Nevertheless, in addressing the Tribunal's finding that the maritime feature would typically require more than an individual since humans need company and community over a period of time, may have its logical reasoning. However, to point out that this should be one of the elements that must exist to ensure that the human habitation test is satisfied, might be confining the human habitation criterion too strictly. On this note, it is more prudent not to restrict or fix any number of humans, including to dismiss the presence of only a sole individual as failing to meet the human habitation test, since there is still the possibility of a human being able to live on his own through periods of time and thus, the possibility of passing the test. In this regard, it is best to leave it open to be determined by environmental science on a case by case basis.

⁸²⁴ South China Sea Arbitration Award, *supra* n 11, para 489.

⁸²⁵ *Ibid.*, paras 491, 542.

⁸²⁶ *Ibid.*, para 492.

⁸²⁷ *Ibid.*

An analogy may be where a small maritime feature may have in abundance all the basic necessities for human survival that can last quite permanently given the very minimal utilization of one single human. It may also be that certain individuals, alone or at most two, - which if looking at the conclusion by the Tribunal may still be insufficient to be considered as a stable group since two may not make a group - desire to live alone together on a private secluded island that has in abundance these necessities. Hence, it is arguably inaccurate to dismiss an island that could perhaps sustain these two individuals for prolonged durations of time as an island that fails the human habitation test. In short, it is more prudent to leave the number of human beings out of the equation and let environmental science achieve the more accurate results. Furthermore, it is the capacity and not the actual current condition of an island that is in consideration.

Apart from this, it is observed that the Tribunal has decided to interpret the phrase “human habitation” without attaching the phrase “of their own” to it as in the case of interpreting “economic life” as reflected in Section 22.1.1(B)(a)(vi) below. There is also no explanation in its discussion under this heading to clarify the reason for this. Neither was there any direct mentioning that the sustaining of such human habitation would have to be independent of outside assistance. It is nevertheless noted that the Tribunal concluded that *‘the status of a feature is to be determined on the basis of its natural capacity, without external additions or modifications intended to increase its capacity to sustain human habitation or an economic life of its own’*⁸²⁸ hence implying that ‘of their own’ should also be attached to the human habitation criteria, although there was no explanation as to why it would attach the phrase “of their own” to “economic life” whilst not to “human habitation”.⁸²⁹

Certainly, in defence of the Tribunal, it may be argued that attaching the phrase “of their own” to the phrase “human habitation”, and appearing as the phrase “human habitation of their own” may not appear to make sense, and hence such combination of phrases should not be done. However, to interpret the phrase “human habitation” without attaching the phrase “of their own” to it, whilst at the same time attaching the phrase “of their own” to the phrase “economic life” may be misconstrued. In this regard, the Tribunal’s view may be misinterpreted in that more weight should be given to the

⁸²⁸ *Ibid.*, para 541.

⁸²⁹ See Section 22.1.1(B)(a)(vi).

economic life element as opposed to the human habitation element where the phrase “of their own” is concerned; unless this is indeed what the Tribunal meant, which arguably cannot be the case due to its aforementioned conclusion.⁸³⁰ In this regard, the purposeful act by the Tribunal to attach the phrase “of their own” to “economic life” phrase and not to the “human habitation” phrase may also imply that it does not consider human habitation in the light of being independent from external aid or sources in the way it considers for the economic life criterion, thus appearing to contradict its own views.

Hence, whilst it may be possible to read the text of Article 121(3) in the selected phrases that the Tribunal has identified, to avoid confusion, it is perhaps more sensible to separate the “human habitation” and “economic life” phrases from the phrase “of their own” for heading purposes, to enable a clearer understanding of the Tribunal’s views, as has been done in **Chapter 10**.⁸³¹

In this regard, the analysis of the texts in Article 121(3) should be without attaching “of their own” to either the “human habitation” phrase or the “economic element” phrase, and should have a specific heading to discuss particularly the phrase “of their own”.⁸³² Therein, the arguments have clearly indicated that the understanding “of their own” must necessarily apply to both the human habitation criterion and the economic life criterion. It is argued that this should be the proper way to look at the texts in Article 121(3) since it must be made clear that the understanding of “of their own” is equally applicable to both the criteria. The danger of leaving this analogy for the human habitation test vague may cause misinterpretations all over again when Article 121(3) is clearly argued to ensure that there is no abuse of the provision and that the human habitation test also has to be evaluated in the light of the maritime feature’s independence. Detaching the “of their own” element from the human habitation element whilst at the same time, attaching it to the economic life element may possibly result in States arguing that external aid is allowed for the human habitation test, or at least lesser weight on the need for independence, as opposed to the economic life test.

Furthermore, if indeed the Tribunal did not intend to attach the “of their own” phrase to the human habitation criterion, justice may not be done since in today’s era, with the

⁸³⁰ See text at *supra* n 828.

⁸³¹ See discussions in Chapter 10, Section 35.5.

⁸³² *Ibid.*

proper technology, anything is possible and thus, Article 121(3) may be defeated at any time due to this lacking in the human habitation test.

It may also be noted that the Tribunal considers a qualitative aspect apparent, to be applied to the human habitation threshold, although there is little guidance from the text of Article 121(3) as to where to draw this line.⁸³³ In this respect, as will be seen discussed in the following Chapters, particularly **Chapters 8 and 9**, environmental science does indeed play an important role in arriving at some very useful conclusions on this matter and it may be pointed out that this method of determination cannot be disregarded to add to the understanding of the text after having taken into consideration all aspects to decipher its meaning via Article 31 of the VCLT. This is particularly so because the very basic relevant evidence from environmental science cannot be refuted to ensure that even the minimal level is required to pass the Article 121(3) test.

(v) “or”

The Tribunal agrees with the Philippines on the importance of logic to be applied to the reading of Article 121(3) when reading the conjunction “or”.⁸³⁴ The Tribunal however finds that formal logic would require that a feature fails both criteria to disentitle it to an EEZ and a continental shelf due to a cumulative requirement created by the text, finding that the ‘negative overall structure of the sentence means that the cumulative criteria describe the circumstances in which a feature will be denied such maritime zones’ and thus, the logical result would be that ‘if a feature is capable of sustaining either human habitation or an economic life of its own, it will qualify as a fully entitled island.’⁸³⁵

However, the Tribunal finds that formal logic may lead to imperfection and is therefore hesitant to rely on this alone, consequently finding that although the provision may actually seem to mean that “[r]ocks which cannot sustain human habitation or [which cannot sustain] economic life of their own” “shall have no exclusive economic zone or continental shelf”, this remainder of the paragraph of the provision as reflected in the

⁸³³ South China Sea Arbitration Award, *supra* n 11, paras. 505, 512.

⁸³⁴ *Ibid.*, para 494.

⁸³⁵ *Ibid.*

aforesaid latter phrase namely “*shall have no exclusive economic zone or continental shelf*”, forecloses the possibility of this meaning.⁸³⁶

Basically, the Tribunal finds that the remainder paragraph in the provision that states “*shall have no exclusive economic zone or continental shelf*” applies to both the EEZ and continental shelf despite the fact that the conjunction “or” is being used as it will be manifestly absurd and contrary to the clear intent of the provision if only one is allowed to be generated by a rock that satisfies the test.⁸³⁷ Hence, the fact that in the same sentence this conjunction “or” is understood to mean both the EEZ and the continental shelf, the other limb of the sentence “*...cannot sustain human habitation or economic life of their own*” should also mean to include both human habitation and economic life of their own, despite the conjunction “or”. It finds that to understand it otherwise could not have been the intention of the drafters in the same parallel structure of a single sentence.⁸³⁸

However, the Tribunal finds that ‘economic activity is carried out by humans and that humans will rarely inhabit areas where no economic activity or livelihood is possible’ thus clearly linking the two together regardless of the grammatical construction,⁸³⁹ and finding that “economic life of their own” is linked to the requirement of “human habitation” in most instances.⁸⁴⁰ Nevertheless, the Tribunal also acknowledged the possibility that a feature may still be able to sustain human habitation without any resources to support an economic life and vice versa; and hence, the text in Article 121(3) remains open to this possibility.⁸⁴¹ This exception may be applied in cases where there is a network of related maritime features, namely that ‘a population whose livelihood and economic life extends across a constellation of maritime features is not disabled from recognising that such features possess an economic life of their own merely because not all of the features are directly inhabited.’⁸⁴²

⁸³⁶ *Ibid.*, para 495.

⁸³⁷ *Ibid.*

⁸³⁸ *Ibid.*, para 496.

⁸³⁹ *Ibid.*

⁸⁴⁰ *Ibid.*, para 543.

⁸⁴¹ *Ibid.*, para 497.

⁸⁴² *Ibid.*, para 544.

The Tribunal concluded that “*the logical interpretation of the use of the term ‘or’... indicates that a feature that is able to sustain either human habitation or an economic life of its own will be entitled to an exclusive economic zone and continental shelf.*”⁸⁴³

It is thus observed that the consequences of the above understanding brought the Tribunal to ultimately conclude Article 121(3) to be read disjunctively wherein either one of the criteria ‘human habitation’ or ‘economic life of their own’ may be satisfied for a feature to escape being a rock that does not generate an EEZ and CS; whilst to result in being a rock of Article 121(3) requires both the aforesaid criteria not to exist on the questionable feature.⁸⁴⁴

This entire analogy by the Tribunal does indeed make sense although its conclusion is not particularly decisive in that it still acknowledges the possibility of a feature being able to satisfy either of the tests despite its earlier argument that they are linked to one another.⁸⁴⁵ In addition, the reasoning provided by the Tribunal is also largely based on logic without any added explanation that could further support its findings.

The ultimate conclusion by the Tribunal is that the conjunction “or” should be read disjunctively as will be seen discussed in **Chapter 10**.⁸⁴⁶ The arguments in **Chapter 10** nevertheless also pointed out the legislative history of the text that could add information on the intention of the drafters of Article 121(3). This was not referred to by the Tribunal despite that it could play an important role to assist in arriving at a more justifiable finding. In this regard, all relevant aspects must be taken into consideration where possible, before concluding on the matter. In this respect, there was this purposeful act by States during the discussions to replace the conjunction “and” with “or” as clearly reflected in the *travaux préparatoires*⁸⁴⁷ hence reflecting that the conjunction was meant to be in the alternative, with the implication that only one requirement needs to be satisfied; although of course if this alternative is read in the context of the Tribunal as “double negative”⁸⁴⁸ the result may be different. However, it may be highlighted as will be seen discussed and established in **Chapter 10**, that due to the application of Article

⁸⁴³ *Ibid.*, para 504.

⁸⁴⁴ *Ibid.*, para 544.

⁸⁴⁵ see texts at *supra* nn 839 to 842.

⁸⁴⁶ Chapter 10, Section 35.6.

⁸⁴⁷ Chapter 3, Section 14.1(d), text at *supra* n 389; see also Chapter 10, Section 35.6, text at *infra* n 1392.

⁸⁴⁸ Text at *supra* n 835.

31(1) of the VCLT, the ordinary meaning of “or” in the dictionary points towards the conjunction “or” to be read in the alternative.

In summary, clearly the reasoning forwarded by the Tribunal coupled with the aforesaid findings as will be seen elaborated in **Chapter 10** only strengthens the conclusion that the conjunction “or” should be read in the alternative and consequentially, only one criterion need to be satisfied for a maritime feature to be entitled to an EEZ and a CS. The Tribunal’s findings would nevertheless have been strengthened if it had also made reference to the *travaux préparatoires* to further support its findings. This is so since the *travaux préparatoires* to a certain extent assists in identifying the intention of parties as required by Article 31(1) of the VCLT.

(vi) “*economic life of their own*”

As aforementioned, whilst it is clear that the Tribunal attaches the phrase “of their own” to “economic life,” the same is not being done for the “human habitation” criterion.⁸⁴⁹ The latter phrase is clearly not attached to the “human habitation” criterion, although impliedly, it may be argued that the Tribunal does consider the human habitation criterion to require a feature to be based on its natural capacity without external additions or modifications⁸⁵⁰ hence implying that the criterion still requires the “of their own” requirement to be satisfied although not expressly emphasized.

Nevertheless, for the ‘economic life’ criterion, it is observed that the Tribunal relied on the ordinary meaning of the word ‘economic’ and ‘life’ which provided for the former to be related to “*the development and regulation of the material resources of a community’ and may relate to a process or system by which goods and services are produced, sold and bought, or exchanged*”; whilst the latter word means that “*the mere presence of resources will be insufficient and that some level of local human activity to exploit, develop, and distribute those resources would be required.*”⁸⁵¹ Linking the requirement of

⁸⁴⁹ See Section 22.1.1(B)(a)(iv).

⁸⁵⁰ South China Sea Arbitration Award, *supra* n 11, para 541.

⁸⁵¹ *Ibid.*, para 499.

‘sustain’ in Article 121(3) to this criterion, the Tribunal added that ‘a one-off transaction or short-lived venture would not constitute a sustained economic life.’⁸⁵²

Understandably, the Tribunal was of the view that economic life that comes from the EEZ or CS must be excluded. However, with regard to the territorial sea, the Tribunal finds necessary that the economic life criterion be linked to the feature itself and not merely the territorial sea.⁸⁵³ In this regard, the use of the territorial sea without the use of the feature itself would not suffice such as in the case of distant fishermen, as well as in the case of extracting mineral resources from the adjacent seabed without making use of the feature itself.⁸⁵⁴

Whilst the Tribunal’s view concerning the meaning of the phrase “economic life” acceptable,⁸⁵⁵ its emphasis that the economic life criterion be attached together with the phrase ‘of their own’ appears to downplay the phrase’s importance on the human habitation element.⁸⁵⁶ Clearly, the arguments concerning “economic life” should have been done independent from the phrase “of their own” as in the case of “human habitation” to make it clear that similar weight of the requirement “of their own” is being given to both the aforesaid criteria. In this regard, the phrase “of their own” should be dealt on its own with the intention that the meaning of this phrase is to be understood to be equally applicable to both the criteria despite the fact that the grammatical construction of Article 121(3) appears to attach the phrase immediately after the phrase “economic life”. Equal importance of the impact of the phrase “of their own” must be given to both the criteria due to the undeniable fact that the human habitation criterion must be looked at in the light of its own independence rather than requiring lesser significance from the “of their own” effect. Indeed, it would defeat the object and purpose of Article 121(3) if the human habitation criterion does not really have to be independent from outside assistance since it may be reiterated that to allow this, means to make any maritime feature able to pass the “human habitation” test and thus defeat the purpose of Article 121(3). On this note, although the Tribunal did conclude that the human habitation element does need to be based on its natural capacity without outside

⁸⁵² *Ibid.*

⁸⁵³ *Ibid.*, paras 502-503.

⁸⁵⁴ *Ibid.*, para 503.

⁸⁵⁵ Chapter 10, Section 35.3.

⁸⁵⁶ South China Sea Arbitration Award, *supra* n 11, paras 499-500.

assistance,⁸⁵⁷ there was no clear and specific discussion by the Tribunal on the matter that led to this conclusion for the human habitation criterion.⁸⁵⁸

It may also be pointed out that the Tribunal did not make reference to Article 17 of Annex III of UNCLOS that utilizes the phrase 'economic life'. It is reiterated that some significance should be placed on how this phrase was used in the aforesaid Article 17 since parties to Article 121(3) are the same as those for Article 17 of Annex III of the same legal document, i.e. UNCLOS. Hence, the elaboration under Article 17 of Annex III of UNCLOS should play some role concerning the meaning of economic life. In this regard, Article 17 of Annex III of UNCLOS clearly reflects the meaning of economic life in relation to 'mining project' to include factors such as 'commercial viability', and the continuity factor that arises from the use of 'depletion of ores' should also be a factor for consideration for the economic life element.⁸⁵⁹

(b) The context of maritime features under Article 121(3): Natural condition vs artificiality

The Tribunal in its argument that Article 121(3) should also be read in conjunction with the other paragraphs of Article 121 and also Article 13 of UNCLOS concluded that the status of a feature for purposes of Article 121(3) must be assessed on the basis of its natural condition; consequentially, any artificial addition should not be allowed for purposes of evaluating a maritime feature's ability to sustain human habitation or economic life of its own.⁸⁶⁰

The Tribunal's evaluation concerning the context of Article 121(3) was intended to highlight that both Articles 121 and 13 of UNCLOS require such maritime features to be naturally formed before they can be categorised as either islands or low tide elevations respectively. Hence, rocks under Article 121(3), which clearly comes under Article 121, would have to also be naturally formed.

⁸⁵⁷ Text at *supra* n 850.

⁸⁵⁸ South China Sea Arbitration Award, *supra* n 11, paras 488-492.

⁸⁵⁹ See Chapter 10, Section 35.3.

⁸⁶⁰ South China Sea Arbitration Award, *supra* n 11, paras 507-510.

This view by the Tribunal is indeed agreeable as will be seen discussed in **Chapter 10**. In this regard, an Article 121(3) rock is indeed an island under Article 121 of UNCLOS and thus, it must conform to the criteria of an island which include being naturally formed.⁸⁶¹ It must be noted that what differentiates a 'rock' island from other islands is clearly as stated in Article 121(3) itself, which is the crux of the matter discussed in this entire thesis.

(c) The link between Article 121(3) and the purpose of the EEZ

The Tribunal basically finds that Article 121(3) is shaped by its context within UNCLOS and its inherent connection with the EEZ⁸⁶² due to the history of UNCLOS which shows that the purpose of the EEZ was *"to extend the jurisdiction of States over the waters adjacent to their coasts and to preserve the resources of those waters for the benefit of the population of the coastal State."*⁸⁶³ Consequentially, Article 121(3) serves to limit such expansion from going too far.⁸⁶⁴ The Tribunal thus finds that -

*"this is best accomplished by recognising the connection between the criteria of 'human habitation' and the population of the coastal State for the benefit of whom the resources of the exclusive economic zone were to be preserved. This is not to suggest that the purpose of endowing an inhabited island with an exclusive economic zone would be narrowly intended to preserve the resources of the zone for the population of that island. Rather, it is that **without human habitation (or an economic life), the link between a maritime feature and the people of the coastal State becomes increasingly slight** (emphasis added)."*⁸⁶⁵

In addition -

*"the Tribunal considers that the human habitation with which the drafters of Article 121(3) were concerned was the habitation by **a portion of the population for whose benefit the exclusive economic zone was being introduced**. Taken together with notions of settlement and residence and the qualitative aspect inherent in the term habitation, it should be understood to refer to the habitation*

⁸⁶¹ Chapter 10, texts at *infra* n 1310 and relevant texts thereafter; see also Chapter 12, Section 42 at heading "Evaluation Steps: Step 1"; see also Chapter 1, Section 2.1.

⁸⁶² South China Sea Arbitration Award, *supra* n 11, para 512.

⁸⁶³ *Ibid.*, paras 513. The Tribunal referred to various regional declarations made prior to LOSC III (para 514), coastal developing States' positions in the Seabed Committee negotiations and LOSC III (para 515).

⁸⁶⁴ *Ibid.*, para 516.

⁸⁶⁵ *Ibid.*, para 517.

*of a feature by a settled group or community for whom the feature is a home (emphasis added)."*⁸⁶⁶

Reference may be made to **Chapter 10** on the discussion concerning the link between Article 121(3) and the EEZ.⁸⁶⁷ What may nevertheless be highlighted from the Tribunal's discussion from this subject matter is the fact that the Tribunal arrived at the conclusion that human habitation means 'a settled group or community' due to its understanding that the drafters intended that the habitation be by '*a portion of the population for whose benefit the exclusive economic zone was being introduced.*'⁸⁶⁸

On this note, such reasoning that those who benefit should not be limited to the inhabitants of the island itself is indeed logical and acceptable,⁸⁶⁹ for indeed it would be absurd if a maritime feature is found to be able to generate an EEZ and a continental shelf - more so if to the maximum allowed by UNCLOS - is to be enjoyed by only the inhabitants that reside on the island itself, particularly so if the number of humans living on it is small. Indeed the coastal State that has sovereignty over the maritime feature should be able to enjoy whatever entitlement that has been endowed on a maritime feature that passes the Article 121(3) test.

Nevertheless, whilst it is agreeable that the benefit of the EEZ may not necessarily be enjoyed by merely the inhabitants of the maritime feature, it is reiterated that the number of humans that actually live on the island should not be an issue, although the 'possibility' of a permanent and actual settlement is necessary. In this regard, as earlier argued, such a test should be left to the environmental science evaluation as discussed in **Section 22.2.1(B)(a)(iv)** above, since there is still the possibility of one or two individuals surviving on an island permanently.

(d) The Travaux Préparatoires of Article 121(3)

The Tribunal had also briefly referred to the legislative history of the provision. The Tribunal acknowledges that the end result of Article 121(3) was a compromise amongst

⁸⁶⁶ *Ibid.*, para 520.

⁸⁶⁷ See discussions at Chapter 10, Section 36.1, relevant texts before and after *supra* n 1435; see also texts at *infra* n 1377; Chapter 5, Section 19.7, relevant texts after *supra* n 725.

⁸⁶⁸ South China Sea Arbitration Award, *supra* n 11, para 520.

⁸⁶⁹ See discussions at Chapter 10, Section 36.1 at texts after *infra* n 1435.

States.⁸⁷⁰ Amongst other things, it is this reasoning that the Tribunal finds the *travaux préparatoires* to be an imperfect guide to interpret the provision,⁸⁷¹ a finding agreed to as established in **Chapter 3**.⁸⁷²

The main conclusions by the Tribunal from its discussion concerning the legislative history of the provision, as was also stressed in the text of **Chapter 3** of the thesis, are that-

*“Article 121(3) is a **provision of limitation**. It imposes **two conditions that can disqualify high-tide features from generating vast maritime spaces**. These conditions were introduced with the object and purpose of preventing encroachment on the international seabed reserved for the **common heritage of mankind** and of **avoiding the inequitable distribution** of maritime spaces under national jurisdiction (emphasis added).”⁸⁷³*

Hence, the Tribunal also pointed out that the ‘negotiating history clearly demonstrates the difficulty in setting, in the abstract, bright-line rules for all cases.’⁸⁷⁴

It is at this juncture necessary to point out that although it is agreed that it may be difficult to set out clear-cut rules for the interpretation of Article 121(3), which is mainly due to the compromise by States in the final formulation of Article 121(3), it is nevertheless not impossible to lay down some basic rules that are irrefutable as a starting point; and this may be done by introducing environmental science as one of the key factors to fill in those gaps not able to be deciphered from the mere reading of the provision. Hence, it is not entirely accurate to assume the impossibility to formulate some basic rules. It may be pointed out that the Tribunal acknowledged that the absence of an abstract test has particular consequences for the Tribunal’s approach to evidence of conditions on, and the capacity of, the features in question.⁸⁷⁵

Indeed it is noted that the conclusions arrived at by the Tribunal in terms of some principal factors that can be identified when interpreting Article 121(3) include water, food and shelter. This will be seen discussed in **Chapter 9**.⁸⁷⁶ Nevertheless, the Tribunal did not explain further on what in fact “constitutes” water, food and shelter for Article

⁸⁷⁰ South China Sea Arbitration Award, *supra* n 11, paras 532-533, 537; see also Chapter 3.

⁸⁷¹ South China Sea Arbitration Award, *supra* n 11, para 534.

⁸⁷² Chapter 3, Section 14.2 at “Summary/preliminary conclusion”.

⁸⁷³ South China Sea Arbitration Award, *supra* n 11, para 535.

⁸⁷⁴ *Ibid.*, para 537.

⁸⁷⁵ *Ibid.*, para 546.

⁸⁷⁶ *Ibid.*; see also Chapter 9 at Section 29 and Section 30.

121(3) purposes. In this regard, **Chapter 9** will be seen to elaborate in greater detail as to the actual requirements that “makes up” water, food and shelter that are acceptable to cater for such human needs. In this regard, it is not advisable to simply assume and conclude based on assumptions as did the Tribunal, when it stated that “*minute, barren features may be obviously uninhabitable (and large, heavily populated features obviously capable of sustaining habitation).*”⁸⁷⁷ It is however agreed that “*human habitation entails more than the mere survival of humans on a feature and that economic life entails more than the presence of resources.*”⁸⁷⁸

(e) Reliance on historical facts/evidence

In addition to the reasoning that the Tribunal has emphasized in arriving at the conclusions as to how Article 121(3) should be interpreted, it may be observed, as has also been highlighted in **Section 22.2.1(B)(a)(ii)** concerning the capacity of a maritime feature in the light of the provision, that the Tribunal has put particular emphasis on historical evidence as an important factor that would finally determine whether a maritime feature can indeed sustain human habitation or have an economic life of its own. Although on one hand, the Tribunal stated that such evidence may be relevant for establishing a feature’s capacity⁸⁷⁹ hence implying only relevance rather than conclusiveness, the Tribunal’s actual application to scenarios throughout the judgment clearly shows the Tribunal heavy reliance on such evidence when ultimately deciding whether a maritime feature has indeed passed the test of escaping the consequences of Article 121(3).⁸⁸⁰

It can be agreed that, if evidence of the physical conditions of a particular feature fall close to the line as to whether it is indeed able to sustain human habitation or have an economic life of its own or otherwise, such evidence may be insufficient to conclusively determine whether the feature would indeed pass the Article 121(3) test.⁸⁸¹ The Tribunal’s solution to this was thus that the most reliable evidence would be to decide on

⁸⁷⁷ South China Sea Arbitration Award, *supra* n 11, para 546.

⁸⁷⁸ *Ibid.*

⁸⁷⁹ *Ibid.*, para 484.

⁸⁸⁰ *Ibid.*, paras. 549-551, 580-614. Historical use plays a highly significant role.

⁸⁸¹ *Ibid.*, para 548.

the historical use of the feature, making it the determining factor that ultimately decides on whether a feature that falls close to the line has indeed passed the Article 121(3) test or otherwise.⁸⁸² The Tribunal stated that –

“549. ...If the historical record of a feature indicates that nothing resembling a stable community has ever developed there, the most reasonable conclusion would be that the natural conditions are simply too difficult for such a community to form and that the feature is not capable of sustaining such habitation. In such circumstances, the Tribunal should consider whether there is evidence that human habitation has been prevented or ended by forces that are separate from the intrinsic capacity of the feature. War, pollution, and environmental harm could all lead to the depopulation, for a prolonged period, of a feature that, in its natural state, was capable of sustaining human habitation. In the absence of such intervening forces, however, the Tribunal can reasonably conclude that a feature that has never historically sustained a human community lacks the capacity to sustain human habitation (emphasis added).”

This heavy reliance may be seen in the Tribunal’s determination for the maritime features in the South China Sea.⁸⁸³ Clearly, in the Tribunal’s assessment of the aforesaid maritime features, be it with respect to the presence of potable fresh water, vegetation and biology, soil and agricultural potential, the presence of fishermen, as well as commercial operations, a long list of past events relating to the existence of these factors has been clearly emphasized by the Tribunal for purposes of determining whether the maritime feature would ultimately escape the consequences of Article 121(3). This already questionable assumption is accentuated by the Tribunal’s further assumption that other maritime features in the surrounding area would be even more limited and more difficult beyond the larger ones without basing it on any evidence specific to the maritime features.⁸⁸⁴

Whilst indeed the Tribunal has a valid point in looking at the historical use of maritime features when deciding whether these features can indeed escape Article 121(3) or otherwise, to rely on such evidence as the deciding factor may lead to an inaccurate

⁸⁸² *Ibid.*, para 549.

⁸⁸³ *Ibid.* e.g. Scarborough Shoal (para 556), Johnson Reef (para 559), Cuarteron Reef (para 562), Fiery Cross Reef (para 565), Gaven Reef (North)(para 568), McKennan Reef (para 570); see also particularly paras 580-614 – historical use plays a highly significant role.

⁸⁸⁴ *Ibid.* e.g. para 596 – The Tribunal considered that “*the capacity of other features in the Spratly Islands would be even more limited and that significant cultivation would be difficult beyond the larger and more vegetated features of Itu Aba and Thitu.*”

conclusion of a maritime feature's capacity vis-à-vis the provision. As discussed in **Section 22.1.1(B)(a)(ii)** above with further elaboration in **Chapter 10**, what was, may not necessarily be.⁸⁸⁵ In this regard, the Tribunal has emphasized more as to what occurred in the past even when discussing the environmental effects that could have led to the non-population of the maritime feature but has neglected to evaluate future possibilities which could be done by a more in-depth environmental science evaluation.

It will be seen established in **Chapter 10** that with the ever-changing environment, with the obvious climate change taking place, and global warming an inevitable occurrence, islands in particular have much to fear.⁸⁸⁶ These occurrences can certainly affect the past capability of maritime features making them no longer able to pass the test although also vice-versa.⁸⁸⁷ Resources may deplete, or new resources may exist. The maritime features may have their baselines moving landwards due to the rising water caused by global warming, making it unsuitable for human habitation or economic life. These examples highlight the risk in making historical evidence as the ultimate deciding factor as seen in the steps taken by the Tribunal. Instead, a step further into environmental science evidence is argued to be the better method to eventually decide on a maritime feature's capability rather than its historical use. In this regard, relying on merely the past without considering the future may be risky since it can lead to an inaccurate conclusion of a maritime feature's status in the light of Article 121(3).

Consequently, the reliance on such historical evidence should be limited to only as subsidiary evidence that is not conclusive to the final decision on the capability of a maritime feature to pass the Article 121(3) test.

(f) State Practice

The Tribunal in its reference to the *Advisory Opinion Concerning the Legality of the Use by a State of Nuclear Weapons in Armed Conflict*,⁸⁸⁸ the judgment in *Kasikili/Sedudu Island*⁸⁸⁹

⁸⁸⁵ Chapter 10, Section 35.2, texts at same paragraph with texts for *supra* nn 1347-1348.

⁸⁸⁶ *Ibid.*

⁸⁸⁷ *Ibid.*

⁸⁸⁸ *Advisory Opinion Concerning the Legality of the Use by a State of Nuclear Weapons in Armed Conflict*, ICJ Reports 1996, p. 66 at p. 75, 81-82, paras. 19, 27.

⁸⁸⁹ *Kasikili/Sedudu Island (Botswana/Namibia)*, Judgment, ICJ Reports 1999, p. 1045 at p. 1075-1087, paras. 48-63.

and the jurisprudence of the World Trade Organisation, which basically provide quite a high threshold before an agreement could be accepted based on interpretation by State practice, requiring a “*concordant, common and consistent’ sequence of acts or pronouncements to establish a pattern implying agreement of the parties regarding a treaty’s interpretation,*” concludes that ‘there is no evidence for an agreement based upon State practice’ concerning the interpretation of Article 121(3) that differs from the tribunal’s interpretation of the provision.⁸⁹⁰

Agreeably, **Chapter 4** had clearly shown the differences in practice by States with State practice yet to evolve into customary law to assist in the interpretation of Article 121(3), clearly establishing that State practice may be considered unreliable for purposes of interpreting Article 121(3).⁸⁹¹

C. Conclusion

Based on the above, it may be said that some parts of the Tribunal’s findings and conclusions are found to be acceptable. Nevertheless, as explained in the abovementioned discussions, there are some crucial aspects that the Tribunal had neglected to take into consideration which thus makes some of the Tribunal’s findings questionable. The Tribunal’s findings and conclusions may be summarized below.

First, the Tribunal’s address of the words or phrases in Article 121(3) and application of Articles 31 and 32 of the VCLT are generally acceptable. The application of the VCLT is indeed part of the methodology used in this thesis in the quest for an interpretation of Article 121(3).

Second, the Tribunal’s approach to break down the texts of Article 121(3) to its chosen segments for analogy and discussion is also acceptable. Nevertheless it is crucial to point out that the selection of words or phrases for interpretation by the Tribunal is to a certain extent questionable as it could lead to inaccurate assumptions.

In this regard, although in trying to understand the reason as to why the Tribunal had decided to do so may be due to the words flowing sequentially as read from Article

⁸⁹⁰ South China Sea Arbitration Award, *supra* n 11, para 552-553.

⁸⁹¹ Chapter 4.

121(3), the danger of interpreting in such a manner may arise. This risk is seen such as in the case of the Tribunal's choice to add the phrase "of their own" to the phrase "economic life" for interpretation, whilst not attaching the former phrase also to the phrase "human habitation."⁸⁹² As reflected in the discussions on the matter⁸⁹³ including the fact that the Tribunal did not even discuss the "of their own" requirement specifically with respect to the "human habitation" criterion, there is the risk that States may assume that a lighter weight may be given to the human habitation context where independence from outside assistance is concerned, as opposed to the strictly specific requirement of such independence if it concerns the economic life context. Indeed, this thesis clearly emphasizes that equal weight should be given to both criteria.

Consequently, it is argued that the better approach would be to separate the attachment of the phrase "of their own" from both the human habitation and economic life criteria to ensure that equal weight is given to both. This is especially so since, as will be seen established in the following Chapters and as also acknowledged by the Tribunal, in this era, technology can certainly change the status or capability of a maritime feature under Article 121(3) which may be acquired from outside assistance. Hence, emphasis on the "of their own" phrase should be equally applicable to both the criteria and should therefore not be attached and discussed only in the context of "economic life" as carried out by the Tribunal in this recent Award.

Third, the Tribunal's understanding of the texts in Article 121(3) still requires further elaboration for a better understanding. For instance, it is agreed that the term 'rock' should not be confined to specific geological dictionary meanings since this would only mean that other maritime features that do not conform to such geological specifications could automatically be entitled to generate an EEZ and a CS. However, further elaboration that allows for a better understanding will be seen in **Chapter 10**; namely, concerning what could have possibly been in the mind of the drafters when the term 'rocks' was chosen when the term 'islands' could have been equally acceptable.⁸⁹⁴

Another instance is the Tribunal's interpretation of the word 'sustain' whereby it is agreed that this entails basically the elements 'support', 'continuity' and 'a required

⁸⁹² See arguments in Section 22.1.1(B)(a)(iv) and Section 22.1.1(B)(a)(vi).

⁸⁹³ *Ibid.*

⁸⁹⁴ See Section 35.1 and Section 22.1.1(B)(a)(i).

certain minimum standard.’ Nevertheless, although the Tribunal’s conclusion concerning the economic life criterion may be acceptable, it did not make reference to Article 17 of Annex III of UNCLOS. In this respect, reference to the said provision could have strengthened the Tribunal’s reasoning particularly where the element ‘continuity’ is concerned vis-à-vis the terminology “economic life”. The Tribunal made no reference to this source when such can be extremely helpful in confirming what is required from the economic life criterion, given that the parties to Article 121(3) of UNCLOS are the same parties to Article 17 of Annex III of the very same legal document, i.e. UNCLOS.

Fourth, the Tribunal’s understanding of what the term “cannot” in Article 121(3) means is acceptable as will also be seen established in **Chapter 10**. In this regard, the ‘capacity’ requirement is indeed an agreed understanding. Nevertheless, the Tribunal’s heavy reliance on historical evidence for purposes of proving the capacity of a maritime feature may be somewhat risky. Reliance on historical evidence as the final determining factor on whether a maritime feature is able to escape Article 121(3) consequences can lead to possibly inaccurate results and is argued to be best avoided. It has been established in this thesis that with the ever-changing environment, the obvious climate change taking place, and global warming an inevitable occurrence, these occurrences can certainly affect the past capability of maritime features making them no longer able to pass the test and vice-versa. Relying on merely the past without considering the future can lead to an incorrect conclusion of a maritime feature’s status in the light of Article 121(3).⁸⁹⁵ Consequently, reliance on such historical evidence should be limited to only as subsidiary evidence that still requires further evidence to confirm a maritime feature’s capability in the light of Article 121(3). In this regard, it will be seen established that it is not just the past that should be looked at to determine a maritime feature’s capability to pass the Article 121(3) test but also more importantly the future which may be done by a more in-depth environmental science study that should be taken into consideration.

Fifth, the findings by the Tribunal concerning “human habitation” are also acceptable. Water, food and shelter are indeed fundamental. Nevertheless, there is no elaboration by the Tribunal as to what constitutes these three fundamental elements. In addition, where the Tribunal finds that a stable group of people or community is necessary in the

⁸⁹⁵ See the combined discussions in Section 22.1.1(B)(a)(ii) and Section 22.1.1(B)(e) on the Tribunal’s findings.

understanding of this criterion, it is more prudent to leave the number of human beings out of the equation and let environmental science achieve the more accurate results since there is always the possibility of humans living alone or in twos permanently as in the case of those surviving on private islands.

Sixth, the Tribunal's findings that State practice is to date still unreliable for purposes of interpreting Article 121(3) is acceptable, as has also been discussed in **Chapter 4**. Indeed, State practice has yet to evolve into customary international law to be relied on.

Seventh, the Tribunal's conclusion concerning the context of Article 121(3) is acceptable as will also be seen argued in **Chapter 10** in that the maritime feature that is under discussion for purposes of Article 121(3) must be naturally formed. Nevertheless, the Tribunal mainly touched upon the natural condition vis-à-vis the artificiality of maritime features in this respect.

Eighth, where the linkage between Article 121(3) and the purpose of the EEZ is concerned, it is agreed as is also seen established in **Chapter 10** that the EEZ is meant to benefit the population of the coastal State.⁸⁹⁶ Nevertheless, it is also argued that whilst it is agreed that the benefit of the EEZ may not necessarily be enjoyed by merely the inhabitants of the maritime feature itself, the number of humans that actually live on the island should not be an issue, although the possibility of a permanent and actual settlement is necessary. Clearly, such a test should be left to environmental science evaluation as discussed in this thesis.⁸⁹⁷

Ninth, both **Chapter 3** and the Tribunal agree that there is not much guidance that can be derived from the *travaux préparatoires* for Article 121(3). This is mainly due to the fact that the end result was a compromise amongst States. Nevertheless, where the Tribunal finds that the negotiating history demonstrates the difficulty in setting, in the abstract, bright-line rules for all cases, and that all must be assessed on a case by case basis, with the impossibility for 'an abstract test of the objective requirements to sustain human habitation or economic life' to be formulated,⁸⁹⁸ **it is argued otherwise**. This leads to the final point as below.

⁸⁹⁶ Chapter 10, Section 35.4 – see text at *infra* n 1377 and relevant texts before and after.

⁸⁹⁷ See Chapter 9 and Chapter 10, Section 35.2; and this Chapter at Section 22.1.1(B)(a)(iv).

⁸⁹⁸ South China Sea Arbitration Award, *supra* n 11, para 546; see also paras 530, 537.

In this regard, environmental science plays a very important role to assist in arriving closer to a better understanding of Article 121(3) especially where there is no clear agreement amongst States on what is meant by the elements in the provision. It is not impossible to lay down some basic rules that are irrefutable as a starting point; and this may be done by introducing environmental science as one of the key factors to fill in those gaps not able to be deciphered from the mere reading of the provision including all that has been discussed from all aspects, be it the VCLT, State practice, previous case laws, and the legislative history of Article 121(3). It may also be noted that although today, the Tribunal may have come up with some conclusions concerning Article 121(3), it may be reiterated that Article 59 of the ICJ Statute makes it clear that the “*decision of the Court has no binding force except between the parties and in respect of that particular case*” and that similarly, the Permanent Court of Arbitration Rules 2012 are clear that its binding effect is on parties, and clearly not intended to bind others with the award to be made public only with the consent of the parties.⁸⁹⁹ Furthermore, as abovementioned, there are certain aspects that the Tribunal has neglected to address which should be taken into consideration, apart from also arriving at some findings which are based on arguably questionable methods.

In summary, despite the discussions concerning Article 121(3) requirements by the Tribunal, it is argued that further elaboration on the reasoning concerning some findings are still necessary for a better understanding and that the approach in some areas can be risky as there is the possibility of such approach resulting in a potentially inaccurate finding.

22.1.2 Brief conclusion on cases where Article 121(3) was mentioned

What may generally be learnt from the rulings by international adjudicating bodies apart from the **South China Sea Arbitration**, include firstly, rocks under Article 121(3) should not be interpreted to strictly refer to their physical characteristics such as in the geological sense;⁹⁰⁰ and secondly, in overlapping situations, the entitlement of maritime

⁸⁹⁹ See texts at *infra* nn 1507-1509.

⁹⁰⁰ *Ibid.*, para 6; See also text at *supra* n 767.

features under Article 121(3) are disregarded with importance given to other factors unrelated to the provision but concerning maritime delimitation.⁹⁰¹

Indeed, in overlapping situations, adjudicating bodies would opt not to consider Article 121(3)'s 'scientific' considerations. Nevertheless, which provision has the prevailing effect over the other, namely maritime delimitation provisions vis-à-vis Article 121(3), still needs to be addressed.⁹⁰² On this note, despite this inclination by most international adjudicating bodies to avoid addressing Article 121(3), the **South China Sea Arbitration** only proves the necessity to really decipher Article 121(3) wherein the Tribunal had no choice but to deal with the issue.

In addition, in situations where there is no overlapping occurrence, for example where the distance between the coasts of two States is more than 400nm, then, if a maritime feature belonging to one of the States is argued to escape Article 121(3) hence resulting in an overlapping situation, adjudication bodies would then have no choice but to deal with the provision. In addition, if the ICJ's ruling in the **Greenland/Jan Mayen case** is referred to, it may also be argued that its decision concerning 'population' would mean that even if a feature's population is limited, it should not affect the entitlement of the feature to extended maritime zones.⁹⁰³

Where the **South China Sea Arbitration** is concerned, it is reiterated that despite the Article 121(3) requirements discussed by the Tribunal, some of its findings may be questionable due to some of the approaches employed. Furthermore, it is argued that some of the methods used are still unclear which may result in uncertainties and different interpretations and hence leaving the Article 121(3) problem in the same position as before. It is therefore argued that there is still the need to address the matter clearly and systematically.

⁹⁰¹ *Romania/Ukraine case, supra n 86; Nicaragua/Colombia case, supra n 77; St Pierre and Miquelon case, supra n 742; Greenland/Jan Mayen case, supra n 751.*

⁹⁰² Text at *supra* n 741 and relevant texts before.

⁹⁰³ *Greenland/Jan Mayen case, supra nn 751, 753 and 762.* There has been differing views by some States and scholars in relation to the minimum number of people that has to exist on a maritime feature before it can be considered as capable of sustaining human habitation under Article 121(3) – e.g. Indonesia's argument (texts at *supra* n 528) and Van Dyke and Bennett's arguments (text at *supra* n 610). As such, this issue has yet to be resolved unless the ICJ's decision in the Greenland/Jan Mayen case which was made for purposes of maritime delimitation is also considered applicable to Article 121(3) situations.

22.2 Other Cases

There are also other rulings by international adjudicating bodies that have dealt with maritime features which appear to be ‘geologically’ rocks although Article 121(3) was not mentioned. However, the bodies have mainly decided these cases in relation to maritime delimitation which clearly involve different considerations rather than for purposes of Article 121(3) and hence such rulings may not assist much in the clarification of Article 121(3). Nevertheless, in such maritime delimitation cases, courts generally incline towards giving such maritime features hardly any effect or much less influence.⁹⁰⁴

23. Preliminary conclusion

The trend from the rulings by most international adjudicating bodies is that where maritime delimitation is concerned, the maritime entitlement that could have been generated by insular features tends to be disregarded in overlapping situations. Their views weigh heavily on whether such islands would have a distorting effect on the delimitation line, resulting in conclusions made towards achieving equitable results. Nevertheless, it must be reminded that the consideration with regard to Article 121(3) for the purpose of this thesis is not with respect to maritime delimitation but concerning the interpretation and understanding of ‘rock’, ‘sustain’, ‘human habitation’, ‘or’, ‘economic life’ and ‘of its own’.

Although international adjudicating bodies such as in the Romania/Ukraine and Nicaragua/Colombia cases were requested to address selected maritime features in relation to Article 121(3), there is clearly an avoidance of the issue, although understandably so, on the basis that such consideration was unnecessary in the

⁹⁰⁴ Examples of cases that involve ‘rock-like’ or small maritime features in the light of maritime delimitation which Courts generally gave no effect or little influence are the *North Sea Continental Shelf* cases (*supra* n 54, para 57 and *Song*, *supra* n 97, p. 168); *Delimitation of the Maritime Boundary in the Gulf of Maine Area, Judgment (Gulf of Maine case)*, ICJ Reports 1984, p. 246, para 201, 210, 222; *ICJ Reports 1985 (Libyan Arab Jamahiriya/Malta (“Libya/Malta case”))*, p. 13, paras. 62, 64; *Qatar/Bahrain case*, *supra* n 763, para 185, paras. 219, 246, 247, 248; Award of the Arbitral Tribunal in the Second Stage of the Proceedings (Maritime Delimitation), In the Matter of an Arbitration between the Government of the State of Eritrea and the Government of the Republic of Yemen, 3 October 1996, dated 17 December 1999 (*“Eritrea/Yemen arbitration (Phase II)”*), para 117; Arbitration Tribunal for the Delimitation of the Maritime Boundary between Guinea and Guinea-Bissau, Award of 14 February 1985 (*“Guinea/Guinea-Bissau arbitration”*) paras. 119-120; *Continental Shelf (Tunisia/Libyan Arab Jamahiriya), Judgment*, ICJ Reports 1982, p. 18, paras 79, 129; and the *Anglo-French Continental Shelf Arbitration*, *supra* n 745 paras. 4, 125-128, 139.

circumstances. It is merely in the **Greenland/Jan Mayen case** that the ICJ gave some consideration to this controversial provision even though, upon analysis, such consideration appears to somewhat contradict the very essence of Article 121(3), especially if one were to accept the ICJ's aforementioned conclusions on face value that *"there is no reason to consider either the limited nature of the population of Jan Mayen or socio-economic factors as circumstances to be taken into account."* As elucidated before this, the very elements that allow a maritime feature to escape Article 121(3) have been clearly expressed to include the criteria relating to 'human habitation' and 'economic life' which the ICJ in that case appears to dismiss to quite an extent. Nevertheless, as was also explained, the ICJ may have meant not to base considerations on a State's needs for a 'better' economy or the fact that the population requires them, but rather the elements itself must first exist before consideration is given. In addition, the ICJ may also have meant to refer to the general principle that 'land dominates the sea' and thus the population and economic criteria are irrelevant for this purpose and separate from Article 121(3) or maritime delimitation issues.

Regardless, the decisions, awards and judgments by these bodies establish that maritime features may be ignored or substantially discounted due to their size and location if the result would be an inequitable distorting effect despite them being relevant considerations. Whilst the trend of these rulings thus incline towards not giving effect to maritime features of similar characteristics under Article 121(3), such 'matter-of-fact' application of these rulings for this provision should be avoided and be used with extra care due to the different circumstances in which the cases were adjudged. This judicial practice cannot be said to have reached the level of a rule of law that precludes consideration of these maritime features in all similar circumstances in maritime delimitation cases, let alone for purposes of Article 121(3) that has not even been directly addressed by these bodies to date, except for the **South China Sea Arbitration**.⁹⁰⁵ In this regard, the **South China Sea Arbitration** only proves the necessity to really address Article 121(3) wherein the Tribunal had no choice but to deal with the issue. Even so, with merely this one case that had ever really dealt with Article 121(3), there is still much room necessitating improvement. In addition, it must be highlighted that it still has not become a rule of law and that its decision cannot be regarded as binding on future cases. In this

⁹⁰⁵ See text at *supra* n 11 and relevant texts thereafter.

respect, despite the discussions concerning Article 121(3) requirements by the Tribunal in that case, it is argued that some reasonings given and certain approaches used could have been made clearer. These uncertainties and gaps need to be addressed, and a clear “step by step” approach should be laid down if indeed Article 121(3) is intended to be addressed in a more systematic manner. Generally, the crux of the matter still remains to be dealt with by adjudicating bodies.

Hence, to assist judicial bodies to address Article 121(3) when the actual need arises, an in depth study regarding relevant environmental science aspects may be carried out for purposes of Article 121(3). Even the ICJ stresses the importance of basing the circumstances of a maritime feature on actual observations and scientific evaluation, although with a degree of caution, with the view to ensure that there is sufficient evidence to show that a maritime feature meets the test. An instance in which this was regarded as imperative is in the **Nicaragua/Colombia case**, although the issue was whether the feature is above water at high tide. The ICJ had stated that:

“36. The Court considers that what is relevant to the issue before it is the contemporary evidence. Of that evidence, by far the most important is the Smith Report, which is based upon actual observations of conditions at Quitasueño and scientific evaluation of those conditions. Nevertheless, the Court considers that the conclusions of that Report have to be treated with a degree of caution. As the Court has already stated, even the smallest island generates a 12-nautical-mile territorial sea.... The Court therefore has to make sure that it has before it evidence sufficient to satisfy that a maritime feature meets the test of being above water at high tide (emphasis added).”⁹⁰⁶

In summary, one may say that international adjudicating bodies have yet to properly deal with the concern regarding maritime entitlement under Article 121(3) which is a separate issue from maritime delimitation. Indeed when it comes to delimitation, the deliberation on whether small maritime features are entitled to maritime areas as provided for in Article 121 led to them being disregarded if they have a disproportionate effect on the delimitation line. Although adjudicating bodies’ inclination towards the sort of features that would satisfy the elements in Article 121(3) may be deduced from ‘maritime delimitation’ cases, their ruling cannot be generalised to be used for ‘maritime entitlement’ circumstances which is totally different in nature. Notably, in maritime

⁹⁰⁶ *Nicaragua/Colombia case, supra n 77, para 36.*

delimitation cases, maritime features that were given lesser effect may still in some situations generate a CS or EEZ as opposed to an Article 121(3) feature.

Chapter 7 **OVERALL CONCLUSION: AVAILABLE LEGAL ASPECTS CONTRIBUTING TOWARDS THE CLARIFICATION OF ARTICLE 121(3)**

24. Conclusion

Having examined the available legal aspects pertaining to Article 121(3), it is obvious that there is no clear position regarding the understanding of the elements contained therein. The VCLT, judgments and decisions by international adjudicating bodies, views by maritime scholars, State practice as well as the legislative history of Article 121(3) still shows a lacuna that needs to be addressed to ensure a more solid understanding of the provision.

Discussions concerning Article 121(3) thus far, clearly shows many divergent views by States as reflected from their practice and the provision's legislative history; differing scholars' opinions; the lack of international adjudicating bodies' elaboration concerning Article 121(3) elements to be used as a reliable 'guideline' for all possible Article 121(3) situations rather than specific to selected conditions of only some maritime features; and the need to explore other supplementary means apart from those specifically listed under Article 32 of the VCLT.⁹⁰⁷

Even the latest **South China Sea Arbitration Award**⁹⁰⁸ refers directly to specific features, without coming up with some guidelines or steps that specifically mention that they may be applied to all features alike. In addition, although some of its findings for specific features appear acceptable, there are still some issues that have yet to be improved or addressed as seen in Chapter 6.

Indeed there were views that clarification of Article 121 is '*likely to be achieved only through developments in national legislation... in terms of developing state practice and case law*';⁹⁰⁹ that '*a definitive, authoritative interpretation of what constitutes an 'island' or a 'rock' is currently out of reach*';⁹¹⁰ and that '*whether every island generates an EEZ or not cannot be inferred from general principles and must be established on the basis of*

⁹⁰⁷ See Chapter 2, Section 6 including *supra* n 261, and Section 7.

⁹⁰⁸ See text at *supra* n 11 and relevant texts thereafter; see also Chapter 6.

⁹⁰⁹ Schofield, *supra* n 69, p.28.

⁹¹⁰ *Ibid.* p.36.

*State practice.*⁹¹¹ Nevertheless, to surrender to such views would only mean facing a dead end which can only be resolved provided that clear common state practice eventually emerges, and this can lead to a good many years if any, before a solution is found.

Oude Elferink also views that '*a case does not necessarily have to address all of these issues at the same time*' and that '*a judge may only appraise whether the requirements of the article are met in general terms, without elaborating on each of them or indicating what the minimum threshold is for each element.*'⁹¹² He finds that an international adjudicating body may avoid having to deliberate on Article 121(3) in disputes submitted to it⁹¹³ albeit this depends on the questions that are raised. He argued *inter alia* that firstly, the adjudicating body can proceed straight to maritime delimitation exercise which in a given dispute is the end result that is intended to be achieved.⁹¹⁴ Secondly, where a boundary is required to be established between a mainland and another island, or between two islands where in both cases the island could be a rock under Article 121(3), this could merely be done by considering the disparity in coastal lengths with the view of arriving at an equitable result attributing the larger coast with more area.⁹¹⁵ However, it is argued that this would not be helpful if the islands are more than 48 nm apart.⁹¹⁶ In this scenario, the area beyond the 24 nm of a 'rock' island will still need to be determined as to whether the 'rock' is entitled to a continental shelf and EEZ. Thirdly, Article 121(3) could still be avoided in situations where States in dispute have agreed that a particular maritime feature is entitled to an EEZ and continental shelf despite the fact that the feature may be a 'rock' caught under Article 121(3), and consequentially avoid having to expressly state whether such feature is a rock or otherwise but proceed to acknowledge the entitlement of that feature to an EEZ and continental shelf.⁹¹⁷ Nevertheless, this is so only if States agree to a situation but would not assist in the event of disagreement.

⁹¹¹ O' Connell and Shearer, *supra* n 50, p. 731.

⁹¹² Oude Elferink, *supra* n 106, p. 62.

⁹¹³ *Ibid.*

⁹¹⁴ *Ibid.*

⁹¹⁵ *Ibid.*

⁹¹⁶ The distance of 48 nm is calculated based on the maximum 24 nm that a 'rock' under Article 121(3) could claim namely a territorial sea and a contiguous zone. In this regard, both maritime features or both mainland and maritime feature in a delimitation exercise would generate double the distance of 24 nm that they would be entitled to, hence generating a total of 48 nm.

⁹¹⁷ Oude Elferink, *supra* n 912, p. 62.

In addition, it may be true that perhaps Article 121(3) was intentionally left vague by States⁹¹⁸ due to the legislative background of the provision as reflected in the discussions and debate that led to its finalization.

However, despite all these occasions to avoid having to deal with Article 121(3), there may be situations where it would not be appropriate to do so. For one, if a State has a maritime feature that is most likely an Article 121(3) rock, located far from its own mainland as well as from any other State, this can still constitute a problem. In this scenario, other States may protest against such imposition by that State owner since this could mean that an area that could have been considered as the high seas or the Area may be reduced by this maritime feature and consequentially, the respective rights in those areas. Less fortunate nations such as landlocked States may have lesser 'common' areas to attain resources. Although such situation may have hardly occurred with very few challenges by States on the matter, this may be due to amongst other possibilities, the inability to do so because of financial reasons to bring forth the matter. Hence, addressing this issue is still essential to avoid future complications if the need arises. This necessity to deal with Article 121(3) is further confirmed as seen in the **South China Sea Arbitration** wherein the Tribunal clearly could not avoid having to deal with the issue.

To subject this issue to legal evaluation, informal consultations amongst States or diplomatic protests may be required. Raising such disagreements to the International Seabed Authority (ISA)⁹¹⁹ where the Area is concerned may also be an option in which the ISA acts on behalf of States as a whole; however, the ISA is mainly empowered to organise and control activities in the Area with particular respect to its resources⁹²⁰ as opposed to having actual power to decide on the interpretation and application of Article 121(3) towards a maritime feature.

Certainly, the impact of Article 121(3) may be limited by the existence of other provisions under UNCLOS such as those regarding archipelagic and straight baselines of UNCLOS. Nevertheless, archipelagos would be subjected to a different analysis altogether as

⁹¹⁸ R. Beckman, "International Law, UNCLOS and South China Sea", in R.C. Beckman, I. Townsend-Gault, C. Schofield, T. Davenport, L. Bernard (Eds.), *Beyond Territorial Disputes in the South China Sea: Legal Frameworks for the Joint Development of Hydrocarbon Resources*, (Edward Elgar Publishing, 2013), p. 56.

⁹¹⁹ Established under Article 156 of UNLOS.

⁹²⁰ Articles 137 and 157(1) of UNCLOS.

provided in amongst other provisions, Part IV of UNCLOS.⁹²¹ The interpretation and application of Article 121(3) still need to be clarified in view of the other possible circumstances that can exist.

Hence, it is still crucial to decide on the legal status of maritime features under Article 121(3) where appropriate. If in all instances, Article 121(3) is avoided, this would render the provision irrelevant and should not in the first place even be formulated, which certainly could not have been the intention of the drafters.

One important observation is that the mainstream of opinions appears to be based merely on what the commentator thinks should be without going further into the evidence of the situation. Reliance on fairly acceptable evidence is lacking. With such obvious phrases in Article 121(3), the natural perception should be that something more than mere legal observations is required, more so since the legal background of the provision has been highly controversial, and with a compromise as the outcome.

Indeed, one may reasonably argue that to ensure that treaties could fulfil their objectives and purpose, a flexible approach to treaty interpretation in the form of either subsequent agreement or subsequent practice of States or both, may be necessary. This may also be the case for Article 121(3). There is however concern that this might also lead to a 'reinterpretation' beyond the actual consent of the parties. Nonetheless, due to this provision's controversial legislative background which resulted in a compromise, its intention and purpose at this stage should thus be argued to be confined to the very wording of the provision without going back too deeply into the past. Analyses which do not go too intensely into States' positions during the debate prior to the emergence of Article 121(3) is argued to be a better solution and should not be seen as contrary to the intention of parties as long as it is interpreted within the legal framework of the provision. A solution needs to be attained and since States' views differ even during the legislative history stage, their arguments should not be relied on for fear of being considered favouring a group of nations above another without further evidence and reasoning.

One possible approach which could thus be employed in this scenario would be to apply environmental science evidence that could minimise States' differing opinions due to nature's solid, hard facts. This could help to enhance the understanding of the provision,

⁹²¹ See UNCLOS, Part IV, Articles 46 - 54.

in particular the scientific elements revolving around the make-up of a maritime feature and its effects in terms of Article 121(3).

It is imperative that some general guidance be provided engaging some scientific arguments which could very well assist in the clarification of the provision. To obliterate or minimize doubts, an approach utilizing environmental science aspects, being also in accordance with Article 32 of the VCLT,⁹²² is thus suggested to be one of the ways that could complement the legal framework of Article 121(3).

⁹²² i.e. concerning supplementary means to aid in the interpretation of treaties or its provisions; see texts at *infra* nn 1500-1501 and texts at *infra* n 1515 and thereafter; see also conclusions concerning Article 32 in Section 7 and Section 34.

Part 3 ENVIRONMENTAL SCIENCE AS AN AID

Chapter 8 ENVIRONMENTAL SCIENCE AND ISLANDS

25. Environmental science and Article 121(3)

25.1 Introduction

The preceding chapters have elaborated on how Article 121(3) has been addressed thus far, which were understandings based on the legislative history of the provision, opinions and judgments of adjudicating bodies, views of maritime legal experts and scholars, significance and applicability of the VCLT as well as State practice in their implementation of the provision. Maritime features have been argued by some parties to be caught by Article 121(3) or otherwise, based on many reasons that include self-serving interests, although this is certainly understandable. However, this has led to many unresolved situations which require States to compromise before an agreement or acceptance can be achieved amongst affected States in relation to a questionable 'rock' under Article 121(3).

To date, the views and interpretations by scholars have yet to show any in-depth research that employs environmental science as an aid to the interpretation of Article 121(3). Although some references may have been made to the physical attributes of such maritime features such as their geological aspects, a reasonably thorough research including the human-environment relationship with regard to such islands has not thus far, surfaced.

Furthermore, although some scholars have suggested that the development of state practice could be the answer to this predicament, the matter has still not been resolved via this method.⁹²³ The reality is that where there is no agreement amongst States, interpretations appear to be revolving around what a reasonable man thinks would satisfy the elements in the provision. This raises the subsequent question of whether the evidence used to support the contention by the 'reasonable man' is based on reliable information or merely the thoughts of a non-expert in the field. Further, when actual

⁹²³ See particularly Chapter 5, texts at *supra* nn 539 to 542.

cases call for the understanding of Article 121(3), interpretations are made only concerning a particular 'rock' island in question; and hence, understandings regarding such, are limited to such 'rock'.

Looking at Article 121(3), the very terms used such as 'rock', 'sustain,' 'human habitation' and 'economic life' bring to mind their connection to the science that describes the relationship between living organisms and their environment. In its simplest terms, environmental science has been described to include, 'the study of the earth's environment'⁹²⁴ which basically covers 'the study of the air you breathe, the water you drink, and the food you eat' although the studies do overflow into various other fields due to the abundance of 'the natural world and the way humans interact with it.'⁹²⁵

From a more scientific-based angle, environmental science has been described as a 'scientific endeavour applied in describing and understanding the environment' and has been equated with earth science, which is the study of "*the atmosphere, land, oceans and fresh waters and the biochemical fluxes with them.*"⁹²⁶ It is a group of sciences that include "*biology (especially ecology...), geology, hydrology, climatology, meteorology, oceanography, and soil science.*"⁹²⁷ It embraces 'all those disciplines which are concerned with the physical, chemical, and biological surroundings in which organisms live,' and strongly derive information from 'aspects of the life and earth sciences.'⁹²⁸ The 'all-round environmental scientist must be part-biologist, part ecologist, part toxicologist, part pedologist (soil scientist), part geomorphologist, part limnologist (student of freshwater systems), and part meteorologist, as well as being familiar with ideas taken from many other disciplines.'⁹²⁹

These disciplines relate very much to the Article 121(3) situation and could assist in the latter's clarification due to its evidence-based information as compared to mere speculation and beliefs that can sometimes be self-serving. Hence, this Chapter and the

⁹²⁴ Alecia M. Spooner, *Environmental Science for Dummies* (2012, John Wiley & Sons, Inc., Hoboken), p. 1.

⁹²⁵ *Ibid.*, p. 9.

⁹²⁶ P. Calow (Ed. in chief), *The Encyclopedia of Ecology and Environmental Management* (1998, Blackwell Science Ltd, Oxford), p. 245.

⁹²⁷ Daniel B. Botkin & Edward A. Keller, *Environmental Science: Earth as a Living Planet* (2005 - 5th Edition, John Wiley & Sons, Inc., Hoboken), p. v.

⁹²⁸ M. Allaby, *Basics of Environmental Science* (2000, Routledge, London, 2nd Edition- reprinted 2002), p.2.

⁹²⁹ *Ibid.*, p.16.

next, intend to address such human-environment relationship vis-à-vis ‘rocks’ based on information provided by those with expertise or background in the field.

Consequently, the next Section will identify the main elements under environmental science that would be most appropriate to assist in the clarification of Article 121(3). The discussion will then continue to understand the existing types of islands and their formation in order to ascertain those that could possibly be argued to be considered for Article 121(3) purposes.

Subsequently, the next chapter will focus on the relationship between humans and such environmental surroundings to suggest acceptable results that satisfy the criteria for the elements in the aforesaid provision.

25.2 Relevant scientific elements applied

The very terms used in Article 121(3) indicate the necessity to deal with the relationship between humans and their environment. This relationship directly relates to human survival due to its requirement to prove the sustainability of human habitation or economic life in relation to the island concerned. Undoubtedly, human survival requires at the very least, water, food and shelter which may be understood as the basic necessities arising from the ‘human habitation’ element which includes its sustainability;⁹³⁰ whilst the ‘economic life’ criterion indicates the island’s need to continue to be useful and beneficial for the humans who live on it.⁹³¹ This requires a questionable island to continue to be of either a physical condition that allows for a liveable surrounding environment or at least has some usefulness that can benefit the humans living on it, both of which revolves around the survivability of humans. Consequentially, the main environmental science elements that have been identified as relevant for Article 121(3) purposes are island biogeography, geology, ecology and ecosystem.

Firstly, **biogeography** suggests a connection between biology and geography, which science studies the patterns of distribution of biological materials or species over the

⁹³⁰ See Chapter 9, Section 32.

⁹³¹ In simple dictionary terms, ‘economic life’ has been defined as “the period during which an economic good retains its utility”- see Gove, *supra* n 180, Vol. I, p. 720. See Chapter 10 for arguments concerning its meaning vis-à-vis Article 121(3).

earth's surface and the factors responsible for the observed spatial variations;⁹³² thus offering 'a spatial pattern for study' as crucial as the diversities in rock type, land forms and atmospheric processes.⁹³³ It also explores the territorial expansions and contractions that have occurred in the past, including those that may happen in the future.⁹³⁴ However, the study concerning species interaction with their effective environment becomes the study of plant and animal ecology.⁹³⁵ Biogeography nevertheless stresses on the distributional aspects as much as the environmental relationship despite involving the same phenomena as in ecology; with the tendency to place emphasis on the role of man in the processes and patterns or the significance of the findings for man in relation to man-land relationships be it past, present or future.⁹³⁶ In this relation, the theory of **island biogeography** is 'based on the observation that there is a constant relationship between the area of the world's islands and the number of species contained therein.'⁹³⁷ It also considers the size of islands and their distance from the mainland.⁹³⁸ Amongst the fundamental features of islands are those that are directly linked to the geological factors including characteristic topographic, climatic, and hydrological occurrences.⁹³⁹ Oceanic island environment dynamism is clearly reflected in recent bathymetric, geomorphological, and volcanological advances.⁹⁴⁰ Nevertheless, the capability of prospective inhabitants of an island greatly influences the biogeographical distinction between islands of divergent geological origins.⁹⁴¹ In addition, given the 'limited scope for range adjustments within the island setting,' the biogeographical importance of environmental changes should not be disregarded.⁹⁴²

⁹³² Nigel Pears, *Basic Biogeography* (1985, 2nd Edition, Longman Scientific and Technical, Essex, England (co-published with John Wiley & Son, Inc., New York)) – reprinted 1992, p. 3; Calow, *supra* n 926, p. 85.

⁹³³ Pears, *supra* n 932, p. 3. Biogeography information is obtained from numerous sources, e.g. botany, zoology, meteorology, geomorphology, geology, archaeology, sociology (p. 4).

⁹³⁴ Calow, *supra* n 926, p. 85.

⁹³⁵ Pears, *supra* n 932, p. 3.

⁹³⁶ *Ibid.*

⁹³⁷ Calow, *supra* n 926, p. 378. This theory is an equilibrium theory which was first proposed by Robert MacArthur and Edward Wilson in 1967.

⁹³⁸ *Ibid.*

⁹³⁹ R.J. Whittaker & J.M. Fernández-Palacios, *Island Biogeography: Ecology, Evolution, and Conservation* (2007, Oxford University Press Inc., New York), p. 45.

⁹⁴⁰ *Ibid.*

⁹⁴¹ *Ibid.*, p. 57.

⁹⁴² *Ibid.*, p. 45.

Secondly, **geology** is also of great significance being the scientific study of the composition which include the earth's surface and its underlying strata.⁹⁴³ This scientific factor aids in the explanation of the earth's formation, with particular regard to rocks and minerals that can include facts on their suitability for vegetation, as well as complementing the biogeography element. It can also assist in the study of **ecology** which is the third scientific factor that is equally important.⁹⁴⁴ Ecology is defined in the 1860s as "*the scientific study of the interactions between organisms and their environment*,"⁹⁴⁵ a definition similarly defined recently⁹⁴⁶ and which includes collective organisms.⁹⁴⁷ Its discipline deals with 'environmental relationships ranging from those of individual organisms to factors influencing global-scale processes.'⁹⁴⁸ It addresses how population alters over time together with its influences on the species in its surrounding.⁹⁴⁹ Detailed study of the habitat is fundamental in ecology since it studies the distribution and relative abundance of numerous taxa.⁹⁵⁰ It subsequently developed as 'the study of the way that organisms are influenced by physiochemical conditions.'⁹⁵¹ It considers 'energy flows within a closed system'⁹⁵² with ideas associated with 'the conservation of specific patterns of energy flows' that include those affecting the continuity of human

⁹⁴³ Collin, *infra* n 946, p. 79.

⁹⁴⁴ M. Begon, C.R. Townsend and J.L. Harper, *Ecology: From Individuals to Ecosystems* (2006, Blackwell Publishing Limited, 4th Edition), p. xi; see Frank N. Egerton, *Roots of Ecology- Antiquity to Haeckel* (2012, University of California Press, Berkeley), p. xi – In 1866, Haeckel formulated the term 'oecologie' and during the 1890s, four sciences emerged: plant ecology, animal ecology, limnology, and marine biology.

⁹⁴⁵ *Ibid.*, i.e. as described by Haeckel.

⁹⁴⁶ M.C. Molles Jr, *Ecology: Concepts and Applications* (2010, McGraw-Hill publication), pp. 1-2; A. Beeby and A-M. Brennan, *First Ecology: Ecological Principles and Environmental Issues* (2008, Oxford University Press, 3rd Edition), p. xxi; Similar definitions include that of C.B. Knight, *Basic Concepts of Ecology* (1965, The Macmillan Company, New York), p. 2; P. Cotgreave and I. Forseth, *Introductory Ecology* (2002, Blackwell Science Limited), p. 9; P.H. Collin, *Dictionary of Ecology and the Environment* (1988, Peter Collin Publishing Ltd, Middlesex), p. 57; Gerald G. Marten, *Human Ecology: Basic Concepts for Sustainable Development* (2001, Earthscan Publications, London), p. 1; A. Mackenzie, A.S. Ball and S.R. Virdee, *Instant Notes in Ecology* (1998, BIOS Scientific Publishers Limited), p. 1 - The 'environment' in this context made reference to "*a combination of the physical environment (temperature, water availability, etc.) and any influences on an organism exerted by other organisms – the biotic environment.*"

⁹⁴⁷ Calow *supra* n 926, p. 219.

⁹⁴⁸ Molles Jr, *supra* n 946, pp. 1-2.

⁹⁴⁹ Beeby and Brennan, *supra* n 946, p. xxii.

⁹⁵⁰ Calow *supra* n 926, p. 329. "*Taxonomy is the theory and practice of describing the [diversity] of organisms and of ordering this diversity into a system of words, called [classifications], that convey information concerning kinds of relationships among organisms.*" (p. 740).

⁹⁵¹ *Ibid.*, p. 219.

⁹⁵² A. Bramwell, *Ecology in the 20th Century: A History* (1992, Yale University Press, New Haven and London), p. 4.

existence.⁹⁵³ Relatedly, **human ecology** is ‘the study of man and communities, the place which they occupy in the natural world, and the ways in which they adapt to or change the environment.’⁹⁵⁴ It is regarding ‘relationships between people and their environment’.⁹⁵⁵ The environment has a holocoenotic nature⁹⁵⁶ and is perceived as an ecosystem in human ecology which includes the entirety in an identified area, namely ‘the air, soil, water, living organisms and physical structures,’ including all those built by humans.⁹⁵⁷ Society is able to exist due to the mutual interaction between society and the environment, wherein the resources needed for a society’s most basic activities are from the environment,⁹⁵⁸ catering for man’s needs. In short, the ‘laws of ecology govern the interactions among entities;’ whilst the ‘overall behaviour of any ecosystem depends on its nature at a particular time: its species make up, the details of its abiotic environment, and its history.’⁹⁵⁹

Whilst the principles of ecology govern beyond nature, the fourth scientific factor of importance concerns studies mainly of natural ecosystems.⁹⁶⁰ **Ecosystem** has been described as:

“[a] functional ecological unit in which the biological, physical and chemical components of the [environment] interact. This term focuses attention on the complex interplay between plants and animals and [abiotic factors] of their [habitat]....

The scale of ecosystem may vary enormously from, for example, an anthill or tiny pool to a huge forest or even the entire [biosphere] of the globe... With defined scales of space and time, the ecosystem is a valuable and highly used unit by all ecologists.”⁹⁶¹

⁹⁵³ *Ibid.*

⁹⁵⁴ Collin, *supra* n 946, pp. 57-58.

⁹⁵⁵ Marten, *supra* n 946, p. 1.

⁹⁵⁶ Pears, *supra* n 932, p. 97; see Gove, *supra* n 180, Vol. II, p. 1081 - Definition of ‘holocoenotic’ i.e. “acting in concert -used of the impact of a complex environment on living organisms.”

⁹⁵⁷ Marten, *supra* n 946, p. 1.

⁹⁵⁸ W.B. Clapham, Jr., *Human Ecosystems* (1981, Macmillan Publishing Co., Inc. New York; Collier Macmillan Publishers, London), pp. 2-3.

⁹⁵⁹ *Ibid.*, p. 2.

⁹⁶⁰ *Ibid.*, p. 1.

⁹⁶¹ Calow, *supra* n 926, p. 221.

Humans are also considered as animals and equally participating as part of the ecosystems which are described as human ecosystems.⁹⁶² Human activity shapes human ecosystems, directly or indirectly controlling them, although factors such as gross climate or genetic details cannot be overcome by society.⁹⁶³ The society in which people live, heavily influences the human activities that impact on ecosystems; thus causing the social system to be a central concept in human ecology.⁹⁶⁴

For the sustainability of the human life, ecosystems are depended on for food and natural resources.⁹⁶⁵ Both the ecology of animal and plant communities have a powerful influence on each other due to their close linkage.⁹⁶⁶ Plants, animals or microorganisms are eaten by animals and microorganisms, which use the carbon chains in their food.⁹⁶⁷ Energy from sunlight being the only major source to most natural ecosystems⁹⁶⁸ allows the photosynthesis that forms the living tissues of plants; and a healthy biological community is also required for the ecosystem to provide usable materials and energy to humans.⁹⁶⁹

Thus, the ecosystem provides services to the social system by moving materials, energy and information to the social system to meet people's needs.⁹⁷⁰ These ecosystem services include 'water, fuel, food, materials for clothing, construction materials and recreation.'⁹⁷¹ Human activities cause energy, material and information to shift from the social system to the ecosystem.⁹⁷²

The explanation concerning these environmental science factors thus demonstrate the latter's fundamental importance with regard to the human-environment relationship from which the criteria that make the 'human habitation' and 'economic life' elements in Article 121(3) may be extracted. Hence, the main scientific factors that will be focused upon would be island biogeography, geology, ecology and ecosystem, all of which will be

⁹⁶² Clapham, *supra* n 958, p. 1.

⁹⁶³ *Ibid.*, pp. 1-2.

⁹⁶⁴ Marten, *supra* n 946, p. 1.

⁹⁶⁵ *Ibid.*, p. 106.

⁹⁶⁶ Pears, *supra* n 932, p. 174.

⁹⁶⁷ Marten, *supra* n 946, p. 107.

⁹⁶⁸ *Ibid.*, p. 113.

⁹⁶⁹ *Ibid.*, p. 107.

⁹⁷⁰ *Ibid.*, p. 2.

⁹⁷¹ *Ibid.*

⁹⁷² *Ibid.*

applied interrelatedly and appropriately, to assist in understanding the elements in Article 121(3). This list of scientific factors is however non-exhaustive and reference to other factors are made where necessary.

Consequently, it is thus necessary to ascertain the types of islands for Article 121(3) consideration in light of these scientific factors.

25.3 Types of Islands worldwide

According to the plate tectonics theory, the Earth's surface is subdivided into about seven major plates and a number of smaller fragments, with each plate being larger than a continent.⁹⁷³ Plate tectonic processes give rise to islands by three main means; firstly, by sea-floor spreading, resulting in the separation of pieces of continent;⁹⁷⁴ secondly, in relation to plate boundaries, the arising of volcanic islands to form an archipelago of islands;⁹⁷⁵ and thirdly, the arising of volcanic islands from hotspots and certain parts of mid-ocean ridges.⁹⁷⁶ Islands may also form by the joining of land areas that disappear under rising water, or by land that appear above the water's surface, either by depositional action or by some other process.⁹⁷⁷

Undoubtedly, the vast number of islands in the world and their biogeography encompasses a huge variety of descriptions which appears to make generalizations on them risky.⁹⁷⁸ Their surfaces are continuously changeable, decreased by subaerial and coastal erosion, formed by volcanism, as well as subject to encountering catastrophic

⁹⁷³ Whittaker and Fernández-Palacios, *supra* n 939, p. 12. The plates are the Eurasian plate, Indo-Australian plate, Pacific plate, North American plate, South American plate, African plate and the Antarctic plate (p. 13, Figure 2.1); see also *ibid.*, p.22; Andrew McLeish, *Geology* (1978, Blackie and Son Ltd, Glasgow and London), pp. 76 -83; Alecia M. Spooner, *Geology for Dummies* (2011, John Wiley & Sons, Inc., Hoboken, New Jersey), pp. 109-120, 126 -130.

⁹⁷⁴ Whittaker and Fernández-Palacios, *supra* n 939, p. 13 - e.g. New Zealand and Madagascar.

⁹⁷⁵ *Ibid.*, e.g. Indonesia's Greater and Lesser Sundas; see also Stephen A. Royle, *A Geography of Islands: Small Island Insularity* (2001, Routledge. Oxon), p. 26 - The meeting of two oceanic plates may cause oceanic-continental collisions resulting in vulcanicity, thus forming islands; McLeish, *supra* n 973, pp. 80-81. Plates moving away from each other may cause the space between them to be filled with new material due to volcanism, whilst plates collision may result in island arcs, built up of andesitic lavas e.g. the Philippines; Spooner, *supra* n 973, pp. 137 -138, 144-148.

⁹⁷⁶ Whittaker and Fernández-Palacios, *supra* n 939, p. 13 – e.g. Hawaii- hotspots, Iceland- formed by both mid-ocean ridge and hotspot activity.

⁹⁷⁷ *Ibid.*, p. 22.

⁹⁷⁸ *Ibid.*, p. 10.

slope failures.⁹⁷⁹ Regardless of such distribution and variations, islands' very insularity restricts them to a "common range of constraints" with such impact normally more significant on small islands.⁹⁸⁰ Such insularity effects are universal.⁹⁸¹ Furthermore, the geographical limits of island populations, communities and ecosystems being self-maintaining entities, are well-defined; and their ecological systems that encompass the fundamental processes, properties and interactions usually take place in less complicated ways as compared to the intricacies of most continental systems; making it fairly simple to comprehend the effect of certain factors which control ecological phenomena against a fairly straightforward background in island systems.⁹⁸²

In this regard, islands may be generally categorized into two main types namely, true islands and habitat islands;⁹⁸³ and for purposes of Article 121(3), into further broad subdivisions.

(a) True Islands

True islands are islands surrounded by water.⁹⁸⁴ This type may be further subdivided into oceanic islands, island continents, continental fragments, continental shelf islands and islands in lakes or rivers⁹⁸⁵ as briefly elaborated below.

(i) Oceanic islands

Oceanic islands are 'fairly distinctive geologically' compared to most of the land surface of the earth.⁹⁸⁶ They usually comprise volcanic rocks, reef limestone (coralline), or both.⁹⁸⁷

⁹⁷⁹ *Ibid.*, p. 45.

⁹⁸⁰ Royle, *supra* n 975, p. 1.

⁹⁸¹ *Ibid.*

⁹⁸² P.M. Vitousek, L.L. Loope and H. Adersen (Eds), *Islands, Biological Diversity and Ecosystem Function* (1995, Springer-Verlag Berlin Heidelberg, New York), p. 1.

⁹⁸³ Whittaker and Fernández-Palacios, *supra* n 939, p. 10.

⁹⁸⁴ *Ibid.*, p. 10; See also Larry D. Harris, *The Fragmented Forest: Island Biogeography Theory and the Preservation of Biotic Diversity* (1984, The University of Chicago Press, Chicago and London), p. 71.

⁹⁸⁵ Whittaker and Fernández-Palacios, *supra* n 939, p. 10; Harris, *supra* n 984, p. 71 - Harris however confined his references to only continental shelf islands and oceanic islands.

⁹⁸⁶ Whittaker and Fernández-Palacios, *supra* n 939, p. 12.

⁹⁸⁷ *Ibid.*, pp. 12, 57; see also John Connell, *Islands at Risk? Environments, Economies and Contemporary Change* (2013, Edward Elgar Publishing Limited, Cheltenham), p. 15 - e.g. Aitutaki, Cook, a 'fringing reef' oceanic island.

Chapter 8

They are often isolated,⁹⁸⁸ ‘formed over oceanic plates,’ and ‘have never been connected to continental land masses’ from which they are separated by deep sea.⁹⁸⁹ They originate from submarine volcanic activity, mostly with basaltic foundation.⁹⁹⁰ Examples are Hawaii and The Canaries.⁹⁹¹ The volcanic foundations of oceanic islands commonly involve ‘varying degrees of lateral and vertical displacement.’⁹⁹² Species that have initially been dispersed to these islands populate the latter, including subsequent enrichment by speciation.⁹⁹³ Various volcanic island types result in connection with plate boundaries or tectonic plate with a possible one million submarine volcanoes today, of which only several thousands have been able to make it to sea level as volcanic islands.⁹⁹⁴

Volcanic islands are nevertheless typically active for long periods of even up to many millions of years, although the nature of volcanism differs greatly.⁹⁹⁵ Geologically, they tend to be transitory, lasting from as low as a few days to tens of millions of years.⁹⁹⁶ They may develop through ‘further volcanism, or subside, erode, and disappear’⁹⁹⁷ back into the ocean, which is considered normally short-lived, although what is left may continue to remain as oceanic islands through the formation of coralline rings or atolls if the sea temperature is suitable.⁹⁹⁸ Therein, as a consequence of sea-level changes, and with the right environment, coral reefs may build around subsiding volcanoes.⁹⁹⁹

In this connection, there are three types of reefs: fringing reefs, barrier reefs and atolls.¹⁰⁰⁰ Atolls are a result of the process of the subsidence of volcanic islands.¹⁰⁰¹ They

⁹⁸⁸ Connell, *supra* n 987, p. 15; Whittaker and Fernández-Palacios, *supra* n 939, p. 57.

⁹⁸⁹ Whittaker and Fernández-Palacios, *supra* n 939, pp. 10, 12, 15, 57; Connell, *supra* n 987, p. 15.

⁹⁹⁰ Whittaker and Fernández-Palacios, *supra* n 939, pp. 14, 57.

⁹⁹¹ *Ibid.*, p. 11.

⁹⁹² *Ibid.* p. 45. i.e. movement confounded by worldwide sea level changes.

⁹⁹³ *Ibid.*, p. 15.

⁹⁹⁴ *Ibid.*

⁹⁹⁵ *Ibid.*, p. 42 – Differences include the way fluids outpour, size of explosions, time of dark ash output and end result, speed of avalanches if any, degree of violence, etc. In increasing degree of explosiveness from the mildest, are e.g. Icelandic eruptions (that has merely ‘fluid outpourings from lengthy fissures’ building ‘flat plateaux of lava’), to Hawaiian eruptions, Strombolian eruptions, Vulcanian eruptions, Peléan eruptions, and finally to Plinian eruptions (i.e. extremely explosive with sustained projection of volcanic ash into a high cloud, so violent, including the collapsing of the summit area).

⁹⁹⁶ *Ibid.*, p. 12.

⁹⁹⁷ *Ibid.*

⁹⁹⁸ *Ibid.*, pp. 15, 22-23.

⁹⁹⁹ *Ibid.*, pp. 22-23.

¹⁰⁰⁰ Whittaker and Fernández-Palacios, *supra* n 939, pp. 22-23; McLeish, *supra* n 973, p. 42; C. Darwin, *The Structure and Distribution of Coral Reefs. Being the First part of the geology of the voyage of the Beagle, under the Command of Capt. Fitzroy, R.N.* (1842, Smith, Elder and Co, London), Chapters I - VI.

¹⁰⁰¹ Whittaker and Fernández-Palacios, *supra* n 939, pp. 22-23; McLeish, *supra* n 973, pp. 58-59.

first begin as fringing reefs (coral reefs), surrounding the shores of an island; then they develop into barrier reefs due to the breadth of water between the reefs and the island; and eventually they become atolls due to the full submergence of the original island with only the coral ring around a shallow water lagoon.¹⁰⁰²

Furthermore, upward growth of reef-forming corals in the tropics and subtropics during periods of relative or actual subsidence has resulted in numerous island formations of merely a few metres elevation.¹⁰⁰³ These reefs and atolls are also referred to as 'low-lying islands' which category includes coral cays.¹⁰⁰⁴ They have been described as sinuous, usually less than 3 metres above sea level at their highest point, and 'highly vulnerable to natural hazards.'¹⁰⁰⁵ However, 'raised' coral atolls such as Niue and Nauru whose soils are porous and although whose biological potential are limited are considered 'high islands'.¹⁰⁰⁶

Thus, oceanic islands may not necessarily be high above sea level.¹⁰⁰⁷ Also, those still in volcanic formation are different from atolls in that they have a developed soil structure, natural resources and minerals, agricultural potential, a more varied flora and a lesser risk from sea level rise and storms.¹⁰⁰⁸ The parent rock for oceanic islands is basalts.¹⁰⁰⁹

(ii) Continental shelf islands

Continental shelf islands or continental islands are located on the continental shelf, many of which have once been connected to the mainland during the Quaternary ice ages, during the periods of significantly lower sea levels.¹⁰¹⁰ They originate from interglacial sea-level rise.¹⁰¹¹ As a result of postglacial sea-level rise (c. 130m), narrow, shallow waters detached them from the continents making them emergent fragments; and this

¹⁰⁰² Whittaker and Fernández-Palacios, *supra* n 939, pp. 22-23.

¹⁰⁰³ *Ibid.*, p. 45; Royle, *supra* n 975, p. 30.

¹⁰⁰⁴ Connell, *supra* n 987, p. 14.

¹⁰⁰⁵ *Ibid.*, p. 14.

¹⁰⁰⁶ *Ibid.*, p. 15. 'High islands' are generally "islands that are not coral atolls" (p. 14) although raised atolls may be regarded as a broadly similar and comparable category (p. 15). High islands are generally 'continental islands' which are much larger such as New Guinea and Solomon Islands and can be of 'oceanic islands' (p. 14).

¹⁰⁰⁷ *Ibid.*, e.g. Bermuda.

¹⁰⁰⁸ *Ibid.*

¹⁰⁰⁹ Whittaker and Fernández-Palacios, *supra* n 939, p. 57.

¹⁰¹⁰ *Ibid.*, p. 11 - i.e. formally the last 1.8 million years, although cooling actually began earlier.

¹⁰¹¹ *Ibid.*, p. 57; Royle, *supra* n 975, p. 31 – Royle described them as 'coastal islands'.

separation occurs often recently, isolating the species that have already existed on the islands from their mainland conspecifics.¹⁰¹² Due to their origin, their biological and geological features are very much akin to the continents¹⁰¹³ having much greater ecological diversity as well as usually being much larger in size than oceanic islands.¹⁰¹⁴ They are also geologically more diverse, containing both ancient and recent stratified rocks.¹⁰¹⁵ Although they have been separated from the mainland before the Holocene transgression, they are seldom remote and usually have some land mammals and amphibians including a considerable variety of representatives of other categories.¹⁰¹⁶ These islands are not from coral atolls and are also regarded as high islands.¹⁰¹⁷ The parent rock for continental islands is granite.¹⁰¹⁸

(iii) Continental fragments

By their location, continental fragments can pass off as oceanic islands, although they actually originated from 'ancient fragments of continental rock stranded out in the oceans by plate tectonic processes.'¹⁰¹⁹ They are a result of a new mid-ocean rift creation.¹⁰²⁰ Although similar to the continental shelf islands they were once part of the continent tens of million years ago, they were however separated from the mainland together with the species on them by tectonic drift.¹⁰²¹ It is only when they finally collide

¹⁰¹² Whittaker and Fernández-Palacios, *supra* n 939, p. 14; Biology definition of "conspecifics" i.e. "A member of the same species." - see English Oxford Living Dictionaries, <<https://en.oxforddictionaries.com/definition/conspecific>> [accessed 26 January 2017].

¹⁰¹³ *Ibid.*, pp. 12, 14.

¹⁰¹⁴ Connell, *supra* n 987, pp. 14 - 15 - e.g. New Guinea and Solomon islands; see also *ibid.*, e.g. British Isles and Newfoundland (p. 11), and Svalbard, Britain, Ireland, Newfoundland, Trinidad, Tobago, Falkland, Zanzibar, Sri Lanka, Sumatra, Java, Vancouver, Borneo, and Tasmania (p. 15).

¹⁰¹⁵ Whittaker and Fernández-Palacios, *supra* n 939, p. 57.

¹⁰¹⁶ *Ibid.*, p. 57; see also Anson W. Mackay, "An introduction to Late Glacial-Holocene environments" in Samuel T. Survey (Ed), *Holocene Extinctions* (2009, Oxford University Press Inc., New York), p. 1 – 'The Holocene is the earth's most recent interglacial: a climatically warm interval that separates cooler glacials (or ice ages)'; The Encyclopaedia Britannica explains that "*deglaciation would produce a postglacial 'glacioeustatic' transgression of the seas across the continental shelf. The trace of this Holocene rise of sea level was first discerned along the New England coast and along the coast of Belgium, where it was named the Flandrian Transgression by Georges Dubois in 1924.*" – see <<http://www.britannica.com/EBchecked/topic/269574/Holocene-Epoch/70027/Continental-shelf-and-coastal-regions>> [accessed 7 April 2014].

¹⁰¹⁷ Connell, *supra* n 987, p. 14.

¹⁰¹⁸ Whittaker and Fernández-Palacios, *supra* n 939, p. 57.

¹⁰¹⁹ *Ibid.*, pp. 10-11; Royle, *supra* n 975, p. 27.

¹⁰²⁰ Whittaker and Fernández-Palacios, *supra* n 939, p. 57.

¹⁰²¹ *Ibid.*, p. 14.

with another continent, that they then form a new peninsula¹⁰²² or islands.¹⁰²³ In some senses, this type of islands is intermediate between the oceanic islands and the continental shelf islands; but since they are characteristically ancient and long isolated, they are biologically peculiar.¹⁰²⁴ The parent rock for continental fragments is granite.¹⁰²⁵

(iv) Island continents

An island continent has been described as ‘an island as large or nearly as large as a continent,’¹⁰²⁶ for instance, Australia.¹⁰²⁷

(v) Islands in lakes or rivers

This type of islands is similar to those at sea in the sense that they are surrounded by water as opposed to habitat islands.¹⁰²⁸ Their living organisms (biota) ‘experience the terrestrial surroundings as barriers of low biodiversity’ and ‘there is hardly any continental species pool.’¹⁰²⁹

(b) Habitat Islands

In comparison to true islands, this type of islands is not ‘real’ islands although they do have insular characteristics.¹⁰³⁰ They are not necessarily surrounded by water but what gives them their classification appears to be their habitat. Thus, there exists both land and

¹⁰²² *Ibid.*, e.g. the Indian sub-continent which eventually collided with Eurasia c.50 Ma, after its separation from the Gondwanaland supercontinent during the early Cretaceous (c.130 Ma). “Ma” stands for “Megannum” i.e. 1 Ma is one million years according to geologic time scale – see <<http://geology.about.com/b/2012/02/15/ma-or-myr-how-we-talk-about-geologic-time.htm>> [accessed 7 April 2014].

¹⁰²³ *Ibid.*, p. 11 e.g. Madagascar and New Caledonia. Further examples are Sicily, Crete, Cyprus, Cuba, Jamaica, Puerto Rico, South Georgia, Seychelles, Kerguelen, Socotra, and New Zealand (p. 15).

¹⁰²⁴ *Ibid.*, p. 57.

¹⁰²⁵ *Ibid.*

¹⁰²⁶ Gove, *supra* n 180, Vol. II, p. 1198.

¹⁰²⁷ Whittaker and Fernández-Palacios, *supra* n 939, p. 11; Royle, *supra* n 975, p. 8 - Australia with 7,686,843 km² in area is generally accepted as being a continent, whilst Greenland at 2,175,600 km² has been described as the world’s largest island; see also *ibid.* - In comparison to Royle’s findings, this Encyclopædia/dictionary however cited Greenland as an ‘island continent’ as opposed to merely an ‘island’.

¹⁰²⁸ Whittaker and Fernández-Palacios, *supra* n 939, p. 11; see text under ‘8.1.2 (b) Habitat Islands’.

¹⁰²⁹ Vitousek, Loope and Adersen, *supra* n 975, pp. 18-19; Calow, *supra* n 926, p. 95 – Biota is the total flora and fauna of a region.

¹⁰³⁰ Whittaker and Fernández-Palacios, *supra* n 939, p. 11.

marine habitat islands.¹⁰³¹ The fundamental fact is that their biotas are secluded within a restricted area.¹⁰³² They are 'patches of a distinct terrestrial habitat isolated by a hostile matrix,' namely, terrestrial habitats which are strongly contrasting¹⁰³³ and this characteristic is similar to marine habitats in aquatic systems, also having such separation amongst discrete habitat types due to strongly contrasting aquatic environments.¹⁰³⁴

Compared to true islands that have clearly defined limits and properties which makes them discrete objects for study despite that they may vary hugely over the lifespan of an island,¹⁰³⁵ habitat islands 'exist typically within complex landscape matrices' which can change dramatically over just a few years.¹⁰³⁶ Basically, what works for true islands does not necessarily work for habitat islands and vice versa.¹⁰³⁷

26. Scope of application

26.1 Island category identified

Based on the preceding sections, it is obvious that only true islands and not habitat islands should be considered for purposes of Article 121. The definition of an island under Article 121(1) of UNCLOS explicitly includes having to be surrounded by water in which true islands conform to the test, whilst this is not necessarily so for habitat islands. This selection of only true islands for the consideration includes the fact that the criteria that make islands habitat islands are also different from true islands.¹⁰³⁸

However, for purposes of Article 121(3), the type of islands from the true island category would not include islands in lakes or rivers. This is simply because their geographical

¹⁰³¹ *Ibid.*

¹⁰³² Vitousek, Loope and Adersen, *supra* n 982, p. 18 - e.g. lakes, mountains, caves, wood lots including individual plants.

¹⁰³³ Whittaker and Fernández-Palacios, *supra* n 939, p. 11. e.g. thistle heads in a field, USA's Great-Basin mountain tops surrounded by desert, continental lakes such as Baikal and Titicaca, and woodland fragments surrounded by agricultural land.

¹⁰³⁴ *Ibid.* e.g. shallow benthic environments isolated by deep water such as the 'fringing reef around an isolated oceanic island, 'coral reefs separated from other reefs by stretches of seawater', seamounts and guyots; see P.H. Collin, *Dictionary of Ecology and the Environment* (1988, Peter Collin Publishing Ltd, Middlesex), p. 17 - 'Benthic organism' is defined as 'organism living on the bottom of the sea or of a lake.'

¹⁰³⁵ Whittaker and Fernández-Palacios, *supra* n 939, p. 11 - e.g. in terms of its area, perimeter, altitude, isolation, age, and species number.

¹⁰³⁶ *Ibid.*, p. 11-12.

¹⁰³⁷ *Ibid.*, p. 12.

¹⁰³⁸ See Section 25.3(b).

location is that of the internal waters of a State, and thus the question of maritime entitlement in Article 121(3) would not arise.

Hence, only oceanic islands, continental fragments, continental shelf islands and island continents would be the maritime features for contemplation under Article 121(3). However, more focus may be given to the smaller ones of these selected categories since they are more predisposed to having no or very limited fresh water and other essentials, fit for human survival,¹⁰³⁹ making the question of whether they can still escape Article 121(3) to be more likely applicable to them. Nevertheless, although the chances of larger islands having the ability to sustain human habitation or economic life of their own are highly likely, these islands should still be subject to the test if the need arises for the determination of their status under Article 121(3).

27. Preliminary Conclusion

The preceding paragraphs have emphasized the undeniable connection between environmental science and some of the main ingredients that make up Article 121(3).

In this regard, **island biogeography** plays a fundamental role in identifying the relevant maritime features that could be tested under Article 121(3). Oceanic islands, continental shelf islands, continental fragments and island continents have been highlighted as the maritime features for consideration. This is regardless of their sizes due to the need for an objective scientific test that is applicable to all relevant maritime features. This identification also involves the need to involve **geology**, to understand the earth's formation, such as an island's parent rock, to complement the findings in island biogeography for purposes of identifying a more narrowed down focus of islands in the consideration of Article 121(3).

The employment of **ecology** and **ecosystem** is also extremely crucial, with particular emphasis on human ecology and human ecosystem given that the very elements in Article 121(3) highlight the differences in maritime entitlement for a maritime feature based on its ability to sustain human habitation or economic life of its own. Indeed, the requirements that a maritime feature needs to be able to satisfy, necessitates research

¹⁰³⁹ “[V]ery small islets (below the order of about 10 ha) can lack a permanent [freshwater] lens.” – see Whittaker and Fernández-Palacios, *supra* n 939, p. 37.

Chapter 8

on the relationship between humans and their environment that has been discussed thus far.

All these environmental science factors are very much interrelated and will thus be dealt with accordingly vis-à-vis islands under Article 121(3) with occasional reference to other environmental science factors where necessary.

To address this aim, the next Chapter takes the step to first deal with basic human needs for survival in the light of natural island surroundings, whilst the subsequent Chapter will integrate the findings into the legal framework of Article 121(3), ensuring that it would not be contrary to the intention and purpose of the provision. In sum, environmental science plays an important role in aiding in the interpretation of these elements with particular regard to the habitability and survival of humans on a given terrain. It could be regarded as one of the neutral approaches to assist States in the application of Article 121(3) concerning certain types of maritime features that could fall under discussion.

Chapter 9 HUMAN SURVIVAL VIS-À-VIS NATURAL ISLAND SURROUNDINGS

28. Introduction

The previous chapter has identified the relevant scientific elements and the type of islands for Article 121(3) consideration. As aforementioned, the very words in the provision include sustaining human habitation as one of the requirements for an island to escape the consequences of being caught by it. Thus, it is essential to first identify humans' basic needs for survival and their relationship with island environment and surroundings.

This Chapter will thus explain firstly, humans' basic needs and accessibility to the sources; and secondly, island conditions in relation to human survivability.

29. Natural survivability and basic human needs

Every living organism including humans is completely reliant on the resources and materials provided by the earth, and also on the energy received from the Sun.¹⁰⁴⁰ For their sustenance, humans are wholly dependent on nature.¹⁰⁴¹ The earth has resources such as energy derived from fossil fuels, coal, oil and natural gas; and electricity obtained from nuclear and hydroelectric sources.¹⁰⁴² These sources include tidal, wind and solar energy,¹⁰⁴³ metals generally found in the earth's crust,¹⁰⁴⁴ and other useful minerals.¹⁰⁴⁵ Despite their importance, they are secondary to the essential basic needs for human life which are water,¹⁰⁴⁶ food¹⁰⁴⁷ and shelter; and humans use available resources for these purposes.¹⁰⁴⁸

¹⁰⁴⁰ Allaby, *supra* n 928, p. 86.

¹⁰⁴¹ Marten, *supra* n 946, p. 133.

¹⁰⁴² McLeish, *supra* n 973, p. 120.

¹⁰⁴³ *Ibid.*

¹⁰⁴⁴ *Ibid.*, p. 130. i.e. in the form of compounds called ore minerals.

¹⁰⁴⁵ *Ibid.*, p. 134. e.g. sulphur, fluorite, asbestos and diamonds.

¹⁰⁴⁶ G. Tansey & A. Worsley, *The Food System – A Guide* (2014, Routledge, Chicago), p. 10; see also Allaby, *supra* n 928, p. 90.

¹⁰⁴⁷ Tansey & A. Worsley, *supra* n 1046 p. 2; see also Allaby, *supra* n 928, p. 90.

¹⁰⁴⁸ Allaby, *supra* n 928, p. 90.

Firstly, **water** is the 'universal internal medium of all organisms' with living matter comprising more than 90 per cent water,¹⁰⁴⁹ thus causing it to be the most valuable resource fundamental for the upkeep of the life processes of animals and plants; including its abundant domestic and industrial uses.¹⁰⁵⁰ Per day, 5 litres of water for drinking and cooking with another 25 to 45 litres for hygiene are required by each person.¹⁰⁵¹ However, the World Resources Institute highlighted that '3.4 billion get by on about 50 litres per day' although in America and Australia, the average human uses around 350 litres a day and 570 litres a day respectively.¹⁰⁵² Irrespective of these differences in an individual's water intake, water is irrefutably one of the most basic and fundamental resources for humans and without it, life could not exist on land.¹⁰⁵³

Secondly, humans need **food**. There is an endless variety of food that humans consume, with much depending on factors such as culture, society and religion. Regardless, humans require sufficient and safe nutritious food for a healthy life,¹⁰⁵⁴ the sustainability of areas on earth to ensure this,¹⁰⁵⁵ as well as the necessary laws, rules, regulations and related enforcement mechanisms by governments.¹⁰⁵⁶

Hence, although the definition of what can be regarded as food can vary widely, it is only reasonable to consider only those that are categorized as safe to be consumed. This may possibly be done via a State's legal framework that includes food trading regionally and globally.¹⁰⁵⁷

Finally, **shelter** is equally important for humans' basic survival to ensure protection from the environmental surroundings such as the weather that can affect man's health, and possible predators that undermines human safety.

¹⁰⁴⁹ Mackenzie, Ball & Virdee, *supra* n 946, p. 31.

¹⁰⁵⁰ McLeish, *supra* n 973, p. 135.

¹⁰⁵¹ Tansey & Worsley, *supra* n 1046, p. 11 - Reference was made to CSIRO, Water no 18, CSIRO Research for Australia Series, East Melbourne, CSIRO Publication, undated and 'Down the Drain' The Helix, 1991, no. 21, pp. 6-9.

¹⁰⁵² *Ibid*; see also F. Golden & M. Tipton, *Essentials of Sea Survival* (2002, Human Kinetics, United States of America), p. 143 - A resting person loses at least 1,500 millilitres per day in a thermoneutral environment.

¹⁰⁵³ Allaby, *supra* n 928, p. 90.

¹⁰⁵⁴ Tansey & Worsley, *supra* n 1046, p. 49.

¹⁰⁵⁵ *Ibid.*, pp 222-225 - e.g. for agricultural production.

¹⁰⁵⁶ *Ibid.*, p. 198.

¹⁰⁵⁷ *Ibid.*, p. 199; See also pp. 235-238 - e.g. individual state governments – UK's Food and Drugs Act of 1955, the Food Act 1984, Food and Environment Protection Act 1985 (p. 205); e.g. global/international frameworks - see the World Trade Organization (WTO) e.g. see General Agreement on Tariffs and Trade (GATT), The Food and Agricultural Organization of the United Nations (FAO), the World Food Programme, and the World Health Organization (WHO).

In short, humans need water, food and shelter to survive. All these should be available if the habitability of humans is to be proven. Focus will nevertheless be more on the water and food elements for Article 121(3) purposes since the possibility of humans to survive without the former is quite impossible, whilst the shelter element is more subjected to the environmental surroundings of a given place.

30. Accessibility to resources: The intricacies

Human survival certainly establishes the need to rely on natural surroundings for sustenance. Nevertheless, are these resources readily available or easily accessible? The human-environment relationship as discussed below is of particular importance.

30.1 Water

It has been highlighted that humans primarily need water, food and shelter, with water being the most basic and fundamental need for life. Nevertheless the question remains as to where such sustenance may be derived from. When identifying where such sources are derivable, the ecology and ecosystem of a place in question must be considered. Natural ecosystems act as a benchmark for measuring the efficiency of our food-producing systems.¹⁰⁵⁸ Human ecosystem and ecology reflect the process in which humans derive their sustenance from.

Firstly, sea water appears to be the most evident place to obtain supplies since almost all the water on earth is in the oceans.¹⁰⁵⁹ The seas make up 97 per cent of water on earth, another 1.9 per cent still frozen as ice and the rest of the portion as ground water which includes a lesser amount in rivers and lakes.¹⁰⁶⁰

However, humans need **fresh water**.¹⁰⁶¹ Drinking sea water is harmful and has limited use, although the removal of its dissolved salts may render it potable.¹⁰⁶² Nonetheless, while the reverse osmosis process can produce potable water from seawater, the fluid

¹⁰⁵⁸ Pears, *supra* n 932, p. 124.

¹⁰⁵⁹ Allaby, *supra* n 928, p. 99.

¹⁰⁶⁰ McLeish, *supra* n 973, p. 135; see also *ibid.*, pp. 90-91.

¹⁰⁶¹ Allaby, *supra* n 928, p. 90.

¹⁰⁶² *ibid.*, p. 90.

obtained from the pumps used should not be considered as a replacement but merely a supplement.¹⁰⁶³ Furthermore, not all sea water is equally saline for the purpose of eradicating the salts from sea water.¹⁰⁶⁴ In addition, despite the temporary relief from the indications of dehydration, drinking sea water will eventually accelerate death due to the excess sodium in the body (*hyponatremia*) before ensuing agonizing death due to the absence of water (*anhydration*).¹⁰⁶⁵ Also, sea water salt content is useless for agricultural or domestic purposes because of its dehydrating effect; and for land dwelling plants or animals to utilise it, its salts must be removed which process can be expensive.¹⁰⁶⁶

The dehydration of the body causes many of the unwelcomed side effects including reported madness in those who have consumed large quantities of sea water.¹⁰⁶⁷ Even the combination of fresh water and sea water causes the imbalance of the normal physiological mechanism of water and salt in the body, causing increase in salt levels and resulting in the additional decline of water in the cells and hastening death.¹⁰⁶⁸

For survival purposes, apart from drinking, water is produced within the body due to the metabolism of food and can amount to about 350 to 500 millilitres per day.¹⁰⁶⁹

Nevertheless, this process for the human body is merely a temporary measure in desperate survival situations. Further, although the mammalian kidney has water-conserving ability that is a key terrestrial adaptation,¹⁰⁷⁰ animals are not watertight and constantly needs water replenishment¹⁰⁷¹ either from the food they eat due to metabolism process or from drinking water.¹⁰⁷²

Therefore, a continuous supply of **fresh water** is essential and may be obtained from rivers, lakes and underground aquifers, which appear to be only approximately 3 per cent

¹⁰⁶³ Golden & Tipton, *supra* n 1052, p. 159.

¹⁰⁶⁴ Allaby, *supra* n 928, pp. 99 – 100. However, desalination is widely used in the Near and Middle East as well as in the United States; see also Richard T. Wright, *Environmental Science – Toward a Sustainable Future* (2008, 10th Edition, Pearson Prentice Hall: Upper Saddle River NJ), p. 186 – There does not seem to be a sustainable future from desalination.

¹⁰⁶⁵ Golden & Tipton, *supra* n 1052, p. 150.

¹⁰⁶⁶ Allaby, *supra* n 928, pp. 99 – 100.

¹⁰⁶⁷ *Ibid.*, p. 151.

¹⁰⁶⁸ *Ibid.*, p. 153.

¹⁰⁶⁹ Allaby, *supra* n 928, p. 144. Water is derived from the carbohydrate and fat metabolism and the amount depends on the diet.

¹⁰⁷⁰ Mackenzie, Ball & Virdee, *supra* n 946, p. 41.

¹⁰⁷¹ *Ibid.*, p. 40.

¹⁰⁷² *Ibid.*, p. 41.

of all the water in the world with the rest in the oceans.¹⁰⁷³ Less than 0.005 per cent of this fresh water is atmospheric water vapour, flowing rivers and falling rain and snow; whilst more than half of this 3 per cent is frozen in the glaciers and the polar icecaps and another 0.5 per cent too far in the ground beyond reach.¹⁰⁷⁴ Consequentially, when deciding whether there is indeed fresh water which is an essential element for human survival, the existence of these sources of fresh water need to be identified.

30.2 Food

(a) Importance of soil and water

The other basic resource for humans is **food**.¹⁰⁷⁵ Food can safely be categorized broadly as to the type of sources from which it may be derived, namely plants and animals. Plants which are the main producers in most terrestrial ecosystems¹⁰⁷⁶ are consumed by primary consumers such as herbivores¹⁰⁷⁷ and insects;¹⁰⁷⁸ whilst secondary consumers such as carnivores that feed on herbivores and insects are for example, frogs, insect-eating birds, animal parasites, spiders and carnivorous mammals.¹⁰⁷⁹ In the oceans, secondary consumers such as fish, feed on primary consumers such as zooplankton which prior to that feeds on the primary producer phytoplankton.¹⁰⁸⁰ Man however is omnivorous¹⁰⁸¹ feeding on both the main producers and the primary consumers.

Yet the food chain is such that, before humans can even derive food from plants and animals, these elements also need **water** to survive.¹⁰⁸² Plant productivity and precipitation has a general relationship with water being fundamental for photosynthesis.¹⁰⁸³ Less dense vegetation resulting from water shortage captures less light, thus 'causing low productivity rather than any reduced photosynthetic rate of

¹⁰⁷³ Allaby, *supra* n 928, p. 90; see text at *supra* n 1060.

¹⁰⁷⁴ *Ibid.*, pp. 90-91.

¹⁰⁷⁵ Allaby, *supra* n 928, p. 246.

¹⁰⁷⁶ Mackenzie *et al*, *supra* n 946, p. 66.

¹⁰⁷⁷ *Ibid.*, p. 66 - e.g. grazing mammals.

¹⁰⁷⁸ *Ibid.*, p. 65.

¹⁰⁷⁹ *Ibid.*, p. 66.

¹⁰⁸⁰ *Ibid.*, p. 65; see also Pears, *supra* n 932, p. 101- i.e. the food-web pattern for a coral reef ecosystem in the Marshall Islands shows plankton as the primary producers.

¹⁰⁸¹ Pears, *supra* n 932, p. 99.

¹⁰⁸² Allaby, *supra* n 928, pp. 90-91., p. 103.

¹⁰⁸³ Mackenzie, Ball & Virdee, *supra* n 946, p. 37.

droughted plants.¹⁰⁸⁴ Short supply of water causes crucial implications on the plants' ability to optimize photosynthetic activities.¹⁰⁸⁵ Basically, before both plants and animal can even exist as food for humans, there has to be water for the former's consumption.

Plants also need solar energy for their survival and humans and animals derive chemical energy from the solar energy through plants.¹⁰⁸⁶ The food chain process may simply be observed as highlighted by Pears:

*"Sun -> Cabbage -> Caterpillar -> Chicken -> Man,"*¹⁰⁸⁷

or a shorter version that reflects man's direct consumption of plants are as follows:

Sun -> Cabbage -> Man

In this regard, animals and humans are dependent on plant life, be it directly or indirectly, be it from plants or from animals.¹⁰⁸⁸ Furthermore, vegetation is one of man's important resources with the plant cover being crucial for the atmospheric balancing of oxygen and carbon dioxide.¹⁰⁸⁹

In addition, plants' linkage to **soil** is intimate¹⁰⁹⁰ and for terrestrial plants, soil is the reservoir and is the main source for water.¹⁰⁹¹ Almost all human food comes from crops grown in soil or from animals that feed from such crops or grasses grown therein.¹⁰⁹²

Water reaches plant roots through soil and vice-versa.¹⁰⁹³ As opposed to aquatic environments where water is readily available,¹⁰⁹⁴ soil water may not always be available to terrestrial plants since this depends on the size of the soil pores that can retain water that enters as rain or melting snow, by capillary action against gravity.¹⁰⁹⁵ For instance,

¹⁰⁸⁴ *Ibid.*, p. 38.

¹⁰⁸⁵ *Ibid.*, p. 58.

¹⁰⁸⁶ Pears, *supra* n 932, p. 5.

¹⁰⁸⁷ *Ibid.*, p. 5.

¹⁰⁸⁸ *Ibid.*

¹⁰⁸⁹ *Ibid.*

¹⁰⁹⁰ Allaby, *supra* n 928, p. 116.

¹⁰⁹¹ Mackenzie *et al*, *supra* n 946, p. 35.

¹⁰⁹² E.M. Bridges, *World Soils* (1997, 3rd Edition, Cambridge University Press, Cambridge), p. 1.

¹⁰⁹³ Mackenzie, Ball & Virdee, *supra* n 946, p. 35.

¹⁰⁹⁴ *Ibid.*, p. 36.

¹⁰⁹⁵ *Ibid.*, p. 35.

sandy soil which has wide pores drains water till it reaches an impermeable rock, either accumulating 'a rising water table or drains away' into rivers or streams.¹⁰⁹⁶

Nevertheless, natural ecosystems contain many different kinds of animals and plants in which only some are suitable as human food although this has to a certain extent 'changed after the Agricultural Revolution'¹⁰⁹⁷ which allows people to create their own small ecosystems' for food production.¹⁰⁹⁸ In agriculture, land preparation is required to make the soil suitable to receive seeds¹⁰⁹⁹ and able to sustain production forever unless there are other lands or alternative methods to produce food that humans need.¹¹⁰⁰ Clearly, soil in which plants grow is the key to this production¹¹⁰¹ and sustainable soil use is therefore crucial.¹¹⁰²

In this regard, soil has been defined to include, broadly as "the unconsolidated mineral or organic material at the surface of the earth capable of supporting **plant growth**;" in the agricultural context as "the stuff in which **plants grow**;" and also as "the collection of natural bodies, formed on the earth's surface containing living matter and supporting or capable of **supporting plants**."¹¹⁰³ The key word to note here is the **plant factor** that seems to be constantly associated in the soil definition clearly showing the necessity and importance of soil for the former's survival. Indeed the unavailability of soil affects the capability to grow plants.

The production of food, feed, fibre and fuel are directly supported by soil; with soil formation, nutrient cycling, water and other supporting functions giving the essential ecosystem structures and processes to enable ecosystem services.¹¹⁰⁴ Almost all of the

¹⁰⁹⁶ *Ibid.*

¹⁰⁹⁷ Marten, *supra* n 946, p. 28 -The Agricultural Revolution started in the Middle East because that region had the most plants and animals suitable for domestication where only a few hundred plants and a few dozen animals among all the species in the world were suitable for domestication, and nearly all of them were domesticated at least 5000 years ago. No major new crop or livestock animal has been domesticated anywhere in the world during the past 5000 years.

¹⁰⁹⁸ *Ibid.*, pp. 2, 27.

¹⁰⁹⁹ Tansey & Worsley, *supra* n 1046, p. 16.

¹¹⁰⁰ *Ibid.*, p. 17.

¹¹⁰¹ *Ibid.*

¹¹⁰² *Ibid.*, p. 22.

¹¹⁰³ Bridges, *supra* n 1092, p. 3.

¹¹⁰⁴ H. Hurni, M. Giger, H. Liniger, R.M. Studer, P. Messerli, B. Portner, G. Schwilch, B. Wolfgramm and T. Breu, *Soils, agriculture and food security : the interplay between ecosystem functioning and human well-being*, in Current Opinion on Environmental Sustainability (August 2015), Vol. 15 Issue 1, pp. 25-34 (2015, Elsevier B. V., ScienceDirect) at pp. 25-26.

global agricultural production utilizes soil as a primary resource base.¹¹⁰⁵ Generally, all components of food security are linked to soils and agriculture, directly or indirectly; wherein with the exception of fishing, hunting and gathering, most of the necessary global supply of food must be produced by agriculture on agricultural soils.¹¹⁰⁶

Nevertheless, there are different **types of soils** across the world.¹¹⁰⁷ Obviously, the mere existence of soil does not mean that any sort of plants can be grown on the former. In fact, efforts to grow food on soil beyond the soil's capacity or cultivating additional areas of unsuitable soils will only cause the degradation of the soil and consequently lesser yields.¹¹⁰⁸ Intensive farming also affects soil, making it unstable and easily eroded.¹¹⁰⁹ Thus, even if there is soil, the types of soil and its fertility is important, since soil damage can adversely affect food production to the point of inadequacy and in the inappropriateness of land use.¹¹¹⁰ Clearly, soil has great influence on living things, primarily plants which in turn can be grown for man's use and survival.¹¹¹¹

However, even **soil needs water** being one of the four main constituents of the former in addition to the other three which are mineral matter, organic matter and air.¹¹¹² **Water** plays a fundamental role, and is required in combination with soil for plant survival; and herein, **rain** is the main input for soil water.¹¹¹³ **Soil water** is the main solvent of nutrients for vegetation growth although the amount must be just sufficient as excess can lead to critical consideration, hindering growth and causing rapid death of species particularly in

¹¹⁰⁵ *Ibid.*, p. 27. Nearly 95 per cent of the agricultural production occurs in terrestrial ecosystems.

¹¹⁰⁶ *Ibid.*, p. 29; Inevitably, food security is highly dependent on agriculture which in turn has need of healthy soil. The sustainability of all agricultural land is even more crucial with the UN declaring the year 2015 as the 'International Year of Soils,' and with soils and their ecological, social, and economic services being strongly discussed in the UN's Sustainable Developments Goals (see Hurni *et al*, *supra* n 1104, p. 25).

¹¹⁰⁷ Bridges, *supra* n 1092, pp. 142, 150.

¹¹⁰⁸ *Ibid.*, p. 151.

¹¹⁰⁹ *Ibid.*, p. 154.

¹¹¹⁰ Marten, *supra* n 946, p. 39.

¹¹¹¹ Pears, *supra* n 932, p. 34. - Pears describe **edaphology** as "the scientific study of the influence of soils on living things, particularly plants, and it includes man's use of soil for plant growth..... and has strong links with agriculture."

¹¹¹² Bridges, *supra* n 1092, p. 3. The mineral matter includes the primary minerals which are "the resistant minerals weathered from the rocks and which persist to form the parent material," and the secondary minerals are "the minerals which have been formed in the soil by recombination from substances in the soil solution" (pp. 8, 10).

¹¹¹³ Pears, *supra* n 932, p. 50-51.

agricultural systems.¹¹¹⁴ Worldwide, the water consumption for agriculture for food purposes takes up 75 per cent of water.¹¹¹⁵

However, sufficient water cannot be contained by soil that has been degraded to allow even for the growth of grass.¹¹¹⁶ In addition, huge amounts of water are required for trees, due to their large life form; but soils formed on steep stony mountain slopes are thin and are unable to retain much water, with water losses also caused by transpiration and evaporation due to bright sunlight or drying winds; including being frozen and thus unavailable in winter.¹¹¹⁷ Lack of water thus causes crops to fail and soil reduced to ‘little more than powder’ and blown away by the wind.¹¹¹⁸

The depth of available soil water and rooting depths can also affect the elemental composition of plants.¹¹¹⁹ For agricultural purposes, an environment requires sufficient rooting depth¹¹²⁰ hence the need for good and adequate soil. A root environment providing optimum amounts of water, air and mineral nutrients with the appropriate soil acidity and salinity would be paramount for plant growth.¹¹²¹ Shallow soil can hinder root growth and consequentially prevent the necessary amount of moisture and nutrients to plants.¹¹²² Its physical quality depends on its depth that enables plant roots to exploit.¹¹²³

Soil fertility has been defined as ‘the ability of the soil to supply enough nutrients and water to allow the crop to make the most of the site.’¹¹²⁴ The mineral elements and plant nutrients in soil must be restored to enable continuous regular cropping; and these

¹¹¹⁴ *Ibid.*, p. 50; see also Marten, *supra* n 946, p. 64.

¹¹¹⁵ John J.W. Rogers & P. Geoffrey Feiss, *People and the Earth, Basic Issues in the Sustainability of Resources and Environment*, (1998, Cambridge University Press, Cambridge), p. 135. i.e. mainly due to irrigation.

¹¹¹⁶ Marten, *supra* n 946, pp. 85-86.

¹¹¹⁷ Pears, *supra* n 932, p. 150.

¹¹¹⁸ Allaby, *supra* n 928, p. 114 – 115. E.g. as experienced by farmers growing wheat in the central plains of North America in 1934 to 1935.

¹¹¹⁹ Y-S Bong, Woo-Jin Shin, Mukesh Kumar Gautam, Youn-Joong Jeong, A-Reum Lee, Chang-Soon Jang, Yong-Pyo Lim, Gong-Soo Chung & Kwang-Sik Lee, *Determining the geographical origin of Chinese cabbages using multielement composition and strontium isotope ratio analyses* (2012) *Food Chemistry* 135, 2666–2674, at 2672-2673.

¹¹²⁰ *Ibid.* e.g. a cropland may require a rooting depth of 2 metres although 80 per cent of the fine root biomass is located at the top 30 centimetres.

¹¹²¹ Wright, *supra* n 1064, p. 199; see also Rogers & Feiss, *supra* n 1115, p. 42 - Plants need light, water and nutrients.

¹¹²² Bridges, *supra* n 1092, p. 155.

¹¹²³ *Ibid.*, p. 159. Plants would suffer if their roots are not able to exploit soil.

¹¹²⁴ *Ibid.*, p. 155; see also John Woodward, *Incredible facts – Earth* (2014, DK: Dorling Kindersley Limited, London), p. 60.

elements come from both the atmosphere such as carbon, hydrogen and oxygen with the remainder from the soil and all via the necessary processes¹¹²⁵ and in the right proportions.¹¹²⁶

On this note, it may be argued that for purposes of habitability in Article 121(3), cropping that allows for continuous soil fertility renewal, may be necessary as opposed to mere foraging since sustainability is a key factor under the provision. Indeed, the act of foraging may ultimately result in the extinction of such “food” whilst systematic cropping can help sustain the latter for a much longer duration due to the “renewal” of soil fertility for continuous food production.

Soil texture is also crucial for its fertility¹¹²⁷ influencing plant growth and its cultivation¹¹²⁸ including the ability to hold nutrients¹¹²⁹ for the supply to plants.¹¹³⁰ Further, soil structure is significant to ensure that it is erosion-resistant whilst permitting proper water infiltration.¹¹³¹ Whilst very young soils are ‘incomplete’ for proper plant growth, very old soils are just as inadequate.¹¹³² The nutrient content and permeability of soils are also influenced by the parent material, the underlying bedrock.¹¹³³ Regardless, whether a soil is ‘good’ or ‘poor,’ can be a subjective matter.¹¹³⁴

Hence, apart from water, soil is equally crucial for plants before it can together with animals exist as food for human. Indeed, soil is a fundamental part of the ‘intricate web of interactions between human beings and the natural environment’¹¹³⁵ and considered as one of the most important environmental factor in human lives.¹¹³⁶

¹¹²⁵ Bridges, *supra* n 1092, p. 156.

¹¹²⁶ *Ibid.*, p. 157.

¹¹²⁷ Clapham, *supra* n 958, p. 150; see also *ibid.*, p. 154.

¹¹²⁸ Greg O’Hare, *Soils, Vegetations, Ecosystems* (1992, Oliver & Boyd, Harlow), p. 11.

¹¹²⁹ Clapham, *supra* n 958, p. 157.

¹¹³⁰ O’Hare, *supra* n 1128, pp. 12-13.

¹¹³¹ Clapham, *supra* n 958, p. 152- 153.

¹¹³² Mark B. Bush, *Ecology of a Changing Planet* (2000, Prentice Hall International (UK) Limited, London), 2nd Edition, p. 82. Very young soils do not have the proper texture and appropriate organisms to assist in the cycling of nutrients, whilst very old soils may have deteriorated due to the gradual disappearance or usage of nutrients.

¹¹³³ O’Hare, *supra* n 1128, p. 57.

¹¹³⁴ Bridges, *supra* n 1092, p. 159.

¹¹³⁵ *Ibid.*, p. 150.

¹¹³⁶ *Ibid.*, p. 164.

In short, for the basic sources of water and food to exist for humans, it is fundamental that there are both fresh water and soil as the starting point. It is crucial to note this since human food is obtained from soil,¹¹³⁷ which is a necessary part of natural ecosystems, through the growth of plants, and the animals that eat the latter.¹¹³⁸

Nevertheless, for purposes of Article 121(3), it is necessary to understand the formation of soil given the possibility of States claiming for an EEZ and a CS for maritime features that may at the outset have almost no soil but are more of hard rocks. Consequently, the next section discusses on soil formation in relation to rocks.

(b) Rocks and weather resistancy

Rocks are natural materials made up of minerals.¹¹³⁹ For instance, granites compose of quartz and feldspar with also usually biotite¹¹⁴⁰ and some 10 per cent mica and hornblende.¹¹⁴¹ There are basically three types of rocks; igneous, sedimentary and metamorphic.¹¹⁴² **Igneous rocks**, commonly associated with volcanoes¹¹⁴³ come from the solidification of molten rock called magma that begins deep within the earth and cools as it rises.¹¹⁴⁴ **Sedimentary rocks** are similar to igneous rocks but are differentiated from their grain size and mineral content;¹¹⁴⁵ whilst **metamorphic rocks** arise out of metamorphism, which is the recrystallization of already existing rocks¹¹⁴⁶ such as from the sedimentary, igneous or other metamorphic rock.¹¹⁴⁷ The amount of pore space between the grains of a rock determines the amount of water that a rock can hold, making porosity a measure of this.¹¹⁴⁸

¹¹³⁷ Allaby, *supra* n 928, p. 109.

¹¹³⁸ Bridges, *supra* n 1092, pp. v, 1.

¹¹³⁹ McLeish, *supra* n 973, p. 14.

¹¹⁴⁰ *Ibid.*; see also Andrew McLeish, *Geological Science* (1992, Thomas Nelson and Sons Ltd, Surrey), pp. 53-54.

¹¹⁴¹ McLeish, *supra* n 973, p. 18.

¹¹⁴² Spooner, *supra* n 973, p. 11.

¹¹⁴³ *Ibid.*, p. 11.

¹¹⁴⁴ McLeish, *supra* n 973, p. 17. E.g. granite, microgranite and rhyolite (McLeish, *supra* n 1140, pp. 53-54), as well as gabbro, dolerite and basalt. Igneous rocks above ground have smaller sized minerals than those underground, and if igneous rock crystallizes above ground (lava), it forms an extrusive or volcanic rock whilst if underground (magma), they form intrusive or plutonic igneous rocks (Spooner, *supra* n 973, p. 76).

¹¹⁴⁵ Spooner, *supra* n 973, p. 76.

¹¹⁴⁶ McLeish, *supra* n 973, p. 23.

¹¹⁴⁷ *Ibid.*, p. 27.

¹¹⁴⁸ Spooner, *supra* n 973, p. 11.

¹¹⁴⁹ McLeish, *supra* n 973, p. 35.

Basically, sedimentary rocks are not as resistant to water infiltration as igneous and metamorphic rocks which are crystalline rocks that are not porous.¹¹⁴⁹ In addition, rocks that are made of quartz have more resistance compared to those made of silicates,¹¹⁵⁰ such as granites.¹¹⁵¹ Furthermore, massive unfractured rocks and fine-grained ones do not weather as fast as those that are well-bedded and fractured or coarse grained.¹¹⁵² The most resistant rock is metaquartzite, followed by granite, basalt, sandstone, siltstone and limestone.¹¹⁵³ Cracked or jointed igneous rocks such as basalt and dolerite are very much inclined to the attacks of all types of chemical weathering that normally operate together to break down rocks.¹¹⁵⁴

Hence, rocks' dissimilarities in their resistance to weathering, which include solid bedrocks such as granites, fundamentally affect **soil formation**, resulting in their various rates and depths, and producing weathered remains of largely different composition.¹¹⁵⁵ Thus, depending on factors such as the base rock and climate, soil formation for the purpose of productive land, takes under most conditions, between 3,000 to 12,000 years.¹¹⁵⁶

Since the parent material of the identified islands for purposes of Article 121(3) are basically of granite and basalt,¹¹⁵⁷ the soil formation process of hard rocks is discussed below, with granite taken as an example. The soil formation process for granite may be used as a guideline for other hard rock types when determining whether an island with similar parent rock has indeed the proper soil for edible vegetation in at least the very near future.

¹¹⁴⁹ McLeish, *supra* n 1140, pp. 68-69.

¹¹⁵⁰ *Ibid.*

¹¹⁵¹ See text at *supra* n 1140.

¹¹⁵² McLeish, *supra* n 1140, pp. 68-69.

¹¹⁵³ *Ibid.*

¹¹⁵⁴ *Ibid.*

¹¹⁵⁵ O'Hare, *supra* n 1128, p. 48.

¹¹⁵⁶ Tansey & Worsley, *supra* n 1046, p. 17.

¹¹⁵⁷ i.e. oceanic islands, continental shelf islands and continental fragments - see CHAPTER 8 at Section 26.1 and Section 25.3(a)(i), (ii) and (iii).

(i) Hard rock: Granites

An orogenesis with a thickened crust results from the collision of two continental margins due to the stacking of crustal nappes or units, one beneath the other.¹¹⁵⁸ Most granites seem to be post-collisional, after the crustal thickening event.¹¹⁵⁹ The cooling of granitic magma which originated from the earth's depth ages ago forms a massive crystalline rock that appears at the surface of the earth, called granite.¹¹⁶⁰ The oldest and most abundant igneous rocks in the earth's crust are granitic rocks.¹¹⁶¹ Granitic rocks may be found related to volcanic arcs in oceanic areas where the crust thickness can be up to 30 kilometres,¹¹⁶² and those in the oceanic islands where the crust can range from 10 to 20 kilometres thickness.¹¹⁶³

Exposed granitic rocks weather in characteristic patterns, formed by molten granite intrusion that was initially at a depth of about ten miles below the surface, and the erosion of which that occurred over millions of years resulted in the exposure of the more resistant bodies of granite.¹¹⁶⁴ Generally, granite mineral composition and texture is heterogeneous.¹¹⁶⁵

¹¹⁵⁸ Anne Nédélec & Jean-Luc Bouchez (translated by Peter Bowden), *Granites: Petrology, Structure, Geological Setting, and Metallogeny* (2015, Oxford University Press, New York), pp. 238-239; see also Michael R.W. Johnson & Simon L. Harley, *Orogenesis, The Making of Mountains* (2012, Cambridge University Press), p. i - provides orogenesis to be "the process of mountain building, [which] occurs when two tectonic plates collide..." – see <<http://www.cambridge.org/gb/academic/subjects/earth-and-environmental-science/structural-geology-tectonics-and-geodynamics/orogenesis-making-mountains>> [accessed 13 December 2015]; see also Lesley Brown (Ed), *The New Shorter Oxford English Dictionary on Historical Principles* (1993, Oxford University Press Inc., New York), Vol. 2, p. 2024 – orogenesis: "The formation of mountains"; see also Geology definition of 'nappe': "a sheet of rock that has moved sideways over neighbouring strata as a result of an overthrust or folding" – see <<https://en.oxforddictionaries.com/definition/nappe>> [accessed 13 December 2015].

¹¹⁵⁹ Nédélec & Bouchez, *supra* n 1158, p. 239.

¹¹⁶⁰ *Ibid.*, p. 1.

¹¹⁶¹ V. Sánchez Cela, *Granites and Basalts – Questionable Paradigms* (2012, Gráficas Lema, Zaragoza, Spain), pp. 11, 16, 17.

¹¹⁶² *Ibid.*, pp. 113-114. E.g. the Lesser Antilles Arc.

¹¹⁶³ *Ibid.* E.g. the Hawaii islands.

¹¹⁶⁴ Robert E. Wyatt, *Granite Outcrops, Geography and Environment* (New Georgia Encyclopedia), 1 July 2005, <<http://www.georgiaencyclopedia.org/articles/geography-environment/granite-outcrops>> [accessed on 29 October 2015].

¹¹⁶⁵ *Ibid.* Weathering evidence may be observed from the distinctive rock outcrop habitats. E.g. distinctive plants and animals in the shallow depression on the outcrop surface caused by uneven weathering, the either thin or deeper layer soil that accumulated over bare granite, and the seepage areas resulting from slow discharge of water that comes from neighbouring forests.

(ii) Decomposed rocks: weathering and its effects

Weathering and Soil formation

Climate is the most significant factor that affects the development of soils by its weathering of the parent material namely the bedrock,¹¹⁶⁶ hence is the key factor in the plant environment.¹¹⁶⁷ However, the type of vegetation, activities of humans and animals, the parent material and topography can also influence the development of soil.¹¹⁶⁸

On this note, rock can form into soil by its weathering, which includes the filling of water into small fissures and causing even the toughest rock to expand and split due to the freezing of water, due to the pressure resulting from the latter.¹¹⁶⁹ The duration required for such occurrences is subject to the characteristics of the original rock and the degree of its exposure.¹¹⁷⁰

The subsequent involvement of living organisms such as the respiration and decomposition of plants that release carbon dioxide and causes chemical changes useful to organisms, bacteria forming colonies in sheltered cracks of the rock, lichens following suit including alga and fungus, organic material from waste and the decay of dead cells with further chemical exchanges, finally result in the rock eventually reaching its first stage of the formation of soil.¹¹⁷¹ Natural weathering causes parent material to break down; and as rocks weather, they become smaller fragments and subsequently, into sizes even smaller than small stones, consequently being classified as sand, silt and clay.¹¹⁷² The soil's inorganic component comes from the parent material which is normally the bedrock beneath the soil profile.¹¹⁷³

The decay rate of, and the initial concentrations in, the parent material are the two factors that determine the nutrient amount discharged to the soil.¹¹⁷⁴ The hardness of the

¹¹⁶⁶ Allaby, *supra* n 928, p. 115; see also Bridges, *supra* n 1092, p. 1.

¹¹⁶⁷ Pears, *supra* n 932, pp. 72, 76.

¹¹⁶⁸ Allaby, *supra* n 928, p. 115; see also Bridges, *supra* n 1092, p. 1.

¹¹⁶⁹ Allaby, *supra* n 928, p. 107; see also Bush, *supra* n 1132, pp. 81-82.

¹¹⁷⁰ Allaby, *supra* n 928, pp. 107-108.

¹¹⁷¹ *Ibid.*, p. 108.

¹¹⁷² Wright, *supra* n 1064, p. 197.

¹¹⁷³ Bush, *supra* n 1132, p. 81.

¹¹⁷⁴ *Ibid.* i.e. per unit time.

rock or its solubility in water are fundamental for soil fertility; since such weakly cemented rocks or water soluble types compared to hard types like basalt or granite, are more likely to release nutrients resulting in soil fertility.¹¹⁷⁵

Hence, the balance between the chemical and physical state of a rock and the weathering it endures **mainly depends on the parent rock material and climate**.¹¹⁷⁶ Finer and better graded soils arise out of those that are more weathered and shallower, although the mechanical properties compared to the physical attributes of the soils do not show clear trends.¹¹⁷⁷

Decomposed granite is basically granitic rock that has weathered into fractured or crumbled pieces of weak rock and to a further extent into mixtures of gravel, sand and silt-sized particles including some clay.¹¹⁷⁸ A fundamental weathering process in granite includes the chemical transformation of feldspar into the clay mineral *kaolin* that consequentially permits water to seep in to weaken the rock into even fractured and smaller particles; although the silica grain therein is fairly resistant to weathering, remaining practically intact.¹¹⁷⁹ The effect of water that alters granite mineral composition¹¹⁸⁰ would decompose it.¹¹⁸¹

Decomposed granite soils that have been subjected to severe weathering are fairly unstable and sensitive to mechanical and chemical actions; they have varied mineral compositions with the more coloured ones having lower dry density and strength, and together with the gravity of feldspar, fundamentally determine the engineering

¹¹⁷⁵ Bush, *supra* n 1132, p. 81.

¹¹⁷⁶ I.K. Lee & M.R. Coop, *The Intrinsic Behaviour of a Decomposed Granite Soil* (1995) *Géotechnique* 45, No. 1, 117-130, at 118.

¹¹⁷⁷ I. Rocchi & M.R. Coop, *The effects of weathering on the physical and mechanical properties of a granitic saprolite* (2015) *Géotechnique* 65, No. 6, 482-493, p. 492.

¹¹⁷⁸ Wright, *supra* n 1064, p. 197, and text at *supra* n 1172; see also Lee & Coop, *supra* n 1176, pp. 118-119, 128-129; Takeaki Fukumoto, *A Grading Equation for Decomposed Granite Soil*, *Soils And Foundations*, Japanese Society of Soil Mechanics and Foundation Engineering, Vol. 30 (1990) No. 1, pp. 27-28, 33-34.

¹¹⁷⁹ Nédélec & Bouchez, *supra* n 1158, pp. 294 ; see also Lee & Coop, *supra* n 1176, pp. 118-119; see also Earth Sciences: London's Geology, <<https://www.ucl.ac.uk/earth-sciences/impact/geology/london/ucl/materials/clay>> [accessed 29 October 2015].

¹¹⁸⁰ Peter Lumb, *The Properties of Decomposed Granite*, (Sep 1962) *Géotechnique* Vol. 12 Issue 3, pp. 226-243, at 228. E.g. feldspars and micas.

¹¹⁸¹ *Ibid.*

properties of decomposed granite soils.¹¹⁸² **Soil** that is compacted or at its optimum water content does not vary much in behaviour from when it is saturated and thus is little affected except in cases of flooding; and pore water presence in reconstituted dry soil also has no effect on the friction angle of the soil although decrease in its strength is shown in the grains, hence allowing flooding to adversely affect its soil structure stability.¹¹⁸³ Regardless, seasonal drying and wetting causes the soil to develop strong interparticle bonds, although again its stability would deteriorate with the presence of significant pore water.¹¹⁸⁴ With the possible exception of dense fine soil, decomposed granite can be regarded as free draining.¹¹⁸⁵

Soils differ according to where they are derived from; and those originating from hard rocks such as granite, develop slowly, and are normally sandy with fairly few plant nutrients.¹¹⁸⁶ Hence, although very stable rock surfaces can be weathered, resulting in sediment, they have slow erosion rate and generate small amount of sediment per unit area.¹¹⁸⁷

Vegetation and other species

The weathering of rocks that have formed into sufficient soil can result in the existence of plants and animals.

Examples where vegetation and sometimes animals are seen to exist on **weathered granite areas** that have formed into **soil** may be seen in the **Mule Mountains in Arizona**.¹¹⁸⁸ Although this location is not an island, this example and those in the following paragraphs are intended to show the possibility of vegetation and the type that

¹¹⁸² S. Matsuo and K. Nishida, "Physical and Chemical Properties of Decomposed Granite Soil Grains" in *Soils and Foundations* (1968) J-STAGE, Vol. VIII, No. 4, p. 19. Varied mineral compositions include quartz, feldspar and coloured minerals.

¹¹⁸³ Lee & Coop, *supra* n 1176, pp. 128-129.

¹¹⁸⁴ *Ibid.*, pp. 128-129.

¹¹⁸⁵ Lumb, *supra* n 1180, p. 237.

¹¹⁸⁶ Allaby, *supra* n 928, p. 109; see also text at *supra* n 1175.

¹¹⁸⁷ Matmon, A., A. Mushkin, Y. Enzel, T. Grodek, and ASTER Team, *Erosion of a granite inselberg, Gross Spitzkoppe, Namib desert* (2013, Elsevier B. V., ScienceDirect) *Geomorphology* 201 (2013): 52-59, at 58. E.g. central Namibia - although it is not an island, reference is made to understand the slow erosion rate of hard rocks.

¹¹⁸⁸ Thomas R. Wentworth, *Vegetation on limestone and granite in the Mule Mountains, Arizona* (1981, Ecological Society of America) *Ecology*, Vol. 62, No. 2 (Apr., 1981) pp. 469-482, at 470, 475. Vegetation e.g. pygmy conifer-oak scrub, open oak woodland and desert grassland.

can exist on weathered granite that has formed into soil regardless of being an island or not since the geological make up is still that of weathered granite. Herein, compared to soils on exposed limestone sites that have calcareous soils, the granite bedrock soils on the Mule Mountains are not as fine textured resulting in much less capability to hold moisture; although the opposite result is found in arid regions wherein the finer soil texture provides less moisture for plant growth.¹¹⁸⁹ Contrasting vegetation on limestone and granites are also due to the different mineral nutrient elements between the soils of both rocks; wherein granitic soil appears to have pH acidity more ideal for agricultural purposes.¹¹⁹⁰ Herein, granite appears to have arborescent and herbaceous forms particularly perennial grasses.¹¹⁹¹ The vegetation structure is determined by soil properties, and a better moisture regime would allow grassland and oak woodland on granite; and that the primary cause of differences in plant communities are due to soil properties controlled by the parent material such as granite, with the secondary causes resulting from other environmental effects such as community composition, structure, and physiognomy.¹¹⁹²

Other instances on vegetation and other species on granite include in **Alabama**,¹¹⁹³ the **Namib Desert**,¹¹⁹⁴ granite inselbergs that are less than 5 hectares in size in **Australia**,¹¹⁹⁵ small sized granite outcrops in agricultural landscapes in the South-west slopes bioregion of **New South Wales** in Australia,¹¹⁹⁶ a **south-eastern (United States) granite outcrop**,¹¹⁹⁷

¹¹⁸⁹ *Ibid.*, pp. 478-9.

¹¹⁹⁰ *Ibid.*

¹¹⁹¹ *Ibid.*, p. 479.

¹¹⁹² *Ibid.*, p. 479.

¹¹⁹³ Roland M. Harper, *Granite outcrop vegetation in Alabama*, (JSTOR, Torrey Botanical Society) Torrey (1939) Vol. 39, No. 6: 153-159, at 156-7. i.e. particularly in areas where there are cracks or crevices which allow for a larger foothold for plants, and depressions which hold water that can allow plant growth such as aquatic or semi-aquatic plants (e.g. Isoetes and Amphianthus) or if dry, little plants such as Diarnorpha. E.g. copses of shrubs and trees, and bog areas.

¹¹⁹⁴ Matmon *et al*, *supra* n 1187, p. 53, 55-56.

¹¹⁹⁵ Damian R. Michael, Ross B. Cunningham & David B. Lindenmayer, *A forgotten habitat? Granite inselbergs conserve reptile diversity in fragmented agricultural landscapes*, *Journal of Applied Ecology* 45, no. 6 (2008): 1742-1752, at 1743; see also pp. 1749-1750 – There is effect on the existence and type of reptiles depending on the outcrop area and vegetation, similar to the case of oceanic islands. In island biogeography theory, patch size is regarded to possibly have some connection to the diversity patterns in granite and other geological landforms.

¹¹⁹⁶ Damian R. Michael & David B. Lindenmayer, *Vegetation structure and floristics of granite landforms in the south-west slopes of New South Wales* (2012) *Cunninghamia* 12(4): 309-323, at 310. Their relationships with geomorphology show that plant communities are affected by lithology. There is more diversity of native ground cover species and fewer exotic species on structurally complex outcrops compared to structurally simple ones. There was deficiency in native shrubs, mid-storey and over-storey species and the

the piedmont of the **south-eastern United States from North Carolina to eastern Alabama**,¹¹⁹⁸ the **French Guiana**,¹¹⁹⁹ and the deglaciaded rock outcrops from **Glaciar Frias in Argentina**.¹²⁰⁰ There are also the exposed granite rocks in the Central Province of **Tanganyika in East Africa**,¹²⁰¹ the granite outcrop vegetation in **Wellington National Park**

lacking in vegetation structural complexity on tor landforms (p. 309). However, vegetation that exists on tor landforms were mainly of exotic grasses and forbs, lacking shrubs and supporting less than 5% tree cover (p. 315). These outcrops in the South-west slopes are mostly less than 10 hectares in size and their insularity affects saxicolous plant population's long-term persistence (p. 316); see Gove, *supra* n 180, Vol. II, p. 1322 – lithology: “1. the study of rocks”; see also Brown, *supra* n 1158, Vol. 1, p. 1605: lithology: In geology – “The general physical characteristics of a rock, esp as discernible without a microscope.”

¹¹⁹⁷ Gilles Houle, *Species-area relationship during primary succession in granite outcrop plant communities*, American Journal of Botany (1990): 1433-1439, at 1433. Plants occupy areas where there are soil-filled depressions wherein the relationship between island maximum soil depth and species richness is strong. Plants that exist are mainly *Sedum smallii* subsequent to lichen-annual, and later to annual-perennial and herb-shrub-tree stages. Islands with maximum soil depth that goes beyond 32 cm may have trees, shrub and woody vines together with herbaceous species (p. 1434).

¹¹⁹⁸ Robert Wyatt & Norma Fowler, *The vascular flora and vegetation of the North Carolina granite outcrops* (JSTOR, Torrey Botanical Society) Bulletin of the Torrey Botanical Club (1977): 245-253, at 247.

¹¹⁹⁹ Corinne Sarthou, Jean-François Villiers & Jean-François Ponge, *Shrub vegetation on tropical granitic inselbergs in French Guiana*, Journal of Vegetation Science 14, no. 5 (2003): 645-652, at 645. There is vegetation. Nevertheless, these outcrops are surrounded by rainforest and the existing vegetation are very limited to a special type, hence showing dependence on soil-like situations and that even though the environment and surroundings of these outcrops are that of rich forests, its ability to have plant establishment is still very much limited in addition to the fact that the granite rock itself has been weathered and have at least some thin layer of soil or other. E.g. “predominantly evergreen and sclerophyllous shrubs, especially microphanerophytes, belonging to the Clusiaceae, Myrtaceae and Bombacaceae”; Nouragues inselberg supported various scattered herbaceous and shrubby patches mainly of erect herbs, rosettes or tussocks and one palm species restricted to granitic outcrops in Guiana (pp. 646, 648).

¹²⁰⁰ Irene A. Garibotti, Clara I. Pissolito & Ricardo Villalba, *Vegetation development on deglaciaded rock outcrops from Glaciar Frias, Argentina*, Arctic, Antarctic, and Alpine Research 43, no. 1 (2011): 35-45, at 35. The types of vegetation are associated with the deepening of the soil layer. Early stages show merely a lichen cover and an organic matter layer, whilst a mature forest community are reported to be slow and develop in periods of about 1000 years. About 80 years of rock exposure, there was merely moss and occasionally fruticose lichens, forming a dense lichen-moss carpet on the rock surfaces, and only when it had reached 140 years, was there 90 per cent coverage of this carpet on the sample rock surface studied (p. 39).

¹²⁰¹ G. Milne, *Note on soil conditions and two East African vegetation types* (1937, British Ecological Society) Journal of Ecology, Vol. 25, No. 1 (Feb., 1937), pp. 254-258, at 254. The soils are deep, between 1 to 21 metres, and at the junction of the soil and the parent rock, there is a ferruginous concretionary horizon allowing water that percolates in the wet season to accumulate temporarily; thus, unsurprisingly, plants exist on granite soils such as *Brachystegia-Isobertia woodland* (Miombo) and thorn-scrub. Compared to granite soils, cement soils have different plants such as Itigi Thicket. Granite soils are different in such climatic and topographic conditions, compared to cement soils, giving the latter extreme unsaturation or chemical exhaustion; and that granite soils respond to current controls as opposed to cement soils that react to past climatic and hydrographic situation (p. 255). Nevertheless, the correlation between soils of direct granitic origin and Miombo is proven valid for one kind of Miombo occurrences as in an area of rocky slopes and should not be taken as applying to all areas. On nearly level ground, granite outcrops appear to be related to a distinctive pedacolic type of soil with typical vegetation such as *Lannea*, *Commiphora*, *Dalbergia* and short-grass glades, and types of vegetation such as *Brachystegia-Isobertia* or *Combretum-Terminalia woodlands* (Miombo) occurring only on slopes of granitic soils; whilst Itigi Thicket are only

near Bunbury in the south Western Australia,¹²⁰² the Dartmoor granite outcrop,¹²⁰³ and the south-eastern Brazilian coast including the oceanic island of Santana near Macaé.¹²⁰⁴

It is observed in general that with the exception of a unique and highly specialized group of plant species that survive on the harsh environment of granite outcrops and even so, merely in the existing thin soil layers, many plants from surrounding forests and old-field communities, if a are not able to do so.¹²⁰⁵

Bare granites scarcely have woody plants, with only a few shrubs and woody vines, although there are distinctively, herbaceous plants which is highly dependent on the depth of soil over the rock; with some surviving during extremely stressful microenvironment of hot and dry conditions on the granite by the storing of water in their leaves and stems.¹²⁰⁶ Such bare rocks can only show lichens and algae which are the

confined to high acidity deep soils of light texture formed on grey cement e.g. of *Lanea* : pitachios, flowering plants bearing fruit, cashew, mango, etc. (p. 257).

¹²⁰² Russell S. Smith, & Leigh W. Sage, *Vegetation on and around granite rock outcrops in the Wellington National Park*, Conservation Science Western Australia 5, No. 3 (2006): 1, at 259. Vegetation is merely lichen on bare rock surfaces whilst deeper soils have moss swards and herbfields to shrublands and heathlands. They rely on rainfall as opposed to ground water (p. 263).

¹²⁰³ G.A. Yarranton, *A quantitative study of the bryophyte and macrolichen vegetation of the Dartmoor granite*, The Lichenologist 3, Vol. 3 (1967): 392-408, at 392. The variation in the saxicolous bryophyte and macrolichen vegetation of Dartmoor granite has been related to environmental variation. Nevertheless, this area is mostly covered by blanket peat and poor acid soils, thus unsurprisingly the existence of vegetation. It is observed that field cover increases in relation to soil depth and distribution, although the larger the size of the granite boulder, the less both field layer and soil there are on it (pp. 404, 406).

¹²⁰⁴ Sergio Tadeu Meirelles, Vania Regina Pivello & Carlos Alfredo Joly, *The vegetation of granite rock outcrops in Rio de Janeiro, Brazil, and the need for its protection*, Environmental Conservation 26, No. 1 (1999): 10-20, p. 10. Distinctive vegetation species are found on a thin soil layer that forms elliptical soil-islands with varied sizes between a few centimetres across to hundreds of square metres. The main plant communities were *Velloziaceae* species of the *monocotyledons*, although a shrubby cover of thin soil may also be found on larger islands. The number of species was influenced by island area. (p. 13). Compared to the bare rock surface, any thin layer of dust when there is lack of soil is a more appropriate condition for plant establishment (p. 17).

¹²⁰⁵ Robert E. Wyatt, *Plant Life on Granite Outcrops*, New Georgia Encyclopedia, 18 August 2014, <<http://www.georgiaencyclopedia.org/articles/geography-environment/plant-life-granite-outcrops>> [accessed 6 December 2015]. Few species that can survive here are e.g. Loblolly pine (*Pinus taeda*) and shortleaf pine (*P. echinata*).

¹²⁰⁶ *Ibid.*, The herbaceous plants are e.g. for the winter - the tiny single vascular plant (*Diamorpha smallii*) that occurs in soil depth of 1-3 inches and also surviving because it is free from competition in the stressful microenvironment; a few cryptogams that reproduce from spores and not seeds/flowers; lichens and mosses, with lichen occurring only where soil depth is at least 4-6 inches. In the spring time, there are sandwort (*Arenaria uniflora*), toadflax (*Nuttallanthus canadensis*), and bentgrass (*Agrostis elliottiana*). Autumn shows the Confederate daisy (*Viguiera porteri*) and occasionally lichens; whilst perennial plants normally during the spring through summer time are the haircap moss (*Polytrichum commune*) that requires at least 6-7 inches soil depth, the Confederate daisy and the succulent perennial rockpinks (*Talinum mengesii* or *T. teretifolium*) in slightly thinner soil, whilst on deeper soils toward the center of the

pioneer community such as on a scree slope in the **Lake District**, and other secondary plants such as mosses and grasses that are seen to join only after a few years depending on the formation of soil and better water retention from further weathering.¹²⁰⁷

Any thin layer of dust when there is lack of soil is a more appropriate condition for plant establishment¹²⁰⁸ compared to bare rocks showing the need for even at least dust for survival of even the least of plants. Shrub communities are separated from each other by bare rock¹²⁰⁹ indicating the unlikelihood of plant growth on such surfaces that hardly have soil.

Vegetation types are determined by edaphic factors, the soil conditions and profile of which characterizes such types,¹²¹⁰ clearly affected by the geomorphology and lithology of an area. Depth, moisture, relationships, reaction, organic matter content, minerals for plant nutrients, clay-type substance in the soils all affect the type of vegetation growth.¹²¹¹ Soil layer formation is highly relevant for large-sized vascular plants requiring sufficient soil volume for root placement.¹²¹² Furthermore, although granite outcrops appear to naturally have exotic plants worldwide, these include weeds that are of serious concern, and regarded as a major problem as they alter vegetation structure causing endemic taxa extinction.¹²¹³ Vegetation development is greatly delayed on bedrock outcrops, requiring at least 100 years longer as opposed to unconsolidated deposits or sediment; thus, due to the long time needed for the development of 'desert soil' ground vegetation cover and an organic matter layer, community establishment on bare rock is slow.¹²¹⁴

Species are hardly able to survive on soilless areas with only the native soil-island species that can withstand dry periods albeit still needing at least thin soil layers.¹²¹⁵ Deeper soil

depression are herbs such as wooly ragwort or cottony groundsel (*Senecio tomentosus*), sunnybells (*Schoenolirion croceum*), crow poison (*Nothoscordum bivalve*), and broomsedge (*Andropogon virginicus*).

¹²⁰⁷ Pears, *supra* n 932, p. 69.

¹²⁰⁸ Sergio Tadeu Meirelles, Vania Regina Pivello & Carlos Alfredo Joly, *supra* n 1204, p. 17.

¹²⁰⁹ Sarthou, Villiers & Ponge, *supra* n 1199, pp. 648-9.

¹²¹⁰ *Ibid.*, pp. 651; see also Brown, *supra* n 1158, Vol. 1, p. 1161 – Definition of edaphic: "Of the soil; produced or influenced by the soil."

¹²¹¹ Milne, *supra* n 1201, p. 255.

¹²¹² Garibotti, Pissolito & Villalba, *supra* n 1200, p. 41.

¹²¹³ Michael & Lindenmayer, *supra* n 1196, p. 316.

¹²¹⁴ Garibotti, Pissolito & Villalba, *supra* n 1200, p. 41.

¹²¹⁵ Sergio Tadeu Meirelles, Vania Regina Pivello & Carlos Alfredo Joly, *supra* n 1204, p. 18.

islands have higher number of species compared to shallower ones,¹²¹⁶ including the migration rates of species to the outcrop due to factors that include the harshness of the environment on outcrops and limited seed availability in shallower soils.¹²¹⁷

Thus, the topography of an area that modulates the presence of a large variety of microhabitats, affects the compositional heterogeneity in vegetation on the rock outcrops.¹²¹⁸

Species immigration tend to increase in tandem with soil depth and area with similar findings for oceanic islands and these include herb-shrub trees; and for granite outcrops, such immigration are seen to be less common in thinner soil islands than in deeper ones due to the stressful abiotic conditions.¹²¹⁹

In conclusion, there exists a positive relationship between soil and plants, and that granite on its own would not be suitable for vegetation unless weathered enough with a depth of sufficient soil as a base for the growth of plants. This shows the importance of soil for the survival of species and plants regardless of how minute the latter are. Thus generally, granite areas that have hardly been weathered, bare or smooth, the condition of which have hardly any soil, show no vegetation visible to the naked eye, and at most merely a sparse covering of crustose lichens, or small mosses.¹²²⁰ In fact, granite outcrops in the state of Georgia, in the United States for instance, have been regarded as relatively worthless land by government agencies and local landowners due to its inability to allow construction, grazing and agriculture.¹²²¹ Apparently, only sparse vegetation is observed on the outcrops and even so, this appears on shallow mineral soil overlying impervious rock.¹²²²

The discussion thus basically shows that very hard rocks such as granites do not easily enable edible plant growth unless it has been sufficiently weathered to the extent that soil has been formed; and even so, such soil must be of a certain depth before even considering other factors such as climate and the surrounding environment. Thinly

¹²¹⁶ Houle, *supra* n 1197, pp. 1436-1438.

¹²¹⁷ *Ibid.*, p. 1439.

¹²¹⁸ Garibotti, Pissolito & Villalba, *supra* n 1200, p. 37.

¹²¹⁹ Houle, *supra* n 1197, p. 1438.

¹²²⁰ Harper, *supra* n 1193, pp.156-157.

¹²²¹ Wyatt, *supra* n 1164.

¹²²² *Ibid.*

weathered granites that have thin layers of soil are also prone to landslides which can be hazardous¹²²³ and arguably unsafe for human habitation.

(iii) Preliminary Conclusion

Indeed it has been established that granite on its own may not be able to produce sufficient vegetation suitable or safe for human consumption. Obviously, solid, hard and unweathered granite would hardly have the appropriate soil that allows plant growth.

Even decomposed granite would have to be weathered to an extent where there is soil and depending on the soil depth, only certain vegetation may grow with the most apparent being that of primary vegetation such as moss, lichens, algae, fungi or weeds which are plants that grow from soil that is at its first stage of formation,¹²²⁴ that even if indeed are consumed by humans for initial survival, may not be suitable as human food in the long run. If these primary plants and like categories are the only ones that can survive on small islands of similar 'structure', the argument would appear to favour towards the fact that maritime features with such characteristics may not be able to sustain human habitation. In this regard, the question of whether humans can indeed survive on such 'first stage soil formation' plants, is an unnecessary issue to be debated on as obviously, humans need sufficient amounts of vegetation and edible plants that conform to world health and safety standards.

In addition, the mere existence of soil does not necessarily mean that any plant can be grown from the former. Soil would have to meet certain basic criteria such as its depth and the type of nutrients contained therein including the right amount of water for certain plants to survive. These basic necessities are fundamental with other factors that can also affect plant survival such as climate and its surroundings.

In this regard, the weathering of granites which are of the solid hard rock category¹²²⁵ takes many years.¹²²⁶ Considering the structure and texture of granites, it would be

¹²²³ R.K. Dahal, Shuichi Hasegawa, Atsuko Nonomura, Minoru Yamanaka, Takuro Masuda, and Katsuhiro Nishino, *Failure characteristics of rainfall-induced shallow landslides in granitic terrains of Shikoku Island of Japan*, *Environmental Geology* 56, no. 7 (2009): 1295-1310, at 1297.

¹²²⁴ See texts at *supra* n 1171 and n 1207.

¹²²⁵ See texts at *supra* nn 1151, 1153.

¹²²⁶ See text at *supra* n 1156.

advisable that before any State claims for any such small granite or like maritime feature to not fall under Article 121(3), a proper analysis on the rock island should first be made in accordance with the scientific findings as discussed. It is argued that the discussion concerning granites should be applicable as a guideline for other similar hard rocks, such as basalt, sandstone, siltstone and limestone when determining whether an island would be caught by Article 121(3) or otherwise.

30.3 Shelter

Shelter can only be beneficial to humans as long as there is water and food. Without these two, shelter will serve no purpose for humans. Nevertheless, what is more important is not so much the existence of materials for the building of a shelter and its type due to individual cultural needs, but more significantly, the environmental surroundings must be safe and suitable for shelter to be built on from the possible harshness and dangers of the environment and predators.¹²²⁷

31. Island Conditions

31.1 Introduction

Whilst it has been established that humans need water, food and shelter to survive, and that these elements may be derived from at the very least, fresh water and soil that is sufficient and suitable, a brief background on island conditions is necessary.

This is necessary, to highlight that an island's condition can play a role in affecting the availability of fresh water and soil, for the consideration of Article 121(3).

31.2 Island physical environment and ecosystem

There are qualitative differences between an island and a continent; and these include the size and number of vertebrate fauna and the landscape scale which is largely absent

¹²²⁷ See texts at *infra* nn 1261 to 1268 on natural disturbances.

on islands.¹²²⁸ Due to islands' reduced size, increased isolation, and the 'variable dispersal abilities of potential colonists,' there are commonly fewer species on islands including frequently lacking the full complement of taxonomic groups as compared to mainland areas of comparable size.¹²²⁹

As between islands, whilst continental islands have an immigration rate of species faster than evolution, oceanic islands are the opposite, having evolution more rapidly than immigration.¹²³⁰ Therefore, an island may be considered as mainly 'continental for some highly dispersive groups of organisms'¹²³¹ yet 'essentially oceanic in character for organisms with poor powers of dispersal through or across seas.'¹²³² In addition, some groups of islands have biological characteristics which are part oceanic and part continental such as land-bridge islands due to their partial connection to one another during times of lowered sea levels.¹²³³

However, although each continent and island has its own unique biological type of sources to derive water if any, pure water is the same everywhere.¹²³⁴ With the exception of very small islets,¹²³⁵ oceanic islands which include atolls and high volcanoes generally contain large reservoirs of fresh water¹²³⁶ with typically all having a subsurface freshwater lens.¹²³⁷ Rain that percolates through an island floats on denser salt water that has saturated the base of the island, known as a *Ghyben-Herzberg lens*.¹²³⁸ The rain shadow also has significant effects on ecology and possible human use of an island,¹²³⁹ whilst groundwater which can exist from rainfall that drains into the soil and underlying

¹²²⁸ J. Roughgarden, "Vertebrate Patterns on islands" in P.M. Vitousek, L.L. Loope and H. Adersen (Eds), *Islands, Biological Diversity and Ecosystem Function* (1995, Springer-Verlag Berlin Heidelberg, New York), p. 54.

¹²²⁹ J.H. Cushman, "Ecosystem-Level Consequences of Species Additions and Deletions on Islands" in P.M. Vitousek, L.L. Loope and H. Adersen (Eds), *Islands, Biological Diversity and Ecosystem Function* (1995, Springer-Verlag Berlin Heidelberg, New York), pp. 142- 143.

¹²³⁰ Whittaker and Fernández-Palacios, *supra* n 939, p. 57.

¹²³¹ *Ibid.* e.g. ferns and some types of birds.

¹²³² *Ibid.*, p. 58. e.g. conifers, terrestrial mammals, and freshwater fish.

¹²³³ *Ibid.* e.g. Seychelles. Land-bridge islands are a result of "[p]ronounced sea level change connected with glaciation [which] has occurred repeatedly during the Pleistocene, [and thus] resulting in reduced isolation of all continental shelf islands and, for many, joining them to the adjacent continental land mass." (p. 14)

¹²³⁴ Roughgarden, *supra* n 1228, p. 51.

¹²³⁵ Whittaker and Fernández-Palacios, *supra* n 939, p. 37.

¹²³⁶ *Ibid.*, pp. 36-37.

¹²³⁷ *Ibid.*, p. 45.

¹²³⁸ *Ibid.*, p. 37.

¹²³⁹ *Ibid.* e.g. Island of Tenerife in the Canaries. 'Rain shadow' is "[a] region having little rainfall because it is sheltered from prevailing rain-bearing winds by a range of hills." – see <https://en.oxforddictionaries.com/definition/rain_shadow> [accessed 4 February 2017].

rocks¹²⁴⁰ may also be tapped from aquifers deep in a volcano as a source for human habitation.¹²⁴¹

Factors affecting variation in continental systems include climate, soil fertility and disturbance.¹²⁴² The same factors strongly and directly affect diversity and numerous ecosystem functions.¹²⁴³ However, this diversity is also due to the scarcity of effective colonization and establishment on isolated oceanic islands including island size and the time duration taken in the colonization and speciation process.¹²⁴⁴ Islands are however less diverse than continental systems and they are also different due to their disharmony and their varied diversities are independent of 'other controls on ecosystem function.'¹²⁴⁵ Compared to continental areas, the isolation characteristics of oceanic islands commonly accommodate a much lower diversity of species.¹²⁴⁶

Island ecosystems are inclined to vulnerability and disturbance the smaller and remote they are; however, they still form 'smaller and less complicated ecosystems than neighbouring continents.'¹²⁴⁷

Markedly, ecosystems develop from the parent material which is substrate from which soils are derived.¹²⁴⁸ The parent material has significant control on water budgets, soil fertility and ecosystem structure and function; and the parent material's chemistry may be regarded as virtually consistent in widely various climates or throughout soil development for a very long time.¹²⁴⁹ For example, compared to the wide range of rock types in most continental regions, volcanic islands lack variation in the chemistry of parent material, wherein although individual eruptions may differ in magnesium mixing ratio, the lavas erupted such as in Hawaii during the volcanism shield-building stage are

¹²⁴⁰ McLeish, *supra* n 973, p. 35.

¹²⁴¹ Whittaker and Fernández-Palacios, *supra* n 939, p. 37 – e.g. Island of Tenerife.

¹²⁴² Vitousek *et al*, *supra* n 982, p. 2.

¹²⁴³ *Ibid.*

¹²⁴⁴ *Ibid.*

¹²⁴⁵ *Ibid.*, p. 3.

¹²⁴⁶ P.M. Vitousek and T.L. Benning, "Ecosystem and Landscape Diversity: Islands as Model Systems" in P.M. Vitousek, L.L. Loope and H. Adersen (Eds), p. 76.

¹²⁴⁷ U. Eliasson, "Patterns of Diversity in Island Plants" in P.M. Vitousek, L.L. Loope and H. Adersen (Eds), *Islands, Biological Diversity and Ecosystem Function* (1995, Springer-Verlag Berlin Heidelberg, New York), p. 35.

¹²⁴⁸ Vitousek & Benning, *supra* n 1246, p. 78.

¹²⁴⁹ *Ibid.*

all tholeiitic basalt or its close relatives.¹²⁵⁰ Nevertheless, parent material texture on volcanic islands can vary considerably,¹²⁵¹ and although this parent material analogy may be applied to volcanic islands, the same may not be so with respect to other islands that may contain a diversity of parent material such as in diverse continental areas.¹²⁵²

Apart from parent material influence on ecosystem properties, other factors also have an important role. These include **topography** which can cause the relocation of water and soil from hillslopes to other areas;¹²⁵³ the **time** factor, its duration through which rocks are exposed to weathering, leaching and organism activities, defines soil fertility and structure;¹²⁵⁴ and **telescoping** or **contraction**, also a significant feature of smaller islands, and is common in tropical islands, having the effect of potentially increasing the number of species.¹²⁵⁵

Nonetheless, **climate** is the single most fundamental factor that controls the ecosystem function and structure.¹²⁵⁶ It is the key factor in the environment essentially controlling many other factors' operation.¹²⁵⁷ Island climates are strongly influenced by their oceanic surroundings.¹²⁵⁸ The existence of well-defined vegetation is influenced by trade wind inversions¹²⁵⁹ as well as the differences in precipitation and temperature, affecting the lower and upper limits of forest growth.¹²⁶⁰

¹²⁵⁰ *Ibid.* Tholeiites are "a chemical sub-type of basalt defined on their silica content. Basalts that are silica saturated are known as olivine tholeiites, those that are silica oversaturated are termed quartz tholeiites." see Imperial College Rock Library, <<https://wwwf.imperial.ac.uk/earthscienceandengineering/rocklibrary/viewglossrecord.php?Term=tholeiite>> [accessed 4 February 2017].

¹²⁵¹ *Ibid.*

¹²⁵² *Ibid.*, p. 79.

¹²⁵³ *Ibid.*, p. 78. Topography is 'both a cause and consequence of resource redistribution across landscapes'; see also Whittaker and Fernández-Palacios, *supra* n 939, pp. 32-33 - Topographic characteristics are dependent on island types; inclining towards being very flat and low lying for atolls and coral or limestone islands, whilst for volcanic islands tending to be 'steep and relatively high for their area and, through time, become highly dissected through erosion,' and for the larger and higher ones subjected to catastrophic landslips, fundamentally reshaping considerable areas of the islands.

¹²⁵⁴ Vitousek & Benning, *supra* n 1246, p. 79; see also Whittaker and Fernández-Palacios, *supra* n 939, p. 38. Over time, there are also considerable changes in ocean and atmospheric circulation.

¹²⁵⁵ Whittaker and Fernández-Palacios, *supra* n 939, pp. 34-35. i.e. by "compressing habitats and allowing relatively low island to 'sample' additional upland species pools."

¹²⁵⁶ Vitousek & Benning, *supra* n 1246, p. 76.

¹²⁵⁷ Pears, *supra* n 932, p. 72.

¹²⁵⁸ Whittaker and Fernández-Palacios, *supra* n 939, p. 34.

¹²⁵⁹ *Ibid.*, p. 36; see McGraw-Hill *Dictionary of Scientific & Technical Terms*, 6E. (2003). Trade-wind inversion:

"A characteristic temperature inversion usually present in the trade-wind streams over the eastern portions of the tropical oceans: it is formed by broad-scale subsidence of air from high altitudes in the eastern extremities of the subtropical

Indeed, **natural disturbance** on islands such as climatic, volcanic, biotic, physiological, mechanical and nutritional¹²⁶¹ can also affect the ecosystem.¹²⁶² With volcanic eruptions being the main constructive forces of the existence of oceanic islands,¹²⁶³ compared to the geologically more stable continental fragments or continental islands, geological catastrophes particularly such as landslides and volcanic eruptions occur recurrently on oceanic islands.¹²⁶⁴ Volcanic processes appear to both enlarge islands as well as damage their ecosystems,¹²⁶⁵ whilst an abrupt decrease in island area could occur due to enormous avalanches that can also cause rising waves that can go up to 365 metres in elevation, affecting island top soil, possibly leading to island extinction.¹²⁶⁶ Other natural disturbances include earthquakes, tsunamis, river floods, coastal flooding and erosion.¹²⁶⁷ Disturbances may also be caused by human activities,¹²⁶⁸ native vertebrate species that act as top predators or herbivores are very few, a typical characteristic of oceanic islands,¹²⁶⁹ and invading species.¹²⁷⁰

Although there is a rich range of different taxa on high, typically volcanic, oceanic islands,¹²⁷¹ changes in diversity are measurable.¹²⁷² Most high latitude islands were

highs; while descending, the current meets the opposition of the low level maritime air flowing equatorward; the inversion forms at the meeting point of these two strata which flow horizontally in the same direction"
(see <<http://encyclopedia2.thefreedictionary.com/trade-wind+inversion>> [accessed 5 February 2017].

¹²⁶⁰ *Ibid.*, p. 36.

¹²⁶¹ D. Mueller-Dombois, "Biological Diversity and Disturbance Regimes in Island Ecosystems" in P.M. Vitousek, L.L. Loope and H. Adersen (Eds), *Islands, Biological Diversity and Ecosystem Function* (1995, Springer-Verlag Berlin Heidelberg, New York), p. 164.

¹²⁶² Whittaker and Fernández-Palacios, *supra* n 939, p. 38. E.g. the removal or reduction of their organisms such as plant and animal populations.

¹²⁶³ *Ibid.*, p. 41.

¹²⁶⁴ *Ibid.*

¹²⁶⁵ *Ibid.*; see also Pears, *supra* n 932, p. 120. Natural processes include volcanic eruptions, droughts, floods, severe winters and other natural catastrophes.

¹²⁶⁶ H.F. James, "Prehistoric Extinctions and Ecological Changes and Oceanic Islands" in P.M. Vitousek, L.L. Loope and H. Adersen (Eds), *Islands, Biological Diversity and Ecosystem Function* (1995, Springer-Verlag Berlin Heidelberg, New York), p. 88.

¹²⁶⁷ Rogers & Feiss, *supra* n 1115, pp. 82, 89, 96, 98, 104 and 113.

¹²⁶⁸ *Ibid.*, p. 95. see also Marten, *supra* n 946, p. 76 – Ecosystems are also changed by people to serve their needs by for example, overgrazing, overfishing and causing forest fires.

¹²⁶⁹ C.M. D'Antonio & T.L. Dudley in "Biological Invasions as Agents of Change on Islands Versus Mainlands" in P.M. Vitousek, L.L. Loope and H. Adersen (Eds), *Islands, Biological Diversity and Ecosystem Function* (1995, Springer-Verlag Berlin Heidelberg, New York), p. 107.

¹²⁷⁰ *Ibid.*, p. 112 i.e. changing the availability of resources or rates of resource renewal; see also Vitousek & Benning, *supra* n 1246, p.76 - Organisms such as plants with their flora and fauna which affect soils and vice-versa are however an independent factor motivating soil formation and ecosystem function and structure.

profoundly influenced by glaciation and land-bridge connections causing their biotas to closely resemble to those of adjacent continental ones,¹²⁷³ whilst continental islands of middle and low latitudes have biotas more similar to the continents and are less protected from climatic changes compared to oceanic islands.¹²⁷⁴

In this regard, disharmonic floras with certain species at strongly varying portions being endemic are very typical characteristics of isolated oceanic islands.¹²⁷⁵ The ecological breadth and degree of isolation of an island significantly affects endemism.¹²⁷⁶ In addition, oceanic islands characteristically have a reasonable number of birds, insects and sometimes reptiles but normally lack indigenous land mammals and amphibians.¹²⁷⁷

31.3 Preliminary Conclusion

For the Article 121(3) process, understanding basic island conditions is necessary to ascertain whether islands and continents or as amongst islands themselves have different basic environment and ecosystem. On this note, compared to continents, the physical environment and ecosystem of islands, form smaller and less complicated ecosystems, have lower diversity of species the smaller and isolated they are,¹²⁷⁸ and still have measurable changes in diversity despite a wide range of different taxa.¹²⁷⁹

This consequently makes it easier and possible to identify and determine island environmental surroundings in the light of its ability to sustain human habitation under Article 121(3). It helps to expedite the process in arriving at some conclusions given the 'typical' environmental conditions peculiar to them as opposed to the wider possibilities of a continent or larger islands.

¹²⁷¹ D. Foote, "Patterns of Diversity in Island Soil Fauna: Detecting Functional Redundancy" in P.M. Vitousek, L.L. Loope and H. Adersen (Eds), *Islands, Biological Diversity and Ecosystem Function* (1995, Springer-Verlag Berlin Heidelberg, New York), p. 60.

¹²⁷² *Ibid.*, p. 68.

¹²⁷³ L.L. Loope, "Climate Change and Island Biological Diversity" in P.M. Vitousek, L.L. Loope and H. Adersen (Eds), *Islands, Biological Diversity and Ecosystem Function* (1995, Springer-Verlag Berlin Heidelberg, New York), p. 125; see Gove, *supra* n 180, Vol. I, p. 219 – Definition of biota: "the animal and plant life of a region", "flora and fauna"; see also Brown, *supra* n 1158, Vol. 1, p. 204 – Definition of biota: "The animal and plant life of a region."

¹²⁷⁴ Loope, *supra* n 1273, p. 124.

¹²⁷⁵ Eliasson, *supra* n 1247, p. 35.

¹²⁷⁶ *Ibid.*, p. 36 - "The ecological breadth in turn depends on size, age geology, and edaphic conditions."

¹²⁷⁷ Whittaker and Fernández-Palacios, *supra* n 939, p. 57.

¹²⁷⁸ See text at *supra* nn 1246 to 1247.

¹²⁷⁹ See text at *supra* n 1271.

32. Sustainability

Often however, humans erroneously presume that a present condition will continue to exist for a long time¹²⁸⁰ without ensuring that the necessary efforts are made for the sustainability of a place. The lack of food supply, the existence of natural enemies and other ecological forces can affect the reproductive capacity of plants, animals and microorganisms.¹²⁸¹ The problem arises if there is no or insufficient source to cater for human needs. Inevitably, there is the vicious cycle stemming from the chain of effects that involve human population growth, fuel shortage, deforestation and lower food production¹²⁸² making the situation vulnerable to an unsustainable human-ecosystem interaction.¹²⁸³ There will also be lost opportunities for economic development if ecosystems are no longer able to provide for humans' basic needs.¹²⁸⁴

It is hence fundamental to have sustainable development that meets existing needs without compromising those of future generations; and thus ecologically, ecosystems should be kept healthy including for future use by ensuring ecosystem interactions that preserve adequate functional integrity that can continue to provide water, food, shelter and other resources to all creatures in the ecosystem.¹²⁸⁵

Hence, in order to ensure enough 'food', energy transfers must be kept to a reasonably smaller number, meaning a shorter food chain; for example, bringing food to the animal which cuts down unnecessary animal movements and heat outputs although this would result in the person having to provide the energy himself such as using his own physical labour.¹²⁸⁶ Only if the intensity of use is significantly small will the ecosystem services be used on a truly sustainable basis.¹²⁸⁷ For an ecologically sustainable development, ecosystems should not be damaged and things should be done in nature's way as much as possible.¹²⁸⁸

¹²⁸⁰ Marten, *supra* n 946, p. 58.

¹²⁸¹ *Ibid.*, p.63.

¹²⁸² *Ibid.*, pp. 6-7.

¹²⁸³ *Ibid.*, p. 136.

¹²⁸⁴ *Ibid.*, p. 9.

¹²⁸⁵ *Ibid.*, p. 9.

¹²⁸⁶ Pears, *supra* n 932, p. 121

¹²⁸⁷ Marten, *supra* n 946, p. 153.

¹²⁸⁸ *Ibid.*, p. 158.

However, not all places with the same physical conditions have the same ecosystems, possibly due to random elements in the biological community assembly.¹²⁸⁹ Further, more species are likely to exist in environments that are more heterogeneous.¹²⁹⁰

In conclusion, all these aspects would have to be considered when determining whether indeed a maritime feature can sustain the elements required under Article 121(3) before it can escape the provision's consequences.

33. Overall Conclusion

Human history shows that humans survive from nature with their initial mere gathering and consumption of fruits, nuts, berries and insects as well as the hunting of animals; whilst later progressing into herder grower societies that also cultivate plants and crops for survival.¹²⁹¹

On this note, it has been established that there are generally three basic human needs.¹²⁹² They are water, food and shelter, with water as the primary consideration regardless of the equally important food and shelter requirements that inevitably must follow suit if survival were to be truly sustainable. This is because the ecology and human use of islands depends on the availability of water,¹²⁹³ and that food which are derived from plants and animals are also dependent on water; whilst shelter can only be beneficial to humans as long as there is water and food.

It has also been established that as compared to continents, islands have smaller and less complicated physical environments and ecosystems¹²⁹⁴ which thus makes it possible to generally determine as to whether a particular island may be able to sustain human habitation in the light of Article 121(3). In this regard, the type of islands that is being discussed are small islands with mainly granitic or 'hard rock' like characteristics and thus, to determine whether such islands can escape Article 121(3).

¹²⁸⁹ *Ibid.*, p. 77.

¹²⁹⁰ Pears, *supra* n 932, p. 114.

¹²⁹¹ Tansey & Worsley, *supra* n 1046, p. 25.

¹²⁹² See Section 29.

¹²⁹³ Whittaker and Fernández-Palacios, *supra* n 939, p. 36.

¹²⁹⁴ See text at *supra* n 1247.

Hence, **firstly**, addressing humans' first basic need, without **water**, there can be no life. The fact is that, fresh water is the most crucial of all resources for humans and its absence will cause death. In this regard, sea water should not be considered due to the detrimental drinking effects on human life even in a combined state with fresh water. Although the hydrologic cycle can be manipulated with technology such as the process of distillation, freezing, electrolysis, or reverse osmosis to produce fresh water from sea water, this can be costly and if indeed the test under Article 121(3) is to be carried out in good faith, the desalination of sea water should not be allowed since in this current era of technology, any State that has the means to do so may be able to "produce" fresh water and thus, may defeat the purpose of the provision. Hence, the threshold for the availability of pure or fresh water should be in the light of natural availability rather than introducing technology.

It in this respect, pure water is the same everywhere¹²⁹⁵ and thus, as long as there is accessible fresh water on an island in question, be it from reservoirs, rivers, lakes or groundwater, there exists one of the basic sources already identified for human needs.¹²⁹⁶ Thus, subject to this, and provided that they are sufficient in amount and safe for human use and consumption, the intricacies on how such is derived from the island is suggested to be left to the individual State since it is only reasonable that there is already fresh water in existence at the first instance, and hence, ensuing actions on how they are obtained should be allowed.

Secondly, there must also be **food** as humans' second basic need. Yet food is also derivable from the earth's resources, in particular plants and animals. They are however not as easily accessible and the ecosystem processes play a fundamental role where deriving these needs are concerned. The ecosystem process shows that plants and animals cannot exist without also depending on the earth's resources, including the sun for solar energy. Both need water, with plants also requiring soil.

¹²⁹⁵ see text at *supra* n 1234.

¹²⁹⁶ See Section 29.

Thus indirectly, humans need soil for survival purposes, and the soil has to be 'healthy' and sustainable. Indeed, soil and water are fundamental for growing food and fibre for all animals¹²⁹⁷ and the activities carried out must be able to sustain these resources.

However, it has been established that soil must have a certain depth and fertility before plants can survive from it. Hence, the soil aspect is indeed an extremely crucial factor that has to be in existence for the production of food for humans. Nevertheless, the chain is such that the parent material which is the underlying rock or bedrock enables the determination as to the type of soil that can be formed from it. The parent material plays a very important role influencing the ecosystem structure and function, soil fertility and water resources.¹²⁹⁸

In view of the focus towards small islands which parent material are of hard rocks, discussions have revolved around granitic rock characteristics as an example since these are the basics that need to be understood before assimilating them to island ecosystem and environment. Indeed, unweathered granite rocks would hardly have any vegetation growing from them, whilst those that have gone through the process of weathering may have some vegetation depending on the depth of soil that has formed.

As aforementioned, depending on factors such as the base rock and climate, the formation of soil for the purpose of productive land develops, under most conditions, between 3,000 to 12,000 years.¹²⁹⁹ Thus, given the characteristics of granite, which are of solid hard material, such weathering and formation into soil requires a considerably very long time. Granites have been shown to be one of the older and harder rocks and are amongst those with great resistance to weathering and take very long years to weather into sufficient fertile soil for plant growth which are edible and safe for human consumption.

Indeed, most of the granite rocks discussed have shown only limited vegetation that can hardly be considered as adequate or even edible for human survival. Bare rocks have scarcely any plants with at most mainly moss, lichen, weeds and their like that are doubtfully fit for sustainable and normal human consumption and survivability. Clearly, if

¹²⁹⁷ Allaby, *supra* n 928, pp. 134-135.

¹²⁹⁸ See texts at *supra* nn 1248, 1249.

¹²⁹⁹ See texts at *supra* n 1156.

an island is mainly of hard, unweathered rock such as granite, and at most has only a thin layer of soil that enables the aforementioned mere primary vegetation to grow, and taking into account the time duration that it needs to undergo for proper weathering before soil can develop, such island can be considered unfit for human habitation since the foundation for plants to grow as food for animals and humans are arguably non-existent. It is only where such hard-rock islands have been sufficiently weathered and formed enough soil, that they may then be considered on another basis whether edible plants fit for human survival can be grown on them. Consequentially, where food is concerned, an island must have the necessary amount of soil, and of appropriate fertility at the outset.

Notably, if these basic characteristics are present on such granite islands, it may still be argued that other factors of the environment and ecosystem of the island can play a role in ensuring whether 'food' can indeed be grown despite the existence of such soil and water. Such inevitable factors include invading species and various organisms, the topography of the island, the time factor, climate, including natural disturbances,¹³⁰⁰ all of which could affect plant growth. Nevertheless, to discuss beyond these basics which are soil and water that are fundamental for food growth, one may be venturing into too much intricacies that could overplay the discussion for purposes of Article 121(3). In this respect, there should be an allowable margin for States to act upon readily available resources of water and soil to then take it further to ensure that food is available for human survival.

It must be stressed that the derivation of food should also not employ too much of today's extensive technologies which may not even require soil to exist on the island such as growing hydroponic plants or importing canned food. Consequently, the food system that is of more significance for this purpose should be in relation to the biological aspect which is 'the living processes used to produce food and their ecological sustainability.'¹³⁰¹

Thirdly, apart from water and food, indeed the condition of the island should be in at least a minimum liveable state that is safe and secure for human survival. In other words, there must be appropriate **shelter** which is the other basic human need for their safety

¹³⁰⁰ See Section 31.2.

¹³⁰¹ Tansey & Worsley, *supra* n 1046, pp. 1-2.

and security. The materials for this may equally be obtained from earth resources such as wood and stones.¹³⁰² Indeed, the aforesaid other factors that play a role in the physical environment and island ecosystem and function, that will eventually result in whether an island is fit for human habitation or otherwise, can surely affect the habitability of an area. It may be argued that it is possible to build any kind of shelter in any location provided that the means and technology are available, be it buildings made of bricks and stones, or houses made of woods and trees, including even those such as igloos which Eskimos depend on for their shelter.

Nevertheless, it is argued that the factors in focus for purposes of shelter in this discussion should not be with respect to the building of materials that make up a “house” for humans but mainly in relation to the safety and habitability of the area once shelter is being set up since arguably, there should be a certain amount of freedom for humans to decide on the type of shelter that they can build provided that the area is safe and secure.

For example, it may be said at first instance that a small island that constantly faces natural disturbances such as earthquakes, volcanoes and avalanches may be in the questionable category of whether it is indeed safe for humans to live in such catastrophic areas and thus the issue of whether the place is actually habitable. Science experts may be employed to determine this, including the foreseeable time frame for such occurrences. Consequently, if an island is clearly within such a disastrous category, there is the argument that any shelter built on the area would not be sustainable, and hence would not be able to satisfy the requirement that such island can sustain human habitation in order to escape Article 121(3).

In summary, natural resources that may be derived from the earth and its atmosphere are crucial to human survival. When considering small islands of ‘hard rock’ parent material such as granite, basalt or their like, the factors that must be considered are *firstly*, whether there exists sufficient pure or fresh water on such island that therefore satisfies the first basic human need. Having proven that, *secondly*, it is important to identify whether food is easily available; and thus the necessity to determine whether there is sufficient fertile soil that can allow plant growth that is edible and safe for consumption by humans and animals, the latter being also edible to humans. *Finally*,

¹³⁰² Clapham, *supra* n 959, p. 24.

there must be determination on whether the physical environment and ecosystem properties of the island are safe and secure for sustainable shelter to be built on for human habitation.

On this note, given the requirement that Article 121(3) clearly spells out the word 'sustain', it is only prudent that all these factors are looked at in the light of a sustainable basis, although it is certainly recognized that all these are very much challenged by global change which include climate change.¹³⁰³ The maintenance of food production activities and natural resources are fundamental for food security, water and bioenergy, whilst the ecological, social and economic dimensions for the sustainability of food necessitates trade-offs in the entire water, food, land and energy nexus.¹³⁰⁴

Having concluded on the scientific aspects of Article 121(3), it is now necessary to integrate these findings with the current legal understanding of the provision to arrive at some reasonable conclusions.

¹³⁰³ Hurni *et al*, *supra* n 1104, p. 30.

¹³⁰⁴ *Ibid.*

Chapter 10 INTEGRATING ENVIRONMENTAL SCIENCE FINDINGS AND CURRENT LEGAL UNDERSTANDING OF ARTICLE 121(3)

34. Generally acceptable conclusions: The starting point

At the outset, it may be said that the previous chapters excluding **Chapters 8 and 9** concerning environmental science, have shown that there is yet to be a clear conclusion that may lead to an acceptable guideline on what constitute the identified elements in Article 121(3).¹³⁰⁵

In addition, although small ‘rock’ islands may have a role and have been discussed in the cases brought before international adjudicating bodies, the move to rely on their decisions of these bodies in all small “rock” island situations is not advisable since, as has been deliberated, there is a clear distinction between maritime delimitation cases and Article 121(3) maritime entitlement; and that even in maritime delimitation cases, each and every case is unique and has to be considered on a case by case basis. Dismissing Article 121(3) in all maritime delimitation cases has not developed into a rule of law.

Furthermore, Article 121(3) is not meant to override maritime delimitation cases; and this provision should be looked at separately considering it to be more of a first step on whether a questionable island can indeed generate an EEZ and a continental shelf in the first instance. Subsequently, having identified whether or not such maritime feature can generate these additional maritime zones or otherwise, the maritime delimitation process may be the second step. However, where the situation is such that Article 121(3) is truly unnecessary to be discussed due to the blatantly distorting effect an island may cause, it is comprehensible that the first step may be avoided and focus may move directly to the second step.

In this respect, it is not necessarily the case that all small rock islands will cause a distorting effect on maritime delimitation. To make that assumption for all such cases can amount to pre-empting any possible rational decisions including those by international adjudicating bodies that are supposed to be able to decide based on all relevant

¹³⁰⁵ See conclusions in Chapter 7.

provisions of UNCLOS.¹³⁰⁶ There may also be situations where there is no overlapping area between States but it is nevertheless necessary to determine whether a particular maritime feature would be caught by Article 121(3) or otherwise since the determination of this question can affect maritime areas that could have been the high seas or the Area that can be enjoyed by all States worldwide rather than merely the claiming State for its maritime feature to escape Article 121(3). This would be in tandem with the object and purpose of UNCLOS that stresses the balancing of benefits for mankind as a whole.

Maritime delimitation cases should therefore not be confused with Article 121(3) possibilities, which is a separate exercise that has different steps or levels to be undertaken even if the same exercise ultimately involves the maritime delimitation area of two or more States.

Hence, the information gathered thus far that may be used as a starting point for purposes of Article 121(3) is argued to be as follows.

It has been identified that the terms for consideration are “rock”, “sustain”, “human habitation”, “economic life”, “of their own” and the conjunction “or”. Since the identified terms in Article 121(3) are found to not have any valid special meanings intended by the parties under Article 31(4) of the VCLT, the ordinary meanings vis-à-vis Article 31(1) of the VCLT that may be obtained from simple dictionary definitions may be used as a starting point.¹³⁰⁷

Firstly, where for example “rock” under Article 121(3) is concerned, it has been discussed as a matter of public international law that the term is clearly referring to a category of island and not the general dictionary definition of a rock¹³⁰⁸ that can also be found on the land surface as opposed to just the maritime areas. Article 121(3) evidently comes under the “Regime of Islands” in UNCLOS and thus, “rock” will have to be understood from the perspective of an island as a starting point. A similar approach may be used for purposes of all the other identified terms. Hence, the first level of their dictionary meanings would be looked at with subsequent adjustment and integration with the environmental science aspects within the context and object and purpose of UNCLOS.

¹³⁰⁶ The recent *South China Sea Arbitration Award* at *supra* n 11 has certainly proven this to be true. Indeed the Tribunal in that case had to deal with Article 121(3); see text at *supra* n 11 and relevant texts thereafter; see also Chapter 6.

¹³⁰⁷ See Chapter 2.

¹³⁰⁸ Chapter 1- see texts at Section 1 and *supra* n 17.

Secondly, whilst the **context** in which these terms have been formulated has also not been clearly clarified via the processes under Articles 31(2) and (3) of the VCLT, the **object and purpose** of UNCLOS, referred to in Article 31(1) of the VCLT has nevertheless provided that the interests and needs of mankind as a whole must also be safeguarded. Thus, when understanding Article 121(3), there needs to be a balancing of benefits derived from the oceans for mankind as a whole.

Therefore, this information may also be used as a starting point and as provided for in Article 32 of the VCLT, **supplementary means** to assist in the interpretation may be employed and this can include those beyond just the preparatory work and the circumstances of conclusion of Article 121(3). Herein, factors under the environmental science aspect that have been discussed in **Chapters 8 and 9** may be utilised to incorporate into the understanding of Article 121(3) to the extent that it does not contradict these already acceptable conclusions.

It is undeniable that there are certain limitations on how Article 121(3) could be interpreted based on the existing information found thus far. However, within the confines of this main frame, certain aspects of the findings derived from the discussions pertaining to environmental science may be utilised for purposes of Article 121(3).

Hence, in short, **the starting point** would be to look at dictionary definitions to first derive the ordinary meanings of these terms, to employ the object and purpose of UNCLOS, as well as to integrate these information with the environmental science aspects in the light of Article 121(3).

35. The Integration of Environmental Science Findings and current legal

Understanding

Moving forward from the aforementioned starting point above, the following may be seen.

35.1 Rock

It has been established that the term “rock” under Article 121(3) is a category of an island.¹³⁰⁹ Hence, this term has to be looked at in the light of a maritime feature that is naturally formed and above water at high tide.¹³¹⁰

Nevertheless, **firstly**, when considering the sort of texture that a “rock” may consist of, although within the confines of it being a maritime feature above water at high tide, it is argued that these details should not be delved into too deeply since looking at the context of Article 121 as a whole, it appears that the more significant point intended to be highlighted is to differentiate maritime features via their abilities to sustain human habitation or economic life of their own.

Despite this, arguably, if the term “rocks” was to encompass all maritime features regardless of whatever form they may be in and without any reference to their **physical texture or geological make-up**, then States could have simply maintained the word “island(s)” for paragraph 3 as is in the case of paragraphs 1 and 2 of Article 121 of UNCLOS. Hence, some consideration, although arguably lesser, could be given to the purposeful usage of the term. The use of the term appears to call for some limitations to be placed on the physical make-up of the maritime feature that comes under the provision apart from its capability to sustain human habitation or economic life of its own; hence demanding for rocks to not be carelessly understood to mean all maritime features regardless of their geological make-up.

It may perhaps have been in the minds of the drafters of Article 121(3) that a rock would normally have physical attributes that do not include soil, water and plants, similar to how any layman would typically visualize a rock to look. This may be owing to the fact

¹³⁰⁹ See Section 34 above regarding ‘rock’.

¹³¹⁰ See Article 121(1) of UNCLOS.

that there are numerous maritime features in the oceans that plainly appear to have such characteristics seen by the human eye, as being merely features that protrude out of the water at high tide without anything on them such as vegetation, water and soil, except their physical outlook of only some mineral substance that makes up part of the earth's crust or stones as ordinarily defined in simple dictionary terms.¹³¹¹

It is however understandable if this was what the drafters had in mind. As will be seen deliberated in the next subsection concerning human habitation, such typical visualization does in fact correlate to the fact that islands that cannot sustain human habitation are those that do not have soil, water and vegetation since these 'constituents' are necessary to cater for humans' very basic needs as argued below.¹³¹² Hence, it is not entirely incorrect to assume that islands in the sense of Article 121(3) that are termed as rocks would physically appear as the description above of such "plain mineral substance that has no water, no soil and no vegetation". Consequently, it seems logical if more attention is given to small islands that physically appear as such when determining whether they can satisfy the test of human habitation and economic life due to their likelihood of not being able to meet basic human needs. This visual outlook of such maritime features may be the reason that led to the drafters settling on the term 'rock' without carefully considering the implications of such usage.

Nevertheless, it must be cautioned that this may not always be the case and hence, plainly the reason for the existence of Article 121(3) to still give the benefit of the doubt for such maritime features to be proven otherwise via the test in the provision.

Despite this, to confine the Article 121(3) test to only rocks with such physical description can lead to an imbalanced judgment vis-à-vis other maritime features. Indeed, other maritime features that do not look like a rock in the aforesaid description should not be ignored as there is always the possibility that even features that appear to have water, vegetation and soil may not necessarily satisfy the human habitation and economic life tests, as discussed in **Chapter 9** including in the forthcoming sections below. In this regard, if attention is confined to only maritime features with such typical rock characteristics as in dictionary definitions, an erroneous judgment may be made. For

¹³¹¹ Chapter 2, text at *supra* n 175.

¹³¹² See Section 35.2; see also Chapter 9, Section 29.

instance, if it is scientifically proven that other maritime features do have water, soil and vegetation, but this is merely for example, a small catchment of water that by chance are remains from some sporadic rain showers, a thin soil due to poorly weathered rock, and vegetation which consists of only algae, moss and their like, which can be proven to fail the human habitation or economic life test, then, it cannot be the intention of UNCLOS to still accord an EEZ and a continental shelf to this uninhabitable island.

Thus, 'rock' in the sense of Article 121(3) should not be confined to the typical rock description in simple dictionary meanings, although looking at the physical outlook of a questionable island at first instance can help expedite the move as to whether to test the island under Article 121(3). In this regard, the norm appears to be that if a small island is obvious with trees and rivers or lakes, although small, it would most likely be regarded as able to pass the Article 121(3) test; especially since the scientific evidence required to verify this may be much easier due to the considerations in **Chapter 9**.

Secondly, where **size** is concerned, whilst some scholars emphasize the size of the maritime feature¹³¹³ to determine whether it could be a "rock" under Article 121(3), others find this unlikely to achieve formal recognition as rules of law or in judicial or arbitral decisions due to such rigidity¹³¹⁴ including being altogether speculative and subjective.¹³¹⁵ The latter arguments do make sense. First, there is no indication at all in Article 121(3) that size is a factor. Second, serious inequitable complications can arise from strictly confining a maritime feature to a size for it to be considered a questionable 'rock' under the provision.

Herein, imagine if a maximum size is given to the "rock" that is understood to fall under Article 121(3) such as for example the size suggested by Hodgson and Smith which is "less than 0.001 square miles."¹³¹⁶ Then, if hypothetically there exists a rock island which measures even slightly beyond that given size, such as a mere 0.002 square miles, and that has been scientifically proven to absolutely not be able to sustain human habitation or have an economic life of its own, should such rock island be entitled to an EEZ and a

¹³¹³ Chapter 5, texts at *supra* nn 555-564 - e.g. non-legal scholars Hodgson and Smith.

¹³¹⁴ *Ibid.*, text at *supra* n 565 - e.g. Bowett.

¹³¹⁵ *Ibid.*, text at *supra* n 566 - e.g. O'Connell.

¹³¹⁶ *Ibid.*, texts at *supra* nn 555, 559.

continental shelf merely because it is not within the given size that is caught by Article 121(3)?

Clearly, this would not make sense and it would be inequitable to entitle such rock island to a continental shelf and an EEZ.¹³¹⁷ To allow such a rock island to enjoy these additional maritime zones can defeat the object and purpose of UNCLOS which is to benefit mankind as a whole in a balanced way. If no human can live or survive on such rock, then how can these rights that are obtainable from the continental shelf and EEZ, benefit a non-existent human on the rock? Hence, where size is concerned, such a rigid definition should not be tied to the term “rock.”

In conclusion, rocks under Article 121(3) should not be confined to the typical rock description. All other maritime features should also be taken into consideration, although more attention may be given to those that are plainly obvious to the human eye appearing as a simple rock that has no water, vegetation and soil, and which normally appears to conform to the simple dictionary definition of a rock as discussed above. The scientific evaluation of such feature would therefore verify whether it can in fact sustain human habitation or economic life of its own or otherwise. Nevertheless, it must be cautioned that it is equally necessary to evaluate those maritime features that appear to have water, soil and vegetation but in truth may not be able to satisfy the human habitation or economic life test. The size of maritime features should also not be confined to a specific measurement area due to the error that can arise from judging them under Article 121(3) based on this at first instance.

35.2 Human Habitation

Simple dictionary meanings regarding ‘human habitation’ have been explained before this.¹³¹⁸ Herein, the term “human” may be understood to mean “human being” whilst the term “habitation” may amongst other things be regarded as “a dwelling place.”¹³¹⁹ From this basic understanding, the phrase “human habitation” must be understood along the lines of a place in which human beings can live, survive and dwell. Yet again, what is understood to constitute such a place?

¹³¹⁷ Article 57 and Articles 76(1) and (6) of UNCLOS.

¹³¹⁸ Chapter 2, Section 5.4 – *supra* nn 178-179.

¹³¹⁹ *Ibid.*

Indeed, arguments raised by States arising from as early as the 1930 Codification Conference include the criteria ‘occupation’ and ‘use’ before a maritime feature can have island status.¹³²⁰ Nevertheless, what now constitutes such terms was not discussed then and neither were similar ones even to the time when Article 121(3) was finally formulated.¹³²¹

Basically, the arguments raised throughout the years were merely whether to insert such criteria rather than explaining what is meant by it. Hence, as a way forward, the environmental science findings in **Chapters 8** and **9** are suggested to assist in identifying the true sense of such human habitation.

In this regard, **Chapter 8** has identified oceanic islands, continental fragments, continental shelf islands and island continents as the type of islands to be under consideration, being true islands as opposed to habitat islands, although islands in rivers or lakes of a State are ignored since this provision does not concern internal waters in which they are located.¹³²²

However, more focus may be given to smaller maritime features from the identified category due to the more likely possibility that the required resources would be less or none at all and hence affecting human habitation, thus the need to go through the human habitation test. Nevertheless, the term “small” that is intended to be looked at for this purpose should not be rigidly confined to specific measurements due to the reasoning in Section 35.1 above.

As aforementioned, the term ‘human habitation’ under simple dictionary definition is a dwelling place for human beings.¹³²³ However, when considering what such place is, certain criteria come to mind. The mere fact that a place has to be able to be suitable for humans in its true sense, the natural thing to consider is humans’ very basic needs in order to at least survive or stay alive on a sustainable basis. **Chapter 9** which elaborated on the matter discussed the natural survivability of humans and their needs including the sources from which they derive them; leading to the necessity to have three basic needs

¹³²⁰ Chapter 3, Section 10.1 - e.g. South Africa, Australia, the UK.

¹³²¹ These include no such discussions for the 1958 Geneva Conventions (Chapter 3, Section 11; see also Article 10 of the CTSCZ 1958), during the 1968-1973 UN Sea-Bed Committee (Chapter 3, Section 13), and in the final conference LOSC III which led to UNCLOS.

¹³²² Chapter 8, Section 26.1.

¹³²³ See texts at *supra* n 1318-1319; Chapter 2, text at *supra* nn 178 and 179.

for human survival: water, food and shelter. Although only very much recently, the Tribunal in the **South China Sea Arbitration** viewed that “human habitation” in the context of Article 121(3) means there must be “food, drink, and shelter”, there was no in depth elaboration by the Tribunal as to what constitutes these elements.¹³²⁴

In this regard, as established in Chapter 9, **water** as a human basic need must be fresh water; and this includes for purposes of drinking and various other uses.

However, the **access to fresh water** can pose a problem.¹³²⁵ It can appear as standing water such as in wetlands, swamps, lakes and ponds; or flowing water as in rivers and streams; or in the soil and upper crust as groundwater.¹³²⁶ Notably, “[o]nly the largest and wettest high islands have ample resources of water, and even on some of these there are seasonal shortages.”¹³²⁷

Hence, the question is whether an island does indeed have freshwater and if so, whether it is accessible. Amongst the ways to access are by way of “direct capture of precipitation” and the desalination of saline water such as sea water.¹³²⁸ However, sea water is argued to not meet the criteria, being not fresh water, and the fact that it is not safe for consumption owing to the detrimental effects it can cause to humans. Of course, there is the argument that sea water can be transformed into potable water although it must be pointed out that this should not be allowed for purposes of Article 121(3). As frequently highlighted in this thesis, too advanced a technology should not be permissible as it can defeat the purpose of this provision since it makes anything possible in this world resulting in no maritime feature failing the test of Article 121(3) which is not the intention or object and purpose of UNCLOS. Hence, if transformed sea water is also regarded as fresh water, Article 121(3) will be redundant. Indeed, UNCLOS intends to benefit mankind as a whole and this should be done in a balanced and equitable manner rather than the manipulation of technology that renders a provision utterly useless. Article 121(3) in fact plays an important role to ensure that this object and purpose of UNCLOS is achieved.

¹³²⁴ See Chapter 6, Section 22.1.1(B)(a)(iv).

¹³²⁵ Roger & Feiss, *supra* n 1115, p. 126. i.e. where its distribution worldwide is concerned.

¹³²⁶ *Ibid.*, p. 126.

¹³²⁷ The United Nations Educational, Scientific and Cultural Organization (UNESCO), *Island Agenda: An Overview of UNESCO's work on island environments, territories, and societies*, (1994, Adolarc, France), p. 11.

¹³²⁸ Rogers & Feiss, *supra* n 1115, p. 132.

In addition, precipitation although inexpensive, is carried out on a small scale and is insufficient to be depended on by people as the sole source; whilst desalination is costly and is only used if there are no other means to access water.¹³²⁹ Other methods are by way of recycling used water excluding treated waste water which is currently a fast growing source in most developed nations.¹³³⁰ However, the amount is still a very minimal fraction of the water needed.¹³³¹ Another way is by diverting water in streams, rivers and lakes, as well as the extraction of groundwater.¹³³² Further, whilst “aquifer” is described as “any rock or sediment beneath the earth’s surface that holds and transfers water,”¹³³³ precautions must be taken in that the water must be pure enough for human purposes, whilst at the same time ensuring that the extraction of water should be at a rate that keeps the well flowing.¹³³⁴ The existence of Regulations concerning hundreds of possible contaminants in drinking water¹³³⁵ clearly reflects that even within fresh water, certain measures must be undertaken to ensure the safety of its consumption by humans. Consequently, there has to be a drawing line where water is concerned. Sources of water from lakes, rivers or groundwater are contended as acceptable since they are originally fresh water; and if this criterion is met, then, whatever technology is used to ensure its healthy and drinkable status should be considered acceptable. Whereas, sea water in its original form is not fresh water and thus, to allow sea water to be categorised as fresh water if advanced technology is being employed may seem somewhat pushing the limits for purposes of Article 121(3). Hence, there has to be a boundary when deciding as to the type of water acceptable for purposes of Article 121(3).

As previously argued, one way out of this predicament would be to deal with the situation based on the original and natural conditions of the island. Therefore, since the discussions in **Chapter 9** have clearly identified that humans require ‘fresh water’ for survival, a

¹³²⁹ *Ibid.*, p. 132.

¹³³⁰ *Ibid.*, p. 133.

¹³³¹ *Ibid.*

¹³³² *Ibid.*, p. 132. The diversion of water from rivers is to “put a pipe into it or cut a canal from it” (p. 141).

Groundwater is obtained through wells and springs (p. 133).

¹³³³ *Ibid.*, p. 145.

¹³³⁴ *Ibid.*, p. 150.

¹³³⁵ *Ibid.*, p. 155. i.e. Regulations by “national governments of all industrial countries, numerous state, province, and local governments” including “international agencies [such] as the World Health Organization (WHO) and the United Nations Food and Agricultural Organization (FAO)”.

balancing of the situation may be done by relying on the original form of the water.

Hence the test would be whether its original form is indeed of fresh water.

Humans' second basic need which is **food** would also have to be available before the criterion concerning human habitation can be satisfied. **Chapter 9** shows that human food is derived from plants and animals, but before either of these two sources can exist, there must be at least water and soil for the plants, as well as water, plants and sometimes other animals including insects, as food for the animals. The chain however goes on to the need to have the proper weathering for different types of rocks before soil can exist if there is not already soil. Water also plays an essential role to soil formation for the production of food.

In conclusion, there has to be the first stage of appropriate resources which are sufficient and appropriate water and soil before leading to the existence of plants and animals for human consumption.

Whilst the necessity for food to be in existence depends on water and soil as a starting point, for purposes of Article 121(3) discussion, it may be said as below.

Chapters 8 and **9** that have identified the types of islands to be taken into consideration show the parent rocks for these categories to be basalt (oceanic islands) and granite (continental shelf islands and continental fragments), and had basically discussed the possibility of plants growing from such hard rocks as well as whether they are able to allow for the growth of edible plants fit for human consumption. On this note, rocks can be transformed into soil although this very much depends on the time factor and their weather resistancy. Rocks have dissimilarities in their resistance towards the weather and the more weathered they are, the higher the chances are for them to be transformed into soil. The question is however, whether such plants even if they can exist on the barest of rocks are suitable for human consumption and consequently pass the human habitation test under the scope of Article 121(3). Indeed, the discussions in **Chapter 9** have clearly established this impossibility.

Basalts and granites are from the most resistant rock category. This resistance will affect soil formation resulting in various depths of largely different composition and takes under

most conditions thousands of years to form soil.¹³³⁶ Such hard rocks need a long time to weather into sufficient depths of soil that can allow for the growth of safe and edible plants for human consumption. These are very hard rocks and take a very long time to be weathered into even a thin layer of soil, let alone sufficient depths of soil that allow for consumable vegetation to grow for human survival.

Decomposed granite caused by weathering can certainly allow the growth of plants. Nevertheless, this ability to grow plants is almost entirely dependent on the existence of soil and for this to occur, the time duration required for such weathering to take place to enable the formation of sufficient soil is a very long time.¹³³⁷ Evidently, the weathering it endures depends on the parent rock material and climate.¹³³⁸ It has been established that bare granites scarcely have woody plants, with merely a few shrubs and vines, including moss, fungi, lichens, weeds, algae and their like; and even so, they grow on locations where there are at least some thin layers of soil such as in the crevices of rocks that had transformed and accumulated minute amounts of soil throughout the years.¹³³⁹

Unless these types of plants are suitable for human consumption and not merely for temporary survival, one can safely assume that a questionable island with only these plants on such surfaces would not be able to pass the sustaining human habitation test under Article 121(3). Indeed, Article 121(3) clearly uses the word “sustain” as one of the requirements as discussed in Section 35.4 below.

Hence, for Article 121(3) purposes, if an island is found to be of this parent rock material, the next step would be to see if it has sufficient soil formation that could enable the growth of plants. The soil depth would have to be taken into consideration and the determination of the type of plants would have to be identified. Whilst considering the possibility of plant growth on granite or basalt islands, the extent to which such rocks on the island have been weathered is important. It is from this point that evaluators such as scientists and environmental experts would be required to calculate the likely length of time that the rock island requires to be sufficiently weathered to produce the adequate amount of soil to enable safe and edible plants for human consumption. Plainly, if a

¹³³⁶ Chapter 9, text at *supra* n 1156.

¹³³⁷ *Ibid.*

¹³³⁸ *Ibid.*, text at *supra* n 1176.

¹³³⁹ Chapter 9.

questionable island, with such landscape and rock materials requires a very long time to form into soil, one may safely assume that the rock island has failed the human habitation test.

When deciding this, plant requirements would also have to be considered rather than confining it to merely the need for soil. Plants need light, water and nutrients.¹³⁴⁰ The type of nutrients may also have to be analysed to determine the type of crops that can grow from the soil and whether they are suitable for human consumption. In addition, the specific island situation would have to be combined with the existence of fresh water that would be the other basic resource for plant growth. If there is hardly any fresh water on the island regardless of the fact that there is sufficient soil, the questionable island may still fail the ‘human habitation’ test.

Humans’ third basic need is **shelter**. As deliberated in **Chapter 9**, shelter is equally essential for human survival. Humans require a safe and secure place to live in for protection from factors such as from possible harsh environmental surroundings or predators. It is not so much the act of building a “house” that is the issue, but more importantly whether the surrounding environment of the island would enable a safe and secure place for shelter to be built with a permanency of at least a reasonable time period. As argued, to go too deep into the building materials themselves, may be somewhat too restrictive on the freedom of humans who may have different desires as to the type of shelter they require to suit their individual cultural needs.¹³⁴¹ Hence, as long as the appropriate safe and secure shelter could be built by the man or community on a questionable island, such may be argued to be acceptable to satisfy the “shelter” requirement although subject to other factors such as the island ecosystem and environment including natural disturbances. Indeed, natural hazards exist and places may not be suitable for permanent dwellings. Hence, the frequency and degree of any such natural hazards must be taken into consideration before an island situation is regarded as liveable.¹³⁴²

Furthermore, if the permanency of shelter for at least a reasonable time period is hardly possible, such as where there is high frequency of natural hazards occurrences in quite a

¹³⁴⁰ Chapter 9, *supra* n 1121.

¹³⁴¹ *Ibid.*, see text at *supra* n 1302 and relevant texts thereafter. E.g. igloos, etc.

¹³⁴² *Ibid.*, see Section 30.3 and texts at *supra* n 1302 and relevant texts before and thereafter.

short span of time, how can humans live there even if there is arguably sufficient water and food? The very word 'habitation' points to the need for the place to be habitable. And thus, a place with constant natural hazards that persistently destroy lives and shelters is argued to be far from being habitable. There must at least be a reasonably long gap in time duration for one hazard to occur after the last one has taken place, to enable the humans who live on it to be able to restore their living conditions and live peacefully again, as compared to a situation where there is hardly time to rebuild before the next natural hazard strikes again; hence clearly proving that the place is simply not habitable. Notably, catastrophes may occur only occasionally and thus, unfair to simply categorize a questionable island as not having met this **shelter requirement** just because of some sporadic catastrophic event, thus failing to pass the test of one of the three basic human needs.

Hence, there may have to be some evaluation on the extent, frequency and likelihood of such occurrences. With the current technology in existence, it is possible to calculate such risks. The geographical phenomena of island ecosystems, locations, magnitude, and an estimated timing for a seismic event can be forecast to aid in the evaluation of an island condition, although understandably, there are instances where predicted events may not occur at all and vice versa.¹³⁴³ Nevertheless, such predictions can assist in determining whether an island is habitable under the 'shelter' category. If such catastrophes are too frequent inclining towards the impossibility to build a permanent shelter, humans will most likely be unable to survive on the island and hence it should fail the "human habitation" requirement under Article 121(3).

In short, under the human habitation category, it must be ascertained whether humans can survive on the island on a sustainable basis. Humans require three basic needs which are water, food and shelter. There must exist on the questionable island fresh water and sufficient soil with the necessary 'ingredients' that would allow plant growth that is consumable by humans on a reasonably permanent basis as opposed to temporary survival.

Nonetheless, if it can be proven that the existing rock material that makes up most of the island is in the process of going to be sufficiently weathered to have that necessary soil in

¹³⁴³ Rogers & Feiss, *supra* n 1115, p. 89.

the not too distant future from when the rock island is analysed, then such condition may be argued to also be acceptable under the human habitation test. This time frame is proposed given that a condition should be considered according to contemporary times rather than too far into the past or the future. To allow for too far into the future to be acceptable would mean to open the floodgates for any possible scenario that can happen, more so given the rapid climate change taking place globally. Similarly, looking too far into the past is unacceptable since the condition of an island that may have once been able to sustain human habitation may not necessarily be so, now or in the future. If this is allowed, Article 121(3) would no longer be relevant since there can exist countless possibilities in the environmental sphere. Hence, contemporary times at the point of which a questionable island is being considered with a time period of probably a few generations of human beings at most, before and after current times, is argued to be the most reasonable.

The **number of human beings** that can live on the island should also not be an issue. Article 121(3) does not provide a minimum number of humans for this but the more important question is whether such island can sustain human habitation irrespective of numbers. For indeed, if even one human is able to survive permanently on the island, then natural science may possibly favour the conclusion that the island can sustain human habitation. On a more legally arguable aspect, this argument may seem to not be in conformity with UNCLOS that has been contended to have as one of its objects and purposes to be the balancing of benefits for mankind; and thus, allowing the maximum EEZ and continental shelf to be claimed by a very small island that has only one human living on it can appear totally imbalanced.

Nevertheless, in view of the fact that there is no such State in the world that is made of only a particularly small island with only one human living on it, meaning that most islands are under the sovereignty of a State that has some greater island or mainland with a sufficiently large number of humans living on it, the conferring of this EEZ and continental shelf onto this questionably small island could consequently be of benefit to the rest of the citizens, living elsewhere on the State's territory. Hence, it may seem that when considering human survival on a questionable island, number should not be an issue. What matters is whether that island can indeed sustain human habitation.

Indeed, there have been arguments that the island must permit a stable organised group of humans and not mere occasional habitation such as seasonal visits by fishermen, thus suggesting that habitability was to be proven as a question of fact showing **actual or effective and permanent occupation**.¹³⁴⁴ Conversely, there are also arguments that a permanent habitation is not necessary provided it can support 'nearby' stable communities such as neighbouring islands although there must be commitment to the resources surrounding the feature.¹³⁴⁵

It is argued that the former views do not really reflect the true sense of Article 121(3), since this provision does not demand that there has to be actual habitation in existence at the point of evaluating the maritime feature. There is no specific requirement that there has to be habitation in existence as a matter of necessity but the words in Article 121(3) stresses the importance of 'ability' which may be deduced from the word 'cannot' as opposed to the word 'has not' which was not used. Indeed, there has to be some flexibility for States to decide as to when they intend to allow their citizens to occupy the questionable island and thus the next step would be to see if it could actually sustain human habitation. If indeed there has to be actual habitation including its permanency when the island is being evaluated, this may involve having to place one or more human beings on the island and allow for some time duration to pass, to determine if the island can indeed sustain human habitation. There will then be the argument on how long this time duration will be to ensure that the test is satisfied, and leading to the next question of how long then will an evaluation take to answer Article 121(3).

Clearly, a better way may be to not go too far into the provision by adding more criteria than there already are, when the provision is quite clear that the requirement is more of the 'ability' or 'capacity' to sustain human habitation rather than whether it currently has human habitation. This 'ability' may be evaluated via the natural environmental science process as aforementioned. It is argued that this process is simply providing the natural factors that enable a human to exist at a very basic level which none can argue to be wrong. There is no dispute that humans need water, food and shelter to survive and since the word '**sustain**' is used, there is a clear indication that the island has to have that ability to enable some permanency of human survival, which, for this to happen, also

¹³⁴⁴ Chapter 5, text at *supra* n 585.

¹³⁴⁵ *Ibid.*, text at *supra* n 607.

necessitates the ability of having the appropriate shelter to ensure human safety and health.

It is also incorrect to assume that **past existence** of human habitation would satisfy the test of the island's ability to sustain human habitation. This argument is absurd, since it is not necessarily the case that what was, could still be.¹³⁴⁶ Further resources that were once on the island may not surely still exist particularly with climate change that is now of great concern to communities worldwide. Whilst the mainland and larger islands may have much to fear regarding the environmental changes that can affect the ecological and environmental surroundings of the place that humans live, smaller islands have even more cause for concern given that their size can make them more affected by the changes in the environment such as the rising water due to global warming, even possibly submerging these islands.¹³⁴⁷ Notably, 'islands are less able to absorb environmental impact than larger areas.'¹³⁴⁸ Humans survive on the natural resources of the earth; and if this is affected by climate change, there may be no or less resources left to enable the proper survivability of humans.

In conclusion, for the human habitation test to be considered as having been fully satisfied, there must be water, all the basic necessities essential for human food production, and other circumstances such as the island environmental surroundings which include its landscape, ecosystem and natural disturbances to show that the condition is suitable for the building of a sufficiently long and durable permanent shelter that does not keep on 'collapsing' in too short periods of time causing it clearly to be an unsafe place to live.

35.3 Economic Life

The discussions from the previous Chapters show the difficulties in reaching a conclusion as to what is actually meant by 'economic life' under Article 121(3).¹³⁴⁹

¹³⁴⁶ The Tribunal's heavy reliance on past evidence in the *South China Sea Arbitration* without also considering future possibilities is questionable and risky as argued in Chapter 6, Section 22.2.1(B)(e).

¹³⁴⁷ Global warming causes the melting of glacial ice that may eventually submerge such islands or to some extent affect the ecological surroundings and the species on it which certainly plays an important role for human survival.

¹³⁴⁸ UNESCO, *supra* n 1327, p. 11.

¹³⁴⁹ See *supra* n 1305 (including text)

Nevertheless, without specifically referring to Article 121(3), there is observation that the historical types of economies found on small islands and small island states include agriculture, fisheries and forestry;¹³⁵⁰ whilst modern day economies include those arising from manufacturing, mining, and tourism.¹³⁵¹ Energy and mineral resources are also argued to create economic life.¹³⁵² On a more factual basis, UNESCO's findings in 1994 were that small island developments vastly relate to human settlements; and that economic and subsistence activities are typically symbolized by a particular community or urban structure and architecture where for example, on coastal marine and ocean resources, the interface between the island, its people and the surrounding ocean are clearly reflected.¹³⁵³

Bird droppings (guano) can also be regarded as a resource for economic life such as in the case of Nauru.¹³⁵⁴ Nevertheless, throughout the years, the mining of the phosphate deposits that originate from the droppings of sea birds, has made the island inhospitable since it is made entirely of this substance and whose depletion caused by the mining will result in nothing left on the rock¹³⁵⁵ to support economic life. With such limited types of resources due to its particular make-up, Nauru can fail to sustain such economic life. The point is, if Nauru of such size has much concern regarding its economic life lessening, despite the fact that humans live on it, what about rock islands which are so much smaller?

Despite these factual realities, **UNCLOS** uses the 'economic life' phrase only twice throughout its entire Convention and annexes. Apart from Article 121(3), this phrase is also found in **Article 17 of ANNEX III** which concerns the "Basic Conditions of Prospecting, Exploration and Exploitation" in the Area under Part XI of UNCLOS. Therein, the International Seabed Authority (ISA)¹³⁵⁶ shall adopt and uniformly apply rules, regulations and procedures in accordance with Article 17 of Annex III which includes, the duration of

¹³⁵⁰ Connell, *supra* n 987, pp. 55- 89.

¹³⁵¹ *Ibid.*, pp. 90-123.

¹³⁵² Rogers & Feiss, *supra* n 1115, p. 171. Energy may be derived from heating by way of fire, the Sun or hot spring; with electricity that may be obtained from boiling water by burning fossil fuel (p. 171). Mineral resources are those such as metals and the industrial rocks and minerals (p. 214).

¹³⁵³ UNESCO, *supra* n 1327, p. 55.

¹³⁵⁴ Rogers & Feiss, *supra* n 1115, p. 237. This small independent island nation located north of the Solomon Islands based its economy on guano that interacts with marine sediments exposed at the surface; although to be precise, it is the natural fertilizers that were produced resulting from this interaction.

¹³⁵⁵ *Ibid.*

¹³⁵⁶ see *supra* n 919.

operations in which the exploitation in an identified area “*should be related to the economic life of the mining project, taking into consideration such factors as the depletion of the ore, the useful life of mining equipment and processing facilities and commercial viability*”.

Although Article 17 of Annex III of UNCLOS is not related to Article 121(3), the understanding of the phrase ‘economic life’ in the former should be given some weight since Annex III is part of UNCLOS with the same States parties involved. Thus, what economic life may mean in the context of UNCLOS, may to a certain extent also be deciphered from Article 17 of Annex III.¹³⁵⁷ In addition, given that Article 17 of Annex III is unrelated to Article 121(3), it is therefore also crucial to look at the ordinary meaning of the phrase as reflected in dictionaries.

The dictionary defines “**economic life**” simply as “the period during which an economic good retains its utility.”¹³⁵⁸ The word “**economic**” itself however, has been defined to include, “relating to a divine dispensation or system of government”; “of or relating to the science of economics”; “having practical or industrial significance, uses, or application”; “operated or produced on a profitable basis: producing an excess of returns over expenditures”; and “capable of or liable to profitable exploitation”; whilst “**economic good**” has been defined as “a commodity or service that is useful to man but that must be paid for.”¹³⁵⁹

It is observed that all these definitions, be it assumptions by scholars and States, Article 17 of Annex III of UNCLOS, including dictionary definitions appear to revolve around one understanding. Basically, the ‘economic life’ criterion requires the island to remain useful and beneficial for humans.¹³⁶⁰ Hence, there must be some economic viability that can arise from the resources rather than the latter’s mere existence. For indeed, the ‘economic’ element is argued to only be able to surface if these resources are being utilized for the benefit of humans and producing some sort of additional value or profit. The term “economic” itself as defined in dictionaries clearly shows the necessity for there to be some sort of profit, benefit or excess that surfaces as opposed to the unused state

¹³⁵⁷ It may be noted that the Tribunal in its Award in the *South China Sea Arbitration* neglected to consider this provision that can in fact assist in strengthening its findings – see Chapter 6, Section 22.1.1(B)(a)(vi).

¹³⁵⁸ Chapter 2, text at *supra* n 180.

¹³⁵⁹ *Ibid.*

¹³⁶⁰ See text at *Ibid.*

of the resources. Hence, if the resources are unused despite their clear existence, the “economic” element requirement can be regarded as not having been met. There needs to exist that beneficial or profitable element that is being enjoyed, that goes beyond a mere unused state that would otherwise make it similar to not being beneficial.

Even UNCLOS when referring to “economic life” in Article 17 of its Annex III had included the requirement to consider factors such as the ‘**commercial viability**’ and the ‘**depletion of ores**’ which suggest the necessity for the economic life to continuously exist for at least some period of time as opposed to diminishing, apart from also being useful with commercial significance. These factors show that the natural resources must provide some sort of extra benefit or profit in existence for at least a certain time period, rather than their mere presence.

Consequentially, if agriculture, fishing, forestry and such naturally-sourced activities are to satisfy the ‘economic life’ test, such activities should be able to profit or benefit humans and this may only be achieved if the resources do not remain in their unused state. In 1994, UNESCO highlighted an example of an island arguably not considered to have an economic life of its own such as islands similar to the Kiribati island situation; therein, despite the existence of fishing activities, the fish caught appear to not really be a marketable item since there are no consumers, and purchasers are normally on an occasional basis resulting in the non-existence of the economic viability element.¹³⁶¹ In comparison, much of the populations that live inland on the Samoa and Viti Levu volcanic islands of Fiji, are not really involved in fishing activities, hence the presence of a substantial local market for fish.¹³⁶² Nevertheless, if the Kiribati island situation is looked at vis-à-vis Article 121(3), it may be argued that although the ‘economic life’ element may not have been satisfied, the mere fact that there are humans living on the island who go out fishing although for self-survival rather than for commercial purposes can still result in the island escaping the provision due to satisfying the ‘human habitation’ test instead. In addition, the resources that are argued as acceptable under Article 121(3) should be those that come naturally from the island itself including its territorial sea, since all islands are entitled to a territorial sea. As argued in Section 35.5 below, the very fact that the

¹³⁶¹ UNESCO, *supra* n 1327, p. 113

¹³⁶² *Ibid.*, p. 13.

phrase “of their own” has been included into Article 121(3), calls for it to have some significance. In this respect, “of their own” can be understood to have the ‘independent’ element and in the context of ‘economic life’, the economic life may be understood as deriving from the island’s own natural resources; although as elaborated in Section 35.5, man’s physical efforts to ensure that such economic life is eventually materialized, may be accepted.¹³⁶³

Hence, if the aim is to evaluate a questionable island on a ‘natural’ basis rather than introducing modern economies such as industries that do not involve the natural resources on the island, such ‘economic life’ can therefore include agriculture, fishing, forestry, the mining of ores and minerals, and their like, all of which should be derived from the natural resources of the island and its surroundings to a maximum that includes its territorial sea. Economic activities that use external resources should not be allowed for purposes of Article 121(3). If this is allowed, then all maritime features may easily avoid Article 121(3) provided that the State that has sovereignty over them has the means to ensure that external sources may be transported to the maritime feature to be used for economic purposes in order to satisfy the ‘economic life’ test. The phrase ‘of their own’ would then serve no purpose, and accepting such external resources would contradict this clearly spelt-out phrase. Arguably however, a very minimal inclusion of external resources which is clearly not the major resource used such as in an industry that combines both internal and external resources may be considered. Notably, it may sometimes be impossible to utilize an internal resource without some combination hence causing the waste of an internal resource that can possibly be of good economic value.

In conclusion, it is argued that the ‘economic life’ element can be any economic activity as long as the major part of the resources used arise from the natural resources of the island itself and to the maximum extent of its territorial sea. Furthermore, such activities must have the additional element of something extra such as being profitable or beneficial that can actively contribute rather than exist without being utilised; since unused resources will certainly not provide any benefit or profit. It is argued that had the intention been that there is no need to prove any benefit or profit, then the word ‘economic’ should not have been used in Article 121(3). Instead, a formulation for the wording in the provision

¹³⁶³ See concluding paragraphs for Section 35.5 below.

that in effect requires merely having in existence the natural resources on the island, without the necessity of actually having benefits arising from such resources, should be sufficient.

35.4 Sustain

From the discussions in the previous chapters, the term 'sustain' has also shown the difficulties in arriving at a conclusion as to what it entails.¹³⁶⁴ Therefore, under Articles 31 and 32 of the VCLT, the ordinary meaning of 'sustain' may be a starting point to understand its meaning and thus, dictionary definitions would be useful. In this respect, the Oxford dictionary has defined "sustain" among other things as follows:

- "1. *support someone physically or mentally*
2. *cause to continue for some time: he cannot sustain a normal conversation. ...*",¹³⁶⁵

whilst Webster's Third New International Dictionary has defined it to include:

- "1. *to give support (as military support) to: uphold by aiding or backing up...*
2. *to provide for the support or maintenance of: supply with sustenance: NOURISH (plant life ~s the living world...*
- 3a. *to cause to continue (as in existence or a certain state or in force or in intensity): to keep up esp. without interruption, diminution or flagging: MAINTAIN, PROLONG (found it difficult to ~ an interest in their talk...)*
...
- 4a: *to bear up from or as if from below: support the weight of: hold up:...*
- 4b. *to carry or withstand (a weight or pressure)..*
5. *to prevent ... from sinking or giving way...*
6. *ENDURE: as ... to submit to without failing or yielding: bear up under...*
7. *to support as true, legal or just.. ...*"¹³⁶⁶

The views of some scholars may also be highlighted as deliberated in **Chapter 5**. Briefly, one scholar merely questions the subjectivity of the word 'sustain' rather than going into an in depth explanation on its meaning.¹³⁶⁷ Other scholars suggested that 'sustain' would require some continued time period, thus reflecting Definition 2 of the Oxford dictionary¹³⁶⁸ and Definition 3a of the Webster's International Dictionary.¹³⁶⁹ In this

¹³⁶⁴ See *supra* n 1305 (including text).

¹³⁶⁵ Catherine Soanes & Sara Hawker (Eds), *Compact Oxford English Dictionary of Current English* (2005, Oxford University Press, Oxford, 3rd Edition), p. 1044.

¹³⁶⁶ Gove, *supra* n 180, Vol. III, p. 2304.

¹³⁶⁷ Chapter 5, text at *supra* n 638.

¹³⁶⁸ Text at *supra* n 1365.

regard, those that suggest such continuity are arguing for the habitation to not be merely occasional,¹³⁷⁰ that there has to be stability of residence,¹³⁷¹ and that there exists the ability to maintain the population.¹³⁷²

There are also those that advocated that such permanency is not required due to the use of the word ‘cannot’ as opposed to ‘do not’ in Article 121(3).¹³⁷³ The argument was that the usage of “cannot” was more to prove the ‘capacity’ of the island to support human habitation rather than prolonging that capacity; namely, supporting in a continued way, consequently resulting in their findings that habitation need not be permanent.¹³⁷⁴ They opine that habitation may not necessarily already be there but as long as there is some proof in the past that the island did have habitation, this can be evidence that past capacity continues to exist today.¹³⁷⁵ Additionally, there are scholars who argue that people sometimes may have reasons for not wishing to stay on the island despite that such island may support human habitation.¹³⁷⁶

These arguments differ from each other to a certain extent. Undoubtedly, their views have their basis; but what is more important is that the reasons supporting their arguments lack clarity with some not substantiated by adequate rationale. Hence, as aforementioned, simple dictionary definitions as the starting point should be utilised to the maximum possible extent although within the confines of the object and purpose of UNCLOS.

As established in Section 35.2, a questionable island must have the ability to support and provide humans with the necessary basic needs. Nonetheless, such ability must also take into consideration the meaning of ‘sustain’ as discussed below.

The aforesaid dictionary definitions for ‘sustain’ appear to include two applicable understandings for Article 121(3). **Firstly**, ‘sustain’ must include the meaning ‘support’ in the context of Article 121(3); be it actually supporting human habitation, or merely the

¹³⁶⁹ Text at *supra* n 1366.

¹³⁷⁰ Text at *supra* n 585.

¹³⁷¹ *Ibid*; see also text at *supra* n 592.

¹³⁷² Chapter 5, text at *supra* n 597.

¹³⁷³ Chapter 5, *supra* n 623 (including text).

¹³⁷⁴ *Ibid*.

¹³⁷⁵ *Ibid*, *supra* nn 623 -624 (including texts).

¹³⁷⁶ Hodgson and Smith, *supra* n 625.

capacity to support such. There is no dispute that the island must be able to support human habitation.

Secondly, the word 'continuity' is argued to be crucial to be included in the meaning. Scholars' may have differing positions with some viewing that habitation should be actual and permanent whilst others arguing it to not necessarily be so, provided the island has the capacity to support such habitation. However, scholars' aforementioned views do not really focus on the 'continuity' element but more whether the island is capable of providing the support or maintenance for human habitation regardless of the time period. This does not mean that they have disregarded the 'continuity' element altogether, except for those who viewed that habitation need not be permanent.

In this regard, it is argued that if habitation need not really be in existence and that permanency is not required, with people at liberty to choose not to stay on the island, the true sense of the object and purpose of UNCLOS can be open to abuse. In this situation, States can simply give the excuse that their subjects do not want to stay on a questionable maritime feature, but yet insist on an EEZ and a continental shelf for it. This cannot be the intention of the drafters of UNCLOS or States worldwide that an EEZ and continental shelf entitlement be given to a questionable island that does not even have a human being living on it. Clearly, the object and purpose of having an EEZ and a continental shelf is to benefit mankind, but this should be the humans who live and survive on the island as rightfully pointed out by Judge Vukas. He had highlighted that the EEZ was meant to protect the economic interests of coastal States and their population in the coastal area whose livelihood or economic development depended upon coastal fisheries in the high seas adjacent to the territorial sea of the aforesaid State.¹³⁷⁷ Hence if there is no 'mankind' on the island, what therefore calls for the necessity to confer an EEZ or CS unto the same? This does not seem to be an act of good faith, highlighted by Article 31(1) of the VCLT as a requirement to take into consideration when interpreting a treaty.

Despite this, if indeed it is proven that the island can certainly sustain human habitation or economic life of its own despite the absence of humans on it, perhaps the argument that there does not need to be human on the island may still be valid. Notwithstanding the fact that UNCLOS clearly intends that the EEZ and the CS should be for the benefit of

¹³⁷⁷ Diaz, Hart Dubner and Parent, *supra* n 724 (including text).

mankind, as is seen argued in Section 35.2 above, the wording of Article 121(3) does not specifically mention humans having to actually live on the island. It merely stresses the 'capacity' or 'ability' of the island to support human habitation rather than actually having living humans as a matter of fact.

Nonetheless, it is stressed that the continuity element is another level of consideration that goes beyond the 'ability' element which has not really been addressed by most scholars.

Hence, even if the view that habitation need not necessarily currently exist is accepted, this does not mean that such habitation need not have continuity. It is contended that having looked at the first level of understanding that an island is capable of 'supporting' human habitation, be it from current existing habitation, or if no habitation then from scientific evidence on the possibility of human habitation, the next level of consideration would be to see if hypothetically the support can continue to exist irrespective of whether people decide to stay there permanently or otherwise. If these two levels are met, then, it is argued that the human habitation criterion that also takes into consideration the meaning of "sustain" in the provision would therefore have been satisfied.

There must also be evidence that there is potential for the continuity element to exist at least for a reasonable time period that can thus prove that habitation can truly exist rather than too short a duration that is argued to lack authenticity or genuineness. This requirement for a reasonably long period of time can refute arguments against the authenticity of claims by States for the extended maritime zones.

Clearly, there must be some deeper meaning given to the term 'sustain' in comparison to merely 'support' in the context of Article 121(3). The reality is, the 'support' test can in 'bad faith' likely to be satisfied if for example, a day is all that is required to ensure that a human is still alive at the end of the day, probably surviving on whatever little fresh water from the rain and plants that can merely last for a day without their renewal. This clearly cannot be the intention of UNCLOS. A reasonable period of time to pass is thus vital to ensure that there is good faith in such act, necessitating 'continuity' in addition to 'support' to sum up the meaning of "sustain" in the context of Article 121(3). In addition, if 'supporting' human habitation can last for only a very short while, humans will then have to vacate the area or seek outside assistance for survival, which inevitably only

mean that survival on the island is impossible without the assistance of these external factors. It may be reminded that Article 121(3) also imposed the criterion “of their own” as discussed in the subsequent section and hence, external aid can defy this phrase.

Consequentially, the aforesaid dictionary definitions may be utilised to the maximum possible extent that makes sense and thus, apart from understanding ‘sustain’ to mean ‘support’, it may also be understood to encompass ‘continuity’. This understanding may not necessarily impose the need to have actual habitation. Proof of the ability of the island to support and have continuity in its support for such human habitation should be sufficient; and this may be determined by the arguments in **Chapters 8 and 9** which had dealt with basic human needs for survival and what constitutes them. Relying merely on past habitation to mean that the capacity to support human habitation continuously can exist, is erroneous; since what was, may not necessarily still be.

It may be summarized that in the light of the current findings, the starting point to understand what ‘sustain’ entails would be to look at the ordinary meaning of the word,¹³⁷⁸ namely the dictionary definitions but within the context of Article 121(3). Hence, the word ‘sustain’ may include both ‘support’ and ‘continuity’ for this purpose. The ‘supporting’ element includes both providing sustenance and allowing the survivability of humans and that these must continue for a certain period of time to the extent that false claims by States are prevented. In addition, such support and continuity as well as having an economic life that a questionable island can provide would have to be self-sufficient; and the test to really evaluate this would include assessing whether this ability can still exist without external assistance.

35.5 Of their own

The requirement “of their own” for an island to escape the consequences of Article 121(3) had arisen during the discussions prior to its finalization in 1982.¹³⁷⁹ There was no elaboration on its meaning however, and similar to the other terms, there is also difficulty

¹³⁷⁸ Article 31(1) of the VCLT; see Chapter 2.

¹³⁷⁹ Chapter 3, texts at *supra* nn 329 and 331 - e.g. Colombia and Libya proposed this during the Fourth Session of LOSC III in 1976; At the Ninth Session in 1980, Venezuela viewed this requirement to mean ‘not complete self-sufficiency but the existence of national resources which could be exploited economically or the possibility of other uses (text at *supra* n 380); Dominica found the phrase clear and acceptable (text at *supra* n 339).

to arrive at an acceptable conclusion based on the discussions in the previous chapters; be it the legislative history of the provision, decisions by international adjudicating bodies, State practice and opinions by scholars and maritime legal experts.¹³⁸⁰

State practice does not assist much in defining what this phrase means, and has yet to evolve into customary law that establishes the meaning of the phrase. This would however be most unlikely to happen with States' different practices¹³⁸¹ which appear to be more due to self-interest rather than actually believing that such actions are appropriate since their future actions may again be contrary to their own current actions if they were to deal with another State's island that would adversely affect their own interest. For now, State practice may be considered unreliable for determining the meaning of the phrase "of their own". Similarly, scholars' have differing opinions for both economic life¹³⁸² and human habitation¹³⁸³ in relation to the phrase "of their own," including within both the categories themselves.

Due to the impossibility to derive the meaning of the phrase due to the aforementioned, a possible solution would be to look at the its ordinary meaning as per Article 31(1) of the VCLT which has been clearly spelt out by dictionaries, as a starting point.

On this note, it may be concluded initially that at the very least, the view that is considered acceptable to all for the meaning of "of their own" would be having 'independence', although the degree of this independence differs amongst 'interpreters'. **Chapter 2** shows that the dictionary definition for the exact phrase "of their own" has yet to be found, although the closest seen is "**on one's own**" which has been described as "*on*

¹³⁸⁰ See *supra* n 1305 (including text).

¹³⁸¹ E.g. France claimed an EEZ and continental shelf for Clipperton Island despite continuous outside support from 1892 to 1917, which today is even uninhabited although they may argue to rely on the existence of tuna fishing activities which arguably could be considered as an economic life, despite external support (texts at *supra* nn 514 and 530); Romania viewed Serpents' Island as not independent because it receives supplies particularly water from elsewhere (text at *supra* n 531).

¹³⁸² Chapter 5 – Opinions include: an island does not have to be completely self-sufficient to realize an island's economic potential (i.e. texts at *supra* nn 707 and 708); injecting an artificial economic life into an island from its other land territory would cause it to be an Article 121(3) rock (i.e. text at *supra* n 705); and it is acceptable for resources to come from the territorial sea for an island's economic life purposes (texts at *supra* nn 667-668).

¹³⁸³ Chapter 5 – Views include: outside support should not be allowed to determine whether an island can sustain human habitation (i.e. text at *supra* n 709); that artificial enhancement can affect the legal status of an island, depending on whether such is to maintain the status of a full-fledged island from degenerating into a 'rock', or changing the original status of a maritime feature from a 'rock' or an LTE into an island that escapes Article 121(3) (i.e. texts *supra* nn 694-698). These views relate to the "of their own" situation since artificial enhancement means that a feature is indeed depending on external 'interference'.

one's own resources or initiative: for or by oneself;¹³⁸⁴ whilst the word '**own**' has been described amongst others as "*done or produced by the person specified.*"¹³⁸⁵

Plainly, "**on one's own**" is more or less similar to "of their own" and this requires whatever 'act' (that is done or produced) it is referring to, to be from the body or person specified. Since Article 121(3) specifically refers to the 'rock' island, it is thus the 'rock' island itself that has to meet this criterion. The phrase did not state that the duty or thing to be carried out by a person or body can also come partly from elsewhere. The word '**own**' as defined by the dictionary stops short at 'the person specified' with no added definition that reads comparably to "*amongst others, the person specified.*" Also, dictionary meanings should not be read beyond what is clearly stated there especially since the intention of parties when Article 121(3) was formulated was unclear and resulted in a compromise.

Having established that the phrase therefore requires the act to be carried out independently by a specified body, it may be argued as below.

Firstly, the island in question would have to be proven to have either of the criteria in Article 121(3); namely, it can sustain 'human habitation' or 'economic life'.¹³⁸⁶

Secondly, this 'act' of sustaining either criterion would have to be an independent act that receives no aid from elsewhere.

Thirdly however, as discussed in Section 35.3, a very minimal addition of external resources may be allowed if the internal resources may only be able to be utilized if combined with other resources. Nevertheless, such addition must be very minimal with the internal resource being the main resource being used.

Finally, in view of the reality that an island is not a human being that can physically move things in order to ensure that either of the criteria can materialize, except for the natural occurrence that exists which is its island ecosystem and environment, a certain level of

¹³⁸⁴ Chapter 2, text at *supra* nn 181.

¹³⁸⁵ *Ibid.*, text at *supra* nn 182.

¹³⁸⁶ Unfortunately, the Tribunal in its Award in the *South China Sea Arbitration* had attached the understanding of this phrase "of their own" to only the "economic life" criterion. This has been argued to cause uncertainties and hence could result in possibly inaccurate findings, since the possibility of giving a different weight where "of their own" is concerned, to "economic life" as opposed to "human habitation" may exist and this cannot be the case - see Chapter 6, Section 22.1.1(B)(a)(iv) and Section 22.1.1(B)(a)(vi).

human involvement is required. If this is denied, the majority of islands may result in not having an EEZ and continental shelf since it is impossible to build a shelter or grow edible plants for humans in a sufficiently orderly manner that will enable humans to survive in a sustained way under the human habitation test. Furthermore, as earlier argued in Section 35.3, the resources that make up the “economic life” of an island would have to be utilised rather than remain dormant or unused in order for it to pass the “economic life” test.

Consequentially, when putting an island to the test, the above analogy is suggested to be taken into account. Hence, for an island to escape Article 121(3), it must be able to either sustain human habitation or economic life independently and mainly from its own resources, although such independence can include but is not limited to, man’s physical involvement to ensure that either of the criteria can actually take effect.

35.6 The conjunction “or”

The word “or” also plays a significant role. It may be reminded that during the discussions **prior to the finalization of Article 121(3)**, there were contrary views as to whether this conjunction meant “and” or “in the alternative.”¹³⁸⁷ Nonetheless, it is reiterated that the end result of Article 121(3) was a compromise amongst States, and hence this issue may arise in the future when it comes to applying the provision in a dispute.

Again, apart from the recent South China Sea Arbitration Award,¹³⁸⁸ **adjudicating bodies** that have referred to Article 121(3) have not really applied the provision, let alone discussing the conjunction ‘or’.¹³⁸⁹

Nothing much can also be derived from **State practice** being contrary amongst them as discussed in **Chapter 4**. Regardless, State practice has yet to develop into customary law that can be relied on for purposes of Article 121(3). However, it is highly likely that States that intend to claim an EEZ or continental shelf for their questioned maritime feature

¹³⁸⁷ Chapter 3, Section 14.1(d). e.g. *Dominica and Denmark*.

¹³⁸⁸ See text at *supra* n 11 and relevant texts thereafter; see also Chapter 6.

¹³⁸⁹ Chapter 6, e.g. *Romania/Ukraine* case and *Nicaragua/Colombia* case. Even the *Jan Mayen Conciliation Commission* despite deciding on Jan Mayen’s island status, had not explained which of the conditions of the island had satisfied the test in Article 121(3), never mind discussing the conjunction ‘or’ (texts at *supra* n 765).

would most likely opt for the ‘alternative’ meaning since it will be much easier to prove only one criterion rather than both. Conversely, States that are in a dispute with the aforesaid claiming State concerning the maritime areas involved, including even other States which are anxious for the maritime area to remain as the high seas or the Area for the common benefit of all, may possibly argue for both criteria to be met, to make it much more difficult for the claiming State to be entitled to an EEZ and a continental shelf for its maritime feature.

Even **scholars** have differing views in which some find the word to mean in the disjunctive justifying their opinions,¹³⁹⁰ whilst some appear to suggest that understanding it as “or” would cause fewer maritime features to be caught by Article 121(3).¹³⁹¹

Despite the failure to extract a clear intention of the State parties to UNCLOS on what “or” means prior to the finalization of Article 121(3), some analogy may be made from States’ final purposeful act during the debate wherein the conjunction “and” was replaced with “or” as clearly reflected in the *travaux préparatoires*.¹³⁹² This shows that the conjunction was meant to be in the alternative since originally, the word ‘and’ was used prior to ‘or’. Surely, there must be some meaning to this decisive act and some weight must be given to it. However, since States have different views as aforementioned, other factors to support this purposeful act may have to be considered before arriving at some conclusions.

In this regard, the factors that can be of consideration include finding the ordinary meaning of the word “or”, a method which is stated in Article 31(1) of the VCLT, and the reality of the application of such meaning to the actual surrounding circumstances, such as the rights of the claimant State, balancing it with the rights of other States worldwide, the current era and existing technology, as well as the object and purpose of UNCLOS.

In this regard, the ordinary meaning of “or” may be seen in Webster’s Third New International Dictionary which includes:

¹³⁹⁰ Chapter 5, Section 19.5 – e.g. Charney, Oude Elferink, Song and Gjetnes.

¹³⁹¹ *Ibid.*, – e.g. Kwiatkowska and Soons.

¹³⁹² Chapter 3, Section 14.1(d), see text at *supra* n 389. The Tribunal in the *South China Sea Arbitration* had however neglected to refer to the *travaux préparatoires* in relation to the conjunction “or”. It is argued that reference to this is important to enable a more justifiable finding that has taken into consideration all relevant aspects where possible.

“1. ...used as function word to indicate

- (1) an **alternative** between different or unlike things, states or actions, ...
- (2) **choice** between alternative things..
- (3) ...¹³⁹³

whereas, the Oxford Dictionary has defined it as amongst other things, as a conjunction that is-

- “1. used to link **alternatives**.
- 2. introducing a word that means the same as a preceding word or phrase, or that explains it.
- 3. **otherwise**.”¹³⁹⁴

It is argued that where Article 121(3) is concerned, the understanding “or” is meant to be a conjunction and thus, it is safe to assume that only Definitions 1 of both the Oxford Dictionary and Webster’s dictionary, including the sub-paragraphs, are the relevant ones in this context. The definitions are quite clear that the meaning of “or” is in fact an alternative to another and not encompassing both the alternative subjects in question. Hence, with regard to Article 121(3), it would appear that only one of the questionable island’s ability needs to be proven; that is either the “human habitation” criterion or the “economic life” criterion.

35.7 Evaluation of maritime features: The appointed time and the effect of possible changes

35.7.1 Introduction

Despite all the aforementioned considerations, the fundamental question that would eventually arise is the question of when should the Article 121(3) test be applied to a questionable maritime feature. The time when a maritime feature should be evaluated is crucial since amongst other considerations, evaluating a feature at different times can produce dissimilar results which could ultimately cause it to either be entitled to a continental shelf and an EEZ, or otherwise.

¹³⁹³ Gove, *supra* n 180, Vol. II p. 1585.

¹³⁹⁴ Catherine Soanes & Sara Hawker (Eds), *Compact Oxford English Dictionary of Current English* (2005, Oxford University Press, Oxford, 3rd Edition), p. 712.

The provision may be open to abuse by States to their advantage, electing to evaluate their respective maritime features according to the time that would favour them which may at the same time be unfairly disadvantageous to other States. Although this may be understandable since it is natural for States to endeavour to protect their respective interests, there has to be a balance that leads to as close as possible a relatively acceptable approach on the matter.

Underlying this question however, are some challenges including the inevitable possibility that the physical characteristics of a maritime feature can change over time, and hence whether such occurrence would have any effect on the status of the maritime feature.

It is thus crucial that the time for evaluation is carefully identified to minimize as much as possible the setbacks that can arise from foreseeable challenges as will be discussed below.

(a) The Challenges

It is noted that although the time for the evaluation of a maritime feature under the Article 121(3) test is important to be identified, there are challenges in addressing this issue that must be borne in mind.

Firstly, the accuracy of time chosen when evaluating a maritime feature is questionable. On this note, various factors such as natural variations in maritime features, and the effects of climate change that can alter or affect the physical characteristics of a feature, are inevitable. Indeed, every situation is subject to change and nothing lasts forever. Hence, it can never be possible to state with absolute certainty that the result arising from the application of any given time for such evaluation for all States is infallible, since the outcome from evaluating a feature at one point in time may not be the same if evaluated at a different time. Other factors that can also contribute to such accuracy include the issue of evidence and technology.

Hence *secondly, the availability of evidence* at the point when a maritime feature is being evaluated may be of concern, possibly resulting in a different outcome under Article 121(3) depending on the circumstances. For instance, it may be that the evidence available during that time may not favour that State but the result could have been

otherwise if evaluated at another date. It may also be that evidence may possibly exist at that particular time when a maritime feature is being tested under Article 121(3) but the State that wishes for the maritime feature to be evaluated may not have the means to access such evidence due to various reasons. This includes those beyond the control of that State, such as its financial capacity to employ the necessary technology required to bring forth such evidence.

This relates to *thirdly*, the **question of technology** that can also affect the outcome of a maritime feature's status. For example, even if a State has the financial capacity to employ any technology, the problem lies in the availability of technology, namely that the current technology in existence is such that it may not be able to bring forth the required evidence or results during that time, whilst the situation may possibly be different in the future. For instance, a particular machinery may have yet to be invented to assist in obtaining better evidence as to whether a particular maritime feature can indeed pass the test under Article 121(3) or otherwise. Although this may seem to be going too far into the possibilities, since the discussion now goes into the invention of "yet to be invented" technologies or machineries for this purpose, this concern is still a possibility. This could be an issue since the question that arises is whether such a situation is fair, particularly if a maritime feature could have been evaluated at a time when such machineries have been invented to extract evidence which is more favourable to a State or otherwise, whichever the situation may be. The other issue pertaining to technology is the extent of the use of technology to enhance a maritime feature's capability to sustain human habitation or have an economic life of its own. Indeed, the question that arises concerns where a State has the capacity to utilize more advanced technology to prove a maritime feature's capability better than another State, and thus whether this is acceptable, and whether the situation would change in the future in that such advance technologies should now be allowed to be used to ensure that a maritime feature passes the Article 121(3) test. In this regard, as will be seen argued in **Chapter 11**, if simply any technology is accepted to be used without any control or limitations to ensure that a maritime feature escapes the Article 121(3) consequences, this could lead to defeating the provision at all times provided that such technology is available, and may cause the redundancy of this provision.

In relation to all the above, there is also the question of **whether over time, a maritime feature's legal status would also change in accordance with the changes related to the maritime feature** due to the aforementioned challenges. Indeed, over time, the maritime feature's 'condition' can vary due to factors that include climate change and other natural environmental science conditions, including the existence or non-existence of the other factors such as evidence and technology, prompting the question as to whether its status under Article 121(3) may also change in accordance with the situation. It also causes the question to arise as to whether a particular maritime feature that has been defined its status has indeed been fairly judged.

The issue is whether any such variation in a questionable maritime feature's characteristics would therefore mean that its status already evaluated under Article 121(3) would also change according to its current state.

Indeed, every situation is subject to change. As aforementioned, factors such as climate change and other natural variations can affect a feature's physical characteristics with particular regard to its ecology, ecosystem, biogeography and geology and accordingly raises the question as to whether that maritime feature can indeed now sustain human habitation or economic life of its own or otherwise. Over time, there may also be technology that could change the findings concerning the status of a maritime feature from what has already been decided, to a different verdict. Technology may have advanced subsequent to the technology that was earlier used to assess a maritime feature, and hence possibly allowing for a different outcome from when the feature was first evaluated. There is also the question as to the use of technology to change a maritime feature's characteristics from not being able to sustain human habitation or economic life of its own to otherwise.¹³⁹⁵ There may also be evidence that may have actually existed when the maritime feature was first evaluated under Article 121(3) but had only been later discovered outside such time that could have resulted in a different outcome for the Article 121(3) test; or such evidence may have newly existed over time, after a maritime feature has long been evaluated and decided upon its status, that could later cause a different outcome on the status of the maritime feature under Article 121(3).

¹³⁹⁵ This issue has been discussed under Chapter 2 (Section 5.6), Chapter 9 (Section 33), Chapter 10 (Section 35.2), and Chapter 11 (Section 39 and Section 40).

Thus, it is inevitable that any of the aforementioned challenges may arise in the future. However, it is basically beyond humans to avoid the current and impending effects of climate change and the natural variations of islands. It is also beyond humans to state and identify for certain that some future technology will definitely exist to assist in a more accurate assessment of a feature, or that some evidence will absolutely be found later – be it evidence only later discovered despite its actual existence when the maritime feature was first assessed, or even evidence that only came into existence in that future time period - to prove that a maritime feature can pass the test under Article 121(3) or otherwise.

The crux of the matter is whether due to such change over time, be it the physical characteristics of a maritime feature as a result of climate change or the natural variations of the feature itself, or on the availability of evidence or use of technology, the legal status of the maritime feature would also change.

In short, the aforementioned factors are amongst some of the main challenges to the question of temporality under Article 121(3) in which some challenges are also seen elaborated in **Chapter 11**. In view of the fact that these challenges can be interrelated, they will be dealt with together, as appropriate.

It may however be more prudent to first discuss the situation on whether the status of a feature can change over time, so as to enable the question of temporality to be looked at holistically.

(b) Whether the status of a feature can change over time, and whether there are limits to such evolution

Due to the possible challenges over time, whether a maritime feature's status under Article 121(3) would also change accordingly is an intricate issue. To address such inescapable situation and in order to arrive at an approach that could at least be considered acceptable at this juncture given the inevitable constraints, it may be argued that one way of dealing with the question is to depend on whether its aforesaid status has been resolved amongst affected parties. A distinction may be made between the status of maritime features that have been unilaterally declared by States and those that have been resolved amongst affected parties as long as it is not contrary to *jus cogens*.

Where the change occurs on a maritime feature in which the State that has sovereignty over it has only unilaterally declared or acted in a way that the status of its maritime feature is either caught by Article 121(3) or otherwise, the maritime feature will have to be evaluated if its status is questionable amongst affected States, since its status has yet to be determined and agreed to, apart from such unilateral determination. In this respect, the question of whether its status would therefore change does not arise at this stage since its status has yet to be decided upon by affected States or a judicial body where applicable, at the first instance. The only question that is left to be answered in this scenario is the question of when to carry out such evaluation as opposed to whether the status can change after a status has been decided.

Irrespective of the above, a point to ponder would be regarding possible situations where a maritime feature has been occupied by humans for many decades and even centuries who have been enjoying unilaterally and continuously, the 'benefits' of the continental shelf and the EEZ surrounding it, although prior to UNCLOS and even the 1958 Geneva Conventions, such maritime zones may have yet to be named as they are today. An example would be where that maritime feature may have over time, changed in its physical characteristics, wherein if an evaluation under Article 121(3) is to be carried out on the feature today, it may fail the test. It may be that today, the population therein have been surviving on external assistance which thus explains their continued existence on the maritime feature although the said maritime feature may have survived originally based on its own capability that could be argued to be within the context of Article 121(3) before. This is indeed a challenging issue to the Article 121(3) situation, and further research may be conducted to address such situations. It may however be argued at this moment in time, the same approach may be undertaken as in the case of maritime features whose status have been unilaterally declared that has yet to be agreed by or determined amongst affected States apart from such unilateral determination. In this regard, the question of change in status due to such change in the maritime feature similarly does not arise since its status has yet to be decided upon by affected States at the first instance. It is only the question of when to carry out such evaluation that has to be addressed in this situation.

On the other hand, if States have already agreed on the status of a maritime feature by entering into an agreement or treaty, then this agreement or treaty is binding on those

States as per Article 26 of the VCLT. Indeed, States are free to agree amongst themselves concerning any matter as long as it is not contrary to *jus cogens*. Thus, if over time a maritime feature also could have change in its legal status due to the aforementioned challenges, it is argued that the default status of that maritime feature would continue to be as to what States have agreed upon. Despite this, since States are at liberty to settle amongst themselves concerning any matter, they can also change their opinion and amend such agreements, treaties or conventions as long as they can all agree to such amendments. This thus gives some flexibility amongst States to reconsider the change in status of a maritime feature, if need be. If there is a dispute in the interpretation or meaning of such agreement or treaty, States may endeavour to settle their dispute amongst themselves; or if they wish, refer to third party adjudication in which the rules and procedures of the relevant judicial body would apply. Reference to an adjudicating body for determination will then be binding on the aforesaid parties to the dispute.

The point to note is that, if States can agree on the status of a maritime feature, the question of testing the maritime feature does not arise since it would appear that States are 'comfortable' with whatever status has been decided on the feature by virtue of such agreement or treaty. Hence, if the physical status of a maritime feature changes after an agreement or treaty has been entered into amongst the affected States, it is up to those States to renegotiate and amend such agreement or treaty accordingly, or refer to third party adjudication where appropriate. If such physical change in the maritime feature occurs after a decision is made by an international adjudicating body, whether the status of the maritime feature under Article 121(3) would also change would have to be in accordance with the rules and procedures of the international judicial body and international law.

Where third States are concerned, agreements or treaties entered into between parties in which such third States are not party to, are not binding on the third States under Article 34 of the VCLT. Obligations under those instruments cannot be imposed on a non-party State. There can exist situations where some States agree that a maritime feature has a certain status under Article 121(3) whilst others view it differently. This occurrence is common in almost any international situation. States do have diverse views concerning various matters and would normally act or view in accordance with what is favourable to or in the best interests of their respective countries. It is only if they do have some

binding legal instrument or other situations that would bind them such as customary international law or *jus cogens* obligations, would there be a requirement on them to adhere to such legal obligations. Similarly, a third State is not bound by a judgment of an international adjudicating body in a case which it is not party to, by virtue of Article 59 of the ICJ Statute or its equivalents.

In view of these inevitable possibilities, in circumstances where the status of a maritime feature has been resolved amongst States by way of some agreement or treaty, or even adjudged by an international adjudicating body, the emergence of a third State in this scenario would have to be dealt with by the affected States by renegotiating the matter amongst themselves in accordance with the rules and principles of international law. It is up to States to reopen negotiations and amend or review obligations under any such agreements amongst themselves as long as such is not contrary to *jus cogens*.¹³⁹⁶

Hence, although it may seem that the legal consequences of future natural changes of maritime features may be curbed due to such rules and principles of international law - such as the aforementioned Article 34 of the VCLT, and Article 59 of the ICJ Statute or its equivalents - there is still freedom amongst States to reopen any such negotiations and agree to any such amendments as long as it is not contrary to peremptory norms. If the matter is not resolved, it may be brought before a third party adjudicating body in accordance with international law and the rules and procedures of that international adjudicating body.

Regardless of all the above, it may be highlighted that although it is inevitable that a maritime feature can change over time, it is argued that such evolution does not happen overnight,¹³⁹⁷ gradually occurring, geologically and ecologically, and changing after quite prolonged periods of time.¹³⁹⁸ Hence, the necessity of having to revisit the status of a questionable maritime feature is highly likely going to take a very long time before it

¹³⁹⁶ Malcolm D. Evans, *International Law* (2010, Oxford University Press) 3rd Edition, p. 606 – Parties may agree amongst themselves to depart from a binding judgment as long as the obligation in the judgment is not *jus cogens*.

¹³⁹⁷ Natural disasters such as earthquakes, volcanic eruptions and hurricanes come under a different category of discussion in that such occurrences normally disturb the ecology and ecosystem with almost immediate effect at the point of occurrence, although indeed they can affect the ecology and ecosystem in the long run depending on the degree and frequency of such occurrences – see Chapter 9 i.e. Section 31.2 including texts at *supra* nn 1261 to 1267, and Section 33, third point.

¹³⁹⁸ Chapters 8 and 9.

happens. Even when a clear change in island characteristics does eventually occur, it is argued that any evaluation made at that particular point in time may be considered as acceptable, taking into consideration that the main object and purpose of such evaluation is to cater for the current needs of the population of that coastal State.¹³⁹⁹ In this regard, if indeed there is no population or economic life within the context of Article 121(3), it would tantamount to defeating the object and purpose of UNCLOS¹⁴⁰⁰ as well as the obligation to interpret the relevant provision¹⁴⁰¹ and to perform in good faith¹⁴⁰² such obligation under the Convention.

In view of the most likely lengthy time taken for the occurrence of such evolution that changes island characteristics to the point of being able to sustain human habitation or economic life of its own to otherwise, or vice-versa, there should be limits to ‘entertaining’ the effects of such evolution to a maritime feature’s status under Article 121(3). In this regard, the likely event that such change in characteristics would occur is argued to be gradual in the environmental science aspect and hence the need to address such occurrences on an urgent basis may most likely not arise.

(c) The time for evaluation

Taking into consideration the aforementioned challenges, an attempt to identify a possibly acceptable time for evaluation is thus discussed below.

A fixed same time for all?

Given that the outcome of a maritime feature under the Article 121(3) test may possibly be different if evaluated at different times due to the aforementioned factors, it is therefore quite impossible to state with certainty that a given time for evaluation is “foolproof” and indeed the correct one. There is therefore the problem as to when then

¹³⁹⁹ See texts at *infra* n 1411.

¹⁴⁰⁰ See discussions in Chapter 2 (Section 5.6) i.e. the principle of effectiveness, namely to produce an outcome that advances the aims of the treaty, including linking it to good faith (see texts at *supra* n 231 to 233), as well as the balancing of benefits for mankind as a whole (see text at *supra* n 240 and relevant texts thereafter in the same paragraph and the next paragraphs of the same Section 5.6).

¹⁴⁰¹ Article 31(1) of the VCLT.

¹⁴⁰² Article 26 of the VCLT.

should be the most appropriate time for such evaluation, and whether a fixed same time is possible in the circumstances?

One could perhaps argue that since UNCLOS only entered into force in 1994, Article 121(3) of UNCLOS should take effect from that year onwards and thus the appropriate time for the evaluation of a questionable maritime feature would be that year. However, such rigid timeline for the evaluation would not be practical due to the challenges earlier mentioned. Furthermore, although it may be argued that the year 1994 may be the solution since it is then that States are truly bound by the provision due to UNCLOS having entered into force, and that States had on their own accord decided to be party to the Convention and should know the consequences of their action, namely to be bound by the Convention, there are other difficulties in accepting this time for evaluation. Certainly one may argue that there should not be a problem with this appointed time since all States regardless of whether they are party to UNCLOS or otherwise should be bound by Article 121(3) due to the provision being declaratory of customary international law,¹⁴⁰³ and that States are fully aware that treaty obligations would take effect once it had entered into force. The norm would thus be that such obligations would commence on the date UNCLOS entered into force. Despite this, the very fact that international courts and tribunals have ruled that the legal regime of islands under Article 121 has the status of customary international law such as in the recent Nicaragua/Colombia case,¹⁴⁰⁴ it would not be proper to precisely point at the year 1994 as the date for evaluation.

Furthermore, the very wordings of Article 121(3) have already existed prior to 1994, particularly when it was adopted and opened for signature in 1982.¹⁴⁰⁵ Nevertheless, whether it has evolved into customary international law by then is difficult to be determined for certain. Despite this, the adoption of the text for signing signifies States' early preparation concerning the effects of Article 121(3), reflecting their readiness to

¹⁴⁰³ See texts at *supra* nn 77-78. Since Article 121(3) is argued to reflect customary international law, there should be no difference with regard to the applicability of Article 121(3) to States whether they are party or not to UNCLOS. The principle and concept still applies regardless of whether the State is party to UNCLOS or otherwise.

¹⁴⁰⁴ *Ibid.*

¹⁴⁰⁵ This suggests 1982 to have even greater weight than 1994 – if a choice is to be made between the two – since the adoption of the text in 1982 occurred on the same day for all negotiating States, compared to 1994 which has less than half the number of the current 168 States Parties – see United Nations website, *supra* n 60. It is however noted that the Article 121(3) formulation was based on a compromise by States as discussed in Chapter 3. Nevertheless, the end result was still the acceptance of such wordings as the final formulation in 1982.

accept such obligations which were later seen confirmed when they ratified or acceded to the Convention. It may be noted that before UNCLOS can even enter into force, there needs to be at least sixty States that have ratified or acceded to the Convention under Article 308, hence clearly proving the acceptance of such obligation or practice of at least sixty States by the year 1994.

However, due to the fact that this acceptance by States in relation to the context in Article 121(3) is a gradual process that had developed throughout the years prior to 1994, and also declared as customary international law by international courts or tribunals, it may not be accurate to pin the date of the evaluation of a questionable maritime feature to 1994.

In addition, this concept of customary international law in relation to Article 121 may also be seen in much earlier cases although the exact words in the provision may not have yet emerged. It must be highlighted that many provisions of UNCLOS reflect customary international law. In this regard, although it is agreed that there is now a distinction between maritime features that can generate an EEZ and a continental shelf and those that cannot as provided in Article 121(3), the fundamental concept that relates to the issue of entitlement to a continental shelf and the water column above it has long existed. Indeed the crux of the matter concerning Article 121(3) is in relation to the entitlement of an EEZ and a continental shelf, and this issue of land being entitled to such maritime zones is reflective of customary international law prior to the entry into force of UNCLOS.

This may also be seen in the principle that the 'land dominates the sea' which existed long before UNCLOS came into force, a principle which has been repeatedly confirmed by international courts.¹⁴⁰⁶ This principle shows that islands enjoy the same status and thus would generate the same maritime rights as other land territory,¹⁴⁰⁷ as is now reflected in Article 121(2) of UNCLOS. Other international courts that dealt with such entitlement prior to the entry into force of UNCLOS, but after the latter's coming into existence in

¹⁴⁰⁶ i.e. "maritime rights derive from the coastal State's sovereignty over the land" - see text at *supra* n 763 i.e. *Qatar/Bahrain* case, p. 40, para 185; see also *North Sea Continental Shelf Cases*, *supra* n 54, para 96; *Aegean Sea Continental Shelf* case, *supra* n 186, para 86.

¹⁴⁰⁷ *Qatar/Bahrain* case, *supra* n 763, para 185.

1982 include the Libya/Malta case,¹⁴⁰⁸ and the Gulf of Maine case.¹⁴⁰⁹ In this relation, the CCS 1958 that was the law pertaining to the continental shelf even before UNCLOS entered into force confirms that customary practice concerning the entitlement to a continental shelf has existed. Even before UNCLOS was debated, the ICJ in the North Sea Continental Shelf cases regarded Articles 1 to 3 of the CCS 1958 as “*reflecting, or as crystallising, received or at least emergent rules of customary international law relative to the continental shelf, amongst them the question of the seaward extent of the shelf.*”¹⁴¹⁰

Due to the above, determining the evaluation date as the year UNCLOS entered into force for the evaluation of a questionable maritime feature under Article 121(3) may thus not be quite appropriate since States have been practising along the lines of the provision prior to that. Despite this, it is also not easy to identify an exact time as to when it became customary international law due to the gradual nature of the latter.

Apart from this, there may also be constraints for States that have yet to evaluate their respective maritime features to go back into history to see how these features were in 1994 for purposes of evaluating current or future conditions under Article 121(3). This also goes against the idea that the economic interests of coastal States and their population, whose livelihood or economic development depended upon coastal fisheries in the high seas adjacent to the territorial sea of the aforesaid State, are the factors that should be taken into consideration - as was the view put forth by Judge Vukas and similarly viewed by some scholars¹⁴¹¹ which importance therefore is argued to be its current condition that serve current, or the very near future, actual needs rather than serving the past. In short, to identify the date when UNCLOS entered into force as the date for evaluation may not be appropriate.

¹⁴⁰⁸ Libya/Malta case, *supra* n 904, paras 33-34. The ICJ was of the view that it is “*incontestable that... the institution of the exclusive economic zone, with its rule on entitlement... is shown by the practice of States to have become a part of customary law*” and that “*there cannot be an exclusive economic zone without a corresponding continental shelf*”. The ICJ also viewed that “*the two institutions - continental shelf and exclusive economic zone – are linked together in modern law*” and that “*the rights enjoyed by a State over its continental shelf would also be possessed by it over the sea-bed and subsoil of any exclusive economic zone which it might proclaim*”.

¹⁴⁰⁹ Gulf of Maine case, *supra* n 904, para 83. Although this is a case concerning maritime delimitation, the Chamber of the Court stated that ‘general conventions’ including conventions codifying the law of the sea “*must... be seen against the background of customary international law and interpreted in its light*”. (See para 83).

¹⁴¹⁰ North Sea Continental Shelf Cases, *supra* n 54, para 63.

¹⁴¹¹ See texts at *supra* nn 769-772, *infra* nn 1425-1427.

In addition, if a same time for the evaluation of all maritime features is fixed without flexibility, there is also the challenge that not all States are able to carry out the evaluation due to many reasons that include a State's financial capacity. It is a fact that not all States have similar financial status. The chances are that the more financially able State would more likely benefit from the evaluation as compared to the lesser able State, depending on the situation. This relates to the aforementioned possible challenges that can arise during this fixed time period for evaluation. The challenge of accessing the necessary evidence or of using the required technology to assist in obtaining a favourable result for the evaluation can be dependent on amongst other things, a State's financial capacity, leaving no room or flexibility for an affected State to find a time more suitable or favourable for such purpose such as once it is more economically stable.

It is thus not quite practical to impose on States to apply the same date for the evaluation of their respective maritime features. Hence, although the fixing of a same time for this purpose helps to prevent abuse by States who may choose a time as to when to evaluate their maritime features favourable to them and at the possibly unfortunate expense of other States, such fixed time has its drawbacks.

In this regard, as much as it may be argued that States can abuse the provision by electing to evaluate a maritime feature at a time that is suitable and favourable to them if a same fixed time is not identified, it can also be argued that it may be unfair for States if it so happens that their maritime feature at any near future date is clearly able to prove that it can sustain human habitation or have an economic life of its own, yet deprived of extended maritime zones; consequently defeating the aforementioned idea of catering for the State's current population that may need to depend on the benefits arising therefrom.¹⁴¹²

Hence, due to the reasons and challenges aforementioned, including that Article 121 is reflective of customary international law, thus making it difficult to pinpoint an exact time when it finally became such due to its gradual nature, it is argued that any same fixed time for evaluation, may not be appropriate.

¹⁴¹² See texts at *supra* n 1411.

The question of when the dispute arises

In view of the difficulty in identifying a fixed same time for all States concerning the evaluation under Article 121(3) due to the challenges as discussed, it is perhaps at this juncture necessary to **consider whether it would be appropriate to evaluate the maritime feature only when the dispute or issue arises**. Indeed if States do not object to another State's 'activity', there may be no issue to be dealt with despite the reality that a State may have encroached onto the extended maritime zones that may not have been proven as being entitled by its maritime feature.

Nonetheless, arguably, there may also be some hitches in this approach. The time to evaluate may appear uncertain since such time is triggered only when the issue arises which is very subjective and dependent on other States. States may not interject or put forth their views on the matter at a particular time due to many reasons that may be unrelated such as the need to prioritize other matters. There is also the possibility that some States may not have the occasion to raise its objection or views concerning a maritime feature's status at that specific point in time due to many reasons, be it political or geopolitical, such as being in the midst of reinforcing political ties with a possibly affected neighbouring State or other political, diplomatic or economic but unrelated considerations, including other inevitable constraints such as their financial capacity as aforementioned. It is impossible and impractical to expect each and every State to declare their position concerning another State's questionable maritime feature all at the same time before such feature may be evaluated for purposes of Article 121(3). In addition, it could be that a State that has sovereignty over its questionable maritime feature has only at such time decided to carry out certain activities in the surrounding waters beyond the territorial sea of the maritime feature and only then finds the necessity to officially declare at that juncture whether such feature is entitled to a continental shelf and an EEZ. This also raises the question as to whether the time to evaluate only arises at the point when a State decides to carry out such activities. In addition, the same challenges earlier mentioned,¹⁴¹³ would still be an issue.

¹⁴¹³ i.e. the availability of evidence, the use of technology, the possible change in characteristics of a feature due to its natural variations and climate change effects, that would lead to the accuracy and suitability of time chosen for evaluation.

Nevertheless, given the fact that all these challenges are inescapable, and that there can be no certainty that any given time is indeed the “fairest” time for all States, it is argued that the least or lesser “adverse effect” approach be undertaken. Thus, despite the above concerns, it is argued that the time for evaluation be “when the dispute arises” may be of consideration.

This is because, the time when a dispute arises is not fixed to a particular same time that may favour some States whilst at the same time not favouring other States in a manner that is already ‘sealing the fate’ of States right from the start; and this is irrespective of how detrimental such fate may be to a particular State or States. The fixed same time for evaluation is tantamount to forcing a State to accept this fate regardless of the aforementioned challenges faced, such as their current financial means to employ better technology to extract current evidence at that moment as discussed above, when the result could have been different had they the means to obtain evidence that may be favourable to them if evaluation is carried out at another time.

On the other hand, the approach of ‘when the dispute arises’ is not tied to a fixed time. Notably, the time when a dispute arises may not differ much from this “sealed fate” effect in that it may still be argued that a State may also happen to be in an unfavourable situation as in the ‘fixed to a particular same time’ scenario. Despite this, there is still some flexibility in the ‘when the dispute arises’ situation. It is argued that in a way, States have the flexibility to trigger a dispute according to the time that may be convenient or truly required for such purpose although it is noted that it may not necessarily be favourable to the State whose maritime feature is in consideration. However, this does not mean that States can proceed to take action concerning a maritime feature according to what favours them or disfavors others as the case may be, since all States should endeavour to adhere to what they have already agreed to under UNCLOS in which they are party to. This should also be applicable to other States not party to UNCLOS since Article 121(3) is argued to be customary international law as earlier discussed. Indeed, Article 26 of the VCLT provides that *“Every treaty in force is binding upon the parties to it and must be performed by them in good faith.”*

Nevertheless, more importantly, choosing the time of when a dispute arises would generally mean that there really is an issue of concern and that such evaluation would be carried out at a time which is current or more contemporary thus simultaneously

supporting the aforementioned idea of catering to the needs of a State's current population as mentioned above.¹⁴¹⁴ In this regard, the 'fixed same time for evaluation' scenario may not be able to support this idea of catering to the needs of a State's current population since such fixed same time may be at a time that is not relevant to a population's actual current needs as opposed to the time when the dispute arises.

Basically, it is only when such a dispute had arisen would there be a real necessity to evaluate a questionable maritime feature to resolve the dispute. If other States do not object to a State's action in a possible Article 121(3) situation, the issue does not arise or has yet to arise, making it unnecessary to address the situation at the moment. It may be considered that all States are 'contented' with the current situation unless proven otherwise. If there is a dispute, and affected States can settle their disagreement or dispute amongst themselves, the matter ends there. States could agree in writing that a questionable maritime feature is caught by Article 121(3) or otherwise, and the issue could be concluded.

On this note, what constitutes a dispute may be seen in as early as the 1920s, wherein the Court in **The Mavrommatis Palestine Concessions** case states that "*[a] dispute is a disagreement on a point of law or fact, a conflict of legal views or of interests between two persons,*"¹⁴¹⁵ a definition recognized by the ICJ in its judgment in the **Right of Passage over Indian Territory** case.¹⁴¹⁶ In addition, the ICJ in its 1950 advisory opinion in the **Interpretation of Peace Treaties with Bulgaria, Hungary, and Romania case** noted that "*[w]hether there exists an international dispute is a matter for objective determination*" and that "*[t]here has thus arisen a situation in which the two sides hold clearly opposite views concerning the question of the performance or non-performance of certain treaty obligations. Confronted with such a situation, the Court must conclude that international disputes have arisen.*"¹⁴¹⁷ In short, a disagreement between parties showing a clear and objective conflict of legal views or interests, show a "dispute" between the parties.¹⁴¹⁸

¹⁴¹⁴ See texts at *supra* n 1411.

¹⁴¹⁵ Case of The Mavrommatis Palestine Concessions, PCIJ Publications, Series A, No. 2, August 30th 1924, p. 11.

¹⁴¹⁶ Case Concerning Right of Passage over Indian Territory (Merits), Judgment of 12 April 1960: I.C.J. Reports 1960, p.6, at p. 34.

¹⁴¹⁷ Interpretation of Peace Treaties, Advisory Opinion: I.C.J. Reports 1950, p. 65, at p. 74.

¹⁴¹⁸ Further explanation on what constitutes a "dispute" in international law, see e.g. L.F.E. Goldie, *The Critical Date* (1963) 12 Int'l & Comp. L.Q. 1251, Volume 12, Issue 4 October 1963, pp. 1251-1284, at pp.

Hence, on the balance of considerations, given the challenges that may be faced if a same time is fixed for all States for the purpose of evaluating their respective questionable maritime features, and despite the same challenges that may also be faced if the approach “when the dispute arises” is taken, it is argued that the latter approach, may at this juncture be the more appropriate one to be taken for purposes of evaluating a maritime feature under Article 121(3) as is the norm for all cases. Thus, if States can agree to resolve the dispute amongst themselves then the matter is resolved. Otherwise, the case may be referred to an international adjudicating body and the rules and procedures relating to that adjudicating body under international law would apply.

In this relation, it is argued that **evidence** supporting the evaluation would be as currently observed. As contended above, Article 121(3) must take into consideration the arguments concerning the idea of protecting the economic interests of coastal States and their population whose livelihood is dependent on their surrounding “waters”.¹⁴¹⁹

The reality of the situation is such that, current observations are indeed the more logical argument since, the concept of conferring the ‘benefits’ arising from those extended maritime zones should first and foremost stem out of the necessity to protect the economic interests of the population in the coastal areas. Thus, if a maritime feature cannot or can no longer sustain human habitation or economic life of its own, this somewhat defeats the purpose of conferring such benefits on the feature. Hence, evidence should be in relation to current observations - although past evidence and future possibilities may supplement current observations - taking into consideration the environmental science factors that have been discussed in Chapters 8 and 9 as well as the discussions on the elements of Article 121(3) in the preceding Sections of this Chapter 10.

1251- 1252 – referring to Sir Gerald Fitzmaurice, *The Law and Procedure of the International Court of Justice 1951-54: Points of Substantive Law. Part II* (1955-56) 82 *British Year Book of International Law*, 20; see also Miyoshi Masahiro, *The “Critical Date” of the Takeshima Dispute* (2015) *Review of Island Studies*, Jan 30, pp. 7, 9-10, 13, <https://www.spf.org/islandstudies/research/a00016/#title_ref1> [accessed 3 February 2018], i.e. the date of emergence of a dispute when the points at issue become clear, as determined by the Court (p. 13); *The Minquiers and Ecrehos Case*, Judgment of November 17th, 1953: I.C.J. Reports 1953, p. 47 at p. 59; *The Island of Palmas case (Netherlands, USA)*, Reports of International Arbitral Awards, 4 April 1928, Vol. II, pp. 829-871, at pp. 843, 845, 866; Robert Yewdall Jennings, *The Acquisition of Territory in International Law* (Manchester: Manchester University Press, 1963), p. 31; *Territorial and Maritime Dispute between Nicaragua and Honduras in the Caribbean Sea (Nicaragua v. Honduras)*, Judgment, I.C.J. Reports 2007, p. 659, at para. 117; *Indonesia/Malaysia case*, *supra* n 243 para. 135; Robert Jennings & Arthur Watts KCMG QC (Eds.), *Oppenheim's International Law (9th Edition): Volume 1 Peace, Parts 2 to 4* (2008, Oxford University Press), 9th Edition, p. 711.

¹⁴¹⁹ see texts at *supra* n 1411.

It may however be noted that where **the admissibility of evidence** is concerned, parties that dispute on the status of the maritime feature can explicitly agree to certain rules on evidence which can vary from case to case. In the event that there is no clear agreement as amongst them, the rules which have been adopted and applied in practice by international tribunals would be relevant. In this regard, strict rules of admissibility do not exist in international courts as compared to domestic legal systems, and all arrangements with regard to evidence taking is for the court to decide.¹⁴²⁰ Nevertheless, although it is recognized that the rules on admissibility of evidence is ultimately for the court to decide, for the purpose of applying Article 121(3), it is suggested that certain restrictions may be applied when considering such arrangements concerning evidence taking, be it as agreed to by amongst parties themselves, or by the courts in the event that there is no such agreement. Restrictions may include those relating to the aforementioned challenges. For instance, evidence that show that a maritime feature can sustain human habitation may be inadmissible if such evidence have clearly been proven to have come into existence due to the use of certain technology to change the status of a maritime feature in the sense similar to that of an artificial island for the purpose of defeating Article 121(3), since if this is allowed, there is the possibility that all maritime features can survive the Article 121(3) test.

Preliminary Conclusion

The situation is such that it is not possible to overcome all the challenges – such as the availability of evidence and the use of technology, including the effects of climate change and natural variations to the maritime feature - that may arise at any particular point in time in view of the many possibilities that can exist with regard to the situation. It is thus argued that taking into consideration the challenges that can arise, the wiser approach at this juncture would be to evaluate the maritime feature when the dispute arises as defined under international law. Indeed, if there is no dispute, there is no real issue to be resolved; and more importantly, the current situation is what needs to be addressed

¹⁴²⁰ Shaw, *supra* n 1, pp. 984-987 - It is further observed that evidence illegally or improperly obtained have been taken into consideration by the Court such as in the *Corfu Channel Case*, ICJ Reports, 1949, pp. 4, 32-36; see also Article 48 of the Statute of the ICJ.

rather than the past which may no longer be relevant, although evidence from the past and future possibilities may be considered for purposes of current times.

35.7.2 Overall Conclusion

It is indeed inevitable that there will be challenges in any matter. It is an inherent thing embedded in any situation and this includes the question of when should a maritime feature be evaluated for purposes of Article 121(3). Despite any time fixed for such evaluation, such chosen time will still be haunted by these challenges. Whilst this is so, this does not mean that attempts to minimize the consequences resulting from these challenges should not be carried out, giving in to those difficulties and totally avoiding the issue concerning Article 121(3), and only to address the same if 'cornered' to do so. Certainly, there is always room to improvise existing laws, and man-made laws are far from perfect and will continue to develop according to the current needs of mankind.

Thus, as to the question of **whether the status of a maritime feature can change over time**, it is argued that this depends on whether its status has only been unilaterally declared by a State or whether such status has been resolved or agreed to amongst affected States. Where a feature has yet to be determined its status, the question of whether its status would change - should any of the aforementioned challenges emerge - does not arise at this stage, since its status has yet to be decided at the first instance. Whereas, where the status of a maritime feature has been decided, agreed to or resolved amongst affected States, such States can amend their agreement in accordance with international law due to any such changes affecting the maritime feature over time, and if such matter has been decided by an international adjudicating body, the matter should be resolved in accordance with the rules and procedures of that adjudicating body under international law. Indeed, any dispute may be referred to third party adjudication in accordance with the rules and procedures therein. This includes situations where a third State emerges wherein such would have to be dealt with by the affected States by renegotiating the matter as amongst themselves in accordance with the rules and principles of international law, and if appropriate, to refer to third party adjudication in accordance with the rules and procedures therein.

In addition, despite the challenges faced concerning the time to evaluate a maritime feature under Article 121(3), a solution that has as minimal adverse effects as possible is argued to be a way out at this juncture. It is not denied that future research may constantly be carried out to improvise or add to existing laws, but given the needs to address such a situation in this current time, it is proposed that the **time in which a maritime feature may be considered to be evaluated for purposes of Article 121(3) is when a dispute concerning the matter arises**. This is so since it is only when such dispute arises that there will be a need to resolve it. Such approach is also acceptable under international law as earlier discussed. Indeed, this does not mean that States are free to go against any such laws and continue to do so until and unless a dispute arises. As discussed above, States are expected to implement their obligations under any treaty they are party to, in good faith. In addition, the evaluation during that time means the feature is being assessed during current times and this supports the idea that it is the current needs of a coastal States' population on the feature that is of real significance and thus should be the consideration as opposed to past needs.¹⁴²¹

In addition to the discussion on the challenges already mentioned, it is also necessary to discuss other possible challenges concerning Article 121(3) as a whole, apart from merely in relation to the time to evaluate the same as well as to its possible change in status. These challenges are further discussed in the **Chapter 11** which also includes further clarification of the aforementioned challenges in relation to the Article 121(3) situation as a whole.

36. Other considerations

36.1 Common heritage of mankind

As aforementioned, the LOSC III began under the 'common heritage for mankind' theme¹⁴²² and was also discussed therein.¹⁴²³ This concern arose in relation to rocks as

¹⁴²¹ See text at *supra* n 1411.

¹⁴²² See text at *supra* n 62.

¹⁴²³ E.g. Turkey was concerned that the area meant for the common heritage of mankind could be reduced if all islands were to be given equal footing with the continental territories in their entitlement to maritime zones (text at *supra* n 319).

well as remote and uninhabited islands even prior to that.¹⁴²⁴ It is reiterated that Judge Vukas emphasized that the EEZ was meant to protect the economic interests of coastal States and their population in the coastal area,¹⁴²⁵ whose livelihood or economic development depended upon coastal fisheries in the high seas adjacent to the territorial sea of the aforesaid State.¹⁴²⁶ This concern was also similarly echoed by scholars.¹⁴²⁷

Whilst its concept was first deliberated in 1967 when considering the preservation of the seabed and ocean floor to be exclusively for peaceful purposes,¹⁴²⁸ it was in 1970 that the UN General Assembly declared *inter alia* that the common heritage of mankind is “the area of the seabed and ocean floor and the subsoil thereof, beyond the limits of national jurisdiction, as well as its resources.”¹⁴²⁹ On this note, under Article 136 of UNCLOS, the Area and its resources are considered the common heritage of mankind in which the Area is defined in Article 1(1) as “the seabed and ocean floor and subsoil thereof, beyond the limits of national jurisdiction.”¹⁴³⁰ The legal status of the Area and its resources is highlighted in Article 137(1) of UNCLOS, clearly denying any appropriation by any State or natural or juridical person, as well as State claim or exercise of sovereignty or sovereign rights, over it; whilst State conduct in the Area will have to be in accordance with Article 138 of UNCLOS. This in itself reflects the seriousness of ensuring that there must be areas that are not to be “solely owned” by anyone but clearly for the common benefit of mankind.

This intention in UNCLOS is emphasized by for example, the consideration given to **land-locked States** providing for their right of access to and from the sea and freedom of transit in order to exercise their rights that include those relating to the freedom of the high seas,¹⁴³¹ the Area,¹⁴³² and the common heritage of mankind.¹⁴³³ Similar arguments

¹⁴²⁴ As pointed out by Judge Vukas, such concern was highlighted by Ambassador Pardo in 1969 during the 57th Session of the UN Sea-Bed Committee (Chapter 5, texts at *supra* nn 715-718).

¹⁴²⁵ See text at *supra* n 771.

¹⁴²⁶ See texts at *supra* n 769, 724.

¹⁴²⁷ See texts at *supra* nn 718-722.

¹⁴²⁸ Text at *supra* n 62.

¹⁴²⁹ UNGA Resolution 2749 (XXV) of 17 December 1970; see also Preamble to UNCLOS; see also André Tahindro, “The Concept of Regional Common Heritage: Its Possible Application in the South China Sea” in Valencia, M., Hong, N. and Wu, S. eds., 2015. *UN Convention on the Law of the Sea and the South China Sea*. Ashgate Publishing, Ltd., p. 105.

¹⁴³⁰ The wordings are similar to one of the preambles in UNCLOS.

¹⁴³¹ Article 125 of UNCLOS.

¹⁴³² Article 148 of UNCLOS concerning participation and activities in the Area.

¹⁴³³ Article 140 of UNCLOS.

may be made for **developing States** as emphasized in the preamble of UNCLOS, in which the former also have preferential treatment and certain benefits under UNCLOS.¹⁴³⁴

Further, certain privileges are also given to **geographically disadvantaged States**.¹⁴³⁵

The seriousness of this intention is further fortified by Article 311(6) of UNCLOS which plainly provides that *“States Parties agree that there shall be no amendments to the basic principle relating to the common heritage of mankind set forth in article 136 and that they shall not be party to any agreement in derogation thereof.”*

In short, UNCLOS is clear on the necessity to have areas for the common benefit of mankind.

Perhaps, there may be arguments that one should not be overly concerned regarding the extended maritime zones that are claimed by a State for a questionable ‘rock’ island, highlighting that these developing, geographically disadvantaged and land-locked States have already been taken care of as for example Article 70 of UNCLOS that still allows these States to benefit from the EEZ of other States in accordance with the provision.¹⁴³⁶

Nevertheless, there will have to be certain conditions that have to be complied with before these States can enjoy the EEZ of another State. Necessary arrangements with the “owner” State would first have to be made as opposed to an immediate easy access to such EEZ resources. There is an obvious difference between areas that are “free for all” and those that come under the EEZ or continental shelf of another State.

Hence indeed, it is only apt that Article 121(3) remains relevant and consequently should not be disregarded by relevant bodies, be it States or adjudicating bodies. Abusing Article 121(3) can diminish the maritime area that could have been the high seas or Area that is meant to be enjoyed by all mankind and not by some individual State that could even perhaps be already abundantly fortunate but is possibly moved by greed. Article 121(3) in effect contributes in upholding the importance of the common heritage of mankind principle.

¹⁴³⁴ e.g. Articles 61, 62, 119, 140, 143, 144, 148, 150, 151, 152, 160, 162, 164, 173, 202, 203, 207, 244, 266, 268, 269, 271, 272, 273, 274 and 276 of UNCLOS.

¹⁴³⁵ Article 70 of UNCLOS - This includes their rights in the EEZ of coastal States of the same subregion or region.

¹⁴³⁶ *Ibid.*

Adequate consideration should be given to all aspects surrounding the provision which include both the rights of the Claimant State that has sovereignty over the island as well as mankind as a whole. A balance of some kind is required and although it may be difficult to actually weigh this balance most justly, the best that can be done would be to simply follow the requirements of Article 121(3) in the most natural manner.

This most natural manner would be by relying on environmental science evidence as discussed in **Chapters 8** and **9**. It can assist in ascertaining whether an island is in fact independently able to support human habitation or economic life continuously for a reasonable duration of time, although man's physical efforts on the island to realize either of these criteria, may be allowed at most.

37. Conclusion

This Chapter has discussed at length the relevant components of Article 121(3) that have taken into consideration scientific evidence within the legal limitations of the provision.

Herein, it may be summarized that the existing legal findings prior to the current exercise in this thesis clearly show that Article 121(3) has various interpretations from States or their practices, and scholars or maritime legal experts. Also, apart from the recent South China Sea Arbitration Award,¹⁴³⁷ adjudicating bodies have not really addressed the provision so as to offer some insight on what constitutes the terms therein. Even so, despite the discussions concerning Article 121(3) requirements by the Tribunal in the South China Sea Arbitration, it has been argued in **Chapter 6** that some of its findings may be questionable due to the approach taken including certain gaps and uncertainties that have yet to be addressed. A clear "step by step" approach has yet to be laid down if indeed Article 121(3) is intended to be addressed in a more systematic manner.

The *travaux préparatoires* of Article 121(3) is also unclear regarding the factors that constitute such terms.

Hence, a walk through Articles 31 and 32 of the VCLT taking into consideration all the above resulted in the necessity to look into the environmental science aspects to

¹⁴³⁷ See text at *supra* n 11 and relevant texts thereafter; see also Chapter 6.

complement whatever conclusions derived from the existing incomplete findings, that may be generally accepted as the starting point.

The environmental science aspects have therefore been applied to cater for the 'grey area' in Article 121(3). The merging of both these fundamental aspects, namely, the current acceptable legal conclusions as the starting point and environmental science have achieved a clearer picture as to the approach that may be adopted when addressing such island situations. In brief, the elements of concern are "rock", "human habitation", "economic life", "sustain", the conjunction "or" and "of their own". It has been established as below.

First, the term 'rock' under Article 121(3) must signify island within the context of Article 121(1) of UNCLOS. The only thing that differentiates this 'rock' of paragraph 3 from paragraph 1 is the test that it has to go through to ascertain its entitlement to an EEZ and a continental shelf. Such rocks should also not be confined to both the typical rock definition in dictionaries as well as to a specific size, due to the 'environmental science' error that can arise from such judgment.¹⁴³⁸

Second, for the rock island to satisfy the human habitation test, the essential resources on the island that cater for the basic needs for human survival namely water, food and shelter must be in place; and this includes liveable island environmental surroundings that take into consideration its landscape, ecosystem, and natural disturbances which can affect the existence of a suitable shelter for safety and security purposes. In this respect, the elements that make up these fundamental basic needs, namely water, food and shelter must also be satisfied.

Third, the economic life test can be ascertained by considering any economic activity, provided that the resources used are extracted from the island itself to the maximum extent of its territorial sea. Such activities must also have that added value that shows some profitable or commercial aspect that is beneficial and useful to humans. Unused resources should not be taken into consideration since its unused state would almost certainly not be beneficial. This is also in line with the understanding in Article 17 of Annex III of UNCLOS, the parties of which are the same parties as for Article 121(3). Therein, the use of the word "economic" itself calls for such benefit or profit to be in

¹⁴³⁸ See discussion and rationale for 'rocks' under Section 35.1.

existence or Article 121(3) might have as well not have this particular word in its provision and should have merely settled for a word that can allow for the 'dormant' state of resources on the island.

Fourth, the term 'sustain' requires both the meaning of 'support' and 'continuity' to be necessary. The support for human habitation or economic life to be in existence must have some evidence of a prolonged period or continuity to prevent claims by States that may not be in good faith. This support and continuity may be evaluated from the aforementioned scientific aspects.

Fifth, the phrase "of their own" speaks for itself. The island's ability to sustain human habitation or economic life should be independent from outside assistance. The resources required for either of these criteria must independently come from the island itself to the maximum extent of its territorial sea. However, a combination of internal and external resources may be allowed to enable the materialization of an economic life, provided that the major part of resources is derived internally. Furthermore, in view of the impossibility for an island to magically conjure man's basic necessities for human survival or economic activity, man's involvement should be allowed although clearly limited to his actual physical efforts to ensure the materialization of either of these two elements.

Sixth, the conjunction "or" means that only one of the two tests needs to be satisfied in order to determine that an island can be entitled to an EEZ or a continental shelf.

Seventh, the common heritage of mankind is an important aspect which consideration should not be overlooked when deciding on an Article 121(3) situation. There must be a balance when conferring benefits of the oceans to mankind as clearly derived from the object and purpose of UNCLOS which is reflected in its preamble and various related provisions. Article 121(3) actually works in tandem with the common heritage of mankind principle and cannot simply be disregarded even in all maritime delimitation cases, since every situation is unique and should be addressed on a case by case basis. This includes situations where islands are in the open sea with no overlapping area with another State, since it could still encroach on maritime areas such as the high seas or the Area that could have been for the common heritage of mankind. Disregarding Article 121(3) in all situations would lead to the redundancy of its existence.

Eighth, the time for the evaluation of a maritime feature under Article 121(3) is argued to be when the dispute arises due to the consideration that the time chosen has as minimal adverse effects as possible given the inevitable challenges faced; whilst the question of whether a maritime feature's status would also change in accordance with the change in its physical characteristics over time depends on affected parties, in which they are free to amend or review their agreement or treaty entered into or refer to third party adjudication if applicable, in accordance with the rules and principles of international law.

Finally and overall, a clear analogy of a questionable island situation should be made before deciding whether the same is entitled to an EEZ and a continental shelf; and this may be done by taking into account the considerations that have been highlighted which comprise the environmental aspects within the confines of the legal framework.

Nevertheless, before an ultimate general conclusion is made regarding the factors that should constitute the terms in Article 121(3), the possible obstacles and hindrances which deal with the world's factual reality must be briefly pointed out as in the next Chapter. Subsequent to this, a proposed legal framework that has taken into consideration all relevant aspects would therefore be formulated for purposes of understanding and applying Article 121(3).

Part 4 OTHER FACTORS AND CONCLUSION

Chapter 11 OBSTACLES AND HINDRANCES

38. Introduction

The previous chapters have elaborated on both the current legal understanding and relevant environmental science aspects in relation to Article 121(3), with their subsequent integration, analysis and conclusions within the legal limitations of the provision in Chapter 10. Despite this, it is crucial to highlight the possible challenges in its application in the light of the realities of the situation.

Although the law has a role, fundamentally laying down the rules and steps to be undertaken, the actual implementation of Article 121(3) can prove a challenge when dealing with such realities and thus, it is necessary to identify these challenges to best cater for the situation if the need arises. Indeed, islands are most 'enticing', benefiting States that have sovereignty or control over them.¹⁴³⁹ Unfortunately, such 'enticement' can also attract adverse possibilities undermining existing laws. Thus, this chapter will very briefly address some of the main challenges to Article 121(3).

39. Factual Reality and the Law - An unbridgeable divide?

Whilst indeed there may be laws, rules and regulations governing many situations, the reality is that there exist circumstances in which the former may not achieve its desired aim and purpose due to various reasons.

In the law of the sea scenario, despite the clear general rules of UNCLOS on how States Parties are to conduct themselves in related matters, the reality is such that the principle of achieving a peaceful solution in accordance with UNCLOS and other relevant international legal instruments may sometimes be unachievable.

¹⁴³⁹ See Chapter 1, Section 2.2, Section 3.2; text at *supra* n 149. E.g. 'benefits' include States' sovereign rights, jurisdiction, safety, security and economy, crucial to their survival.

Firstly, it is a recognized fact that law and politics cannot be entirely separable regardless of whatever theory of law or political philosophy is declared.¹⁴⁴⁰ Thus for example, **geopolitical concerns** can be a challenge to small island situations. A scenario would be where a strategically located island can cause politically-based actions by States to either support that island's entitlement to maritime zones beyond the territorial sea or otherwise, depending on whether such support can benefit that State deciding on it.¹⁴⁴¹ Indeed, States' recognition or decision can be influenced by political considerations. It can be quite challenging if an undetermined Article 121(3) maritime feature is being placed in this setting which almost inevitably can occur depending on affected States 'self-interest'. In addition, there is not much that can be done in situations where a State simply refuses to adhere to the laws in place, which can occur in situations involving the more 'powerful' States over the weaker ones.

Another factor that may be of concern is the claim for **historic titles** over the oceans beyond the territorial sea. This scenario prompts the question as to which would prevail: a clear-cut Article 121(3) island which is limited to a territorial sea, or the historical title over the maritime area beyond the territorial sea? Since Article 121(3) clearly entitles an island under it to a territorial sea, the issue of historical claims if only to the extent of the territorial sea surrounding it, would thus not be an issue. The problem arises when claims are being made to maritime areas beyond the territorial sea. It has been questioned whether a State has the extension of rights over the high seas on the basis of historic title and prescription,¹⁴⁴² especially with UNCLOS being silent where it concerns the maritime areas beyond the territorial sea.¹⁴⁴³ Nevertheless, clear evidence such as affirmative

¹⁴⁴⁰ Shaw, *supra* n 1, p. 11.

¹⁴⁴¹ E.g. If a small island is geographically located in an area close to another State whose maritime zones have potential oil and gas to be exploited, that State may refuse to acknowledge maritime zones beyond the territorial sea for the island for fear of encroachment into its possibly 'oil-rich' space. However, if hypothetically an 'island-owner' State has strong good bilateral relations with one State, whilst at the same time does not have good ties with another, the chances of that State having good relations with the 'island-owner' State to recognize an EEZ or CS for that island would be higher as opposed to the other State that does not; There may also be *quid pro quo* instances.

¹⁴⁴² Brownlie, *supra* n 74, p.157 – referring to *North Atlantic Fisheries Arbitration* (1910), RIAA xi. 173; Scott Hague Court Reports, p. 141; *El Salvador v Nicaragua* (1917), 11 AJ (1917), 693; *Case Concerning the Land, Island and Maritime Frontier Dispute*, ICJ Reports (1992) 351, at pp. 586-606.

¹⁴⁴³ The terms historic titles or bays are contained only in either of Articles 10, 15 and 298 of UNCLOS. However, Article 10 merely states that the provisions contain therein do not concern historic bays. Article 15 only concerns territorial waters. Whilst Article 298 concerns a State's optional exceptions to the applicability of compulsory procedures entailing binding decisions of the court or tribunal with respect to amongst other things, disputes concerning historic bays or titles (without any mentioning of maritime areas

evidence of general acquiescence or recognition by other States of such a historic title claim, should prevail over the limited rights of an Article 121(3) island.

There is also the challenge of **technology** in the sense that Article 121(3) can in reality be defeated if advanced technology is allowed to satisfy the criteria that makes up the elements in the provision. Indeed, given the appropriate technology and resources, any place in the world can be fit for human habitation or have an economic life¹⁴⁴⁴ and hence making Article 121(3) redundant.¹⁴⁴⁵

Another challenge which is considered major is **climate change and the environment**. The sea very much affects island climates, although the degree of influence depends on the atmospheric circulation, ocean circulation, island size and relief, distance to continental landmasses, and frequency of temporal variations within and between regional climates.¹⁴⁴⁶ Nature itself is a fundamental reason affecting the environment and can be ruthless with its string of possibilities of catastrophes.¹⁴⁴⁷ Most small islands are located in tectonically unstable areas inclined to such major hazards like earthquakes, volcanoes, cyclones, hurricanes and typhoons.¹⁴⁴⁸ Islands are vulnerable to environmental

beyond the territorial sea); see also Clive R. Symmons, "Historic Waters and Historic Rights in the South China Sea: A Critical Appraisal" in M. Valencia, N. Hong, & S. Wu, (eds.), *UN Convention on the Law of the Sea and the South China Sea* (2015, Ashgate Publishing Ltd.), p. 207.

¹⁴⁴⁴ See also Clapham, *supra* n 958, p. 17. On this note -

"[t]echnology is the strongest cultural determinant of the impact a society can make on the environment. ...Technology has enabled people to perform tasks that would have been impossible, and to carry out accustomed tasks more effectively, efficiently, or consistently. It has allowed repeated overcoming of barriers. It has allowed an increase in population size and enhanced the potential for development of still newer technologies to overcome the new barriers that had replaced the old."

¹⁴⁴⁵ See arguments concerning technology throughout this thesis. E.g. Chapter 2, Section 5.5(b)(i), Section 5.6 and Chapter 10, Section 35.2.

¹⁴⁴⁶ Emilio Biagini, "Island Environments" in Emilio Biagini & Brian Hoyle (Eds.), *Insularity and Development, International Perspectives on Islands* (1999, Pinter, London and New York), p. 27.

¹⁴⁴⁷ Emilio Biagini, "Physical Dynamics and Environmental Hazards in the Mediterranean Islands" in Emilio Biagini & Brian Hoyle (Eds.), *Insularity and Development, International Perspectives on Islands* (1999, Pinter, London and New York), p. 69.

¹⁴⁴⁸ Connell, *supra* n 987, p. 185. E.g. Tristan da Cunha, Montserrat and Dominica islands with Dominica having the world's highest volcano density - with nine live volcano occurrences (p. 222), small islands and small island states of the Caribbean and Pacific are located in earthquake-prone region, and an example of a fairly recent devastating occurrence was in Haiti in 2010 (p. 223), earthquakes in Western Solomon Islands in 2007 (p. 223); see also Carmelo Cavallaro, "Prevention of Natural Catastrophes: the Case of the Aeolian Islands" in Emilio Biagini & Brian Hoyle (Eds.), *Insularity and Development, International Perspectives on Islands* (1999, Pinter, London and New York), p. 56. The Aeolian Islands (a UNESCO World Heritage Site) are a volcanic archipelago in the Tyrrhenian Sea north of Sicily, Italy. Also, volcanoes in Vulcano Island (p. 66); see also Biagini, *supra* n 1446 p. 27 – anticyclones in small islands in the Atlantic Ocean.

change.¹⁴⁴⁹ Three huge climate related changes have been identified to occur simultaneously in this present time: first, temperature increase for air and sea-surface are estimated to be higher by approximately 2°C by 2050; second, more intense although less frequent rainfall occurrences that causes flooding and greater storminess and third, higher sea levels although much varied according to regions.¹⁴⁵⁰

Certainly, **global warming** is anticipated to affect changes in the environment,¹⁴⁵¹ which most feared impact to be sea level rise, and significantly affecting atolls¹⁴⁵² and small independent Island States.¹⁴⁵³ Indeed, **sea level rise** has been discussed to be the main justification for such detrimental and exceptional changes in the environment.¹⁴⁵⁴ In the past 2.4 million years, approximately thirty alternating glacial and interglacial periods have taken place.¹⁴⁵⁵ Regardless that any major ice sheets have not reached the Mediterranean region, drastic climatic changes still ensued affecting the islands.¹⁴⁵⁶ Ecological crises started to take place in around 2000 BC with vegetation disturbance and woodland destruction as obvious occurrences.¹⁴⁵⁷ Other ecological crises arose from the Holocene that occurred about 6000 BC, causing sea level rise and increased discharge from rivers, consequentially resulting in intense drop in salinity and the arising of a meromictic condition.¹⁴⁵⁸

An increase in global average of 3.1mm/year of sea level rise between 1993 to 2009 has been estimated by the Intergovernmental Panel on Climate Change (IPCC)¹⁴⁵⁹ and an even

¹⁴⁴⁹ Connell, *supra* n 987, p. 231.

¹⁴⁵⁰ *Ibid.*, p. 187.

¹⁴⁵¹ *Ibid.*, p. 188. This includes threats to fauna and flora habitats, coastal erosion, more frequent storms and higher land salinity, not forgetting the detrimental effects on the marine species, their habitats, as well as sea nutrients due to warmer seas.

¹⁴⁵² *Ibid.*, p. 190 - e.g. Carteret Islands and Takuu (Bougainville, PNG), Tuvalu, Kiribati and the Maldives.

¹⁴⁵³ Jenny Grote Stoutenburg, *Disappearing Island States in International Law* (2015, Koninklijke Brill NV, Leiden, The Netherlands), p. 204 – referring to A. Gioia, “Historic Titles” in R. Wolfrum (ed.), *The Max Planck Encyclopedia of Public International Law*, Oxford University Press, online edition (EPIL) 2008 at para 1, p. 1, <www.mpepil.com> [accessed 3 December 2016] - e.g. such as Tuvalu, Kiribati, Maldives and the Marshall Islands that are entirely of low-lying coral atolls.

¹⁴⁵⁴ Connell, *supra* n 987, p. 187.

¹⁴⁵⁵ *Ibid.*, p. 80.

¹⁴⁵⁶ *Ibid.*

¹⁴⁵⁷ *Ibid.*, p. 81.

¹⁴⁵⁸ *Ibid.*; see also Mackay, *supra* n 1016, p. 1; see also “Definition of meromictic - of a lake: undergoing incomplete circulation at the fall overturn” – see <<http://www.merriam-webster.com/dictionary/meromictic>> [accessed 4 May 2016].

¹⁴⁵⁹ Stoutenburg, *supra* n 1453, p. 30 – Established in 1988 by the UN Environment Programme (UNEP) and the World Meteorological Organization (WMO).

higher increase of up to between 0.18 and 0.80 metres by the end of the century.¹⁴⁶⁰

With the projected rates of sea level rise, global warming can be a future threat to islands, specifically the many populated coral atolls.¹⁴⁶¹ The IPCC also predicted global sea level rise by the year 2100 with “25 to 55 cm under the most stringent emission reduction scenario and 45 to 82 cm under a high emission pathway.”¹⁴⁶² The IPCC is concerned with small island States vulnerability to the consequences of climate change and sea level rise.¹⁴⁶³ The small physical size and availability of water resources including their geology and topography make small islands extremely vulnerable to the variations in the climate particularly in rainfall.¹⁴⁶⁴

Unusually high temperature or exposure for long durations causes coral reefs to bleach and cyclones can devastate corals.¹⁴⁶⁵ In addition, access to fresh water is foreseen to be difficult with the future climate change, due to reduced water lenses size on atolls, high excess in storms, insufficient ability to store water¹⁴⁶⁶ and polluted water lenses.¹⁴⁶⁷

Indeed, the IPCC strongly views that climate change seriously affects freshwater resources and availability in small islands¹⁴⁶⁸ concluding that many islands will lessen in their capacity to meet future requirements due to climate change.¹⁴⁶⁹ The IPCC is confident that climate change will cause augment turbidity, chemical pollution and

¹⁴⁶⁰ Connell, *supra* n 987, p. 191. Previously it was estimated only 1.7mm/year between 1950 – 2009.

¹⁴⁶¹ *Ibid.*, p. 195

¹⁴⁶² Stoutenburg, *supra* n 1453, p. 33 – referring to Core Writing Team, R.K. Pachauri, and L. Meyer (eds.), *Climate Change 2014: Synthesis Report, Contribution of Working Groups I, II and III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change* (2014, Geneva), para 2.2.

¹⁴⁶³ *Ibid.*, p. 33, 36.

¹⁴⁶⁴ *Ibid.*, p. 37.

¹⁴⁶⁵ Connell, *supra* n 987, p. 197.

¹⁴⁶⁶ *Ibid.*, p. 209; see also Stoutenburg, *supra* n 1453 - The IPCC finds that the combination of reduced precipitation and the sea level rise will also result in the reduction of narrow freshwater lens size apart from the decrease in drinkable water (p. 41).

¹⁴⁶⁷ Connell, *supra* n 987, p. 211. e.g. Tarawa in Kiribati reflects a problematic water supply situation in which reliance on water are primarily to shallow groundwater, rainwater tanks and desalination. Environmental changes can affect water supply wherein waves that wash over atolls due to storms can contaminate freshwater lenses (p. 212).

¹⁴⁶⁸ Stoutenburg, *supra* n 1453, p. 40. Today, many small island states, atoll countries and limestone islands suffer from water shortages being fully reliant on rainfall and groundwater extraction due to no surface water. The thickness of freshwater lens on atolls will most likely be reduced by as much as 29 percent caused by the reduction of island size due to sea level rise. E.g. Bonriki Island in Tarawa, Kiribati provides the reduction of freshwater lens by 65 percent due to both the effect of sea level rise by 50 cm and rainfall reduction of 25 percent (i.e. referring to N. Mimura et al, “Small Islands” in M.L. Parry et al, (eds.), *Climate Change 2007: Impacts, Adaptation, and Vulnerability. Contribution of Working Group II to the Fourth Assessment Report of the Intergovernmental panel on Climate Change* (2007, Cambridge), 687 at p. 697)

¹⁴⁶⁹ *Ibid.*

nutrient loading, tropical cyclone devastations, growth rate reductions due to ocean acidification consequentially severely affecting marine species and marine-based resources.¹⁴⁷⁰ It can lead to the collapse of the social-ecological systems of small island States¹⁴⁷¹ and causing some small islands to be uninhabitable.¹⁴⁷² However, it is not easy to simply blame climactic change for specific ecological environmental changes despite it appearing to be the aggravating factor.¹⁴⁷³ Unfortunately, policies and practices to lessen climate change are not plainly apparent.¹⁴⁷⁴

Clearly, climate change shows the trend that islands are going towards one direction; and that is becoming more and more uninhabitable due to sea level rise. In this regard, States that have yet to delimit their boundaries including small islands may be affected by the sea level rise in which the maritime zones that they may generate may not be as it could have been before. Hence, the fact that an island was once inhabited may not necessarily mean that they are still habitable. However, the fact that they were once uninhabitable due to climate change may most probably mean that they are still uninhabitable today given the factual circumstances of adverse global climate change in the current era, although of course this still needs to be verified despite such likelihood.

These may have an impact on Article 121(3) considerations. These are some realities that have to be faced as it can cause a maritime feature that could otherwise escape Article 121(3) be caught by it and vice-versa.

40. Conclusion: Addressing the Challenges

The aforesaid discussions show that whilst it may be possible to implement Article 121(3) via some general guidelines, there are indeed obstacles and hindrances that may have to be addressed when doing so. These challenges include the geopolitical aspects that are bound to arise; the availability of technology in today's era that can undoubtedly undermine any Article 121(3) situation; possible claims for historical title in maritime areas beyond the territorial sea for an island that proves to have failed the Article 121(3)

¹⁴⁷⁰ *Ibid.*, p. 42.

¹⁴⁷¹ *Ibid.*, p. 50.

¹⁴⁷² Connell, *supra* n 987, p. 239.

¹⁴⁷³ *Ibid.*, p. 188.

¹⁴⁷⁴ *Ibid.*, p. 242.

test; and the environment and climate change's challenge that marks the impending reality of affecting an island's characteristics thus possibly leading to its failure to satisfy the test under the provision.

These challenges do not however mean that some general guidelines on how Article 121(3) should be applied should be ignored, surrendering to defeat to the inevitable high possibility of the aforesaid challenges. Certainly, nothing is perfect in this world and as aforementioned, even established laws may have drawbacks with political elements embedded therein right from the start.

In this regard, some possible ways to address these issues in relation to Article 121(3) would be, **firstly**, technology should be allowed only to the extent that the basic traditional ways are being used and the materials or resources that make up human basic needs, namely, fresh water, food and shelter would have to come from the island in its original form at the first instance. Any such introduction of advanced technology should only be allowed after the test under Article 121(3) has been met. **Secondly**, where claim for historical title in the maritime areas beyond the territorial sea is concerned, there must be affirmative evidence of the existence of recognition or general acquiescence on the matter. Such evidence should prevail over the limited rights of an Article 121(3) island. **Thirdly**, where climate change and environmental concerns are in issue, amongst the methods that may be carried out to ensure that the maritime entitlement of a maritime feature is not affected despite such environmental concerns may be by entering into agreements with neighbouring or affected States stating at the outset for example, along the lines that if it could be proven that the island in question has in fact baselines that were originally further seawards than what it currently has, and that the rights in the EEZ and the CS have been exercised continuously before the retreat of the baselines landwards due to climate change for instance, then perhaps, some understanding may be reached in the form of such agreement; namely that those additional maritime zones as have always been used should be permitted to be utilised as before. Indeed to enter into such an agreement may take some time and require consent although some general understanding that lead to similar effects may be proposed to the UN General Assembly via Resolution with the hope that it would persuade States to agree to similar situations in the light of addressing climate change concerns.

Finally, it has been highlighted that geopolitical aspects can be quite complicated since many considerations may be made based on political interests that are affected by the island's location (and incidentally the economy that may be derived therefrom as well as other needs), rather than strictly by the laws in existence. Unfortunately, there is not much that can be done in situations involving the more 'powerful' States over the 'weaker' ones. The former normally overrides the latter irrespective of whatever law, rules or regulations there may be. Indeed, aggrieved States may bring this matter for third party adjudication or failing to arrive at a solution even at this stage, where States do not honour judgments or decisions, other measures may be undertaken including bringing forward to the UN to act accordingly. Thus, one can only hope that States endeavour to respect all such relevant international law, regulations and rules, and that in the event that such a situation arises, a possible option would still be to submit the matter to third party adjudication or at worst to bring it the attention of the UN which may possibly be the last option to the exclusion of war.

Regardless, UNCLOS requires States Parties to 'refrain from any threat or use of force' against other States when 'exercising their rights and performing their duties' under the Convention.¹⁴⁷⁵ UNCLOS also requires coastal States to have 'due regard to the rights and duties of other states' and vice-versa.¹⁴⁷⁶ This clearly attempts to ensure a good balance amongst all parties with various interests, and that there is in fact no total 'absoluteness' in the sovereign rights and jurisdiction in the seas conferred upon coastal States, since consideration for other States' interests must always be responsibly exercised.¹⁴⁷⁷

In short, although there may be challenges for Article 121(3), it is not impossible to still ensure a workable solution for its implementation since the provision is clearly in existence and is meant to be 'utilised'. The proposal to lay down guidelines based on evidence from the environmental science aspects adapting the factors into the legal framework of the provision was meant to enable a smoother implementation of the

¹⁴⁷⁵ Article 301 of UNCLOS; see also Articles 88, 138,141,240 and 279 which generally highlight the necessity to conduct peacefully.

¹⁴⁷⁶ Examples of "due regard" provisions are Articles 56(2), 39(3)(a), 60(3), 66(3)(a), 79(5), 87(1), 161(4) of UNCLOS.

¹⁴⁷⁷ Hasjim Djalal, "'Due Regards' and 'Abuse of Rights' in UNCLOS" in in M. Valencia, N. Hong, & S. Wu, (eds.), *UN Convention on the Law of the Sea and the South China Sea* (2015, Ashgate Publishing Ltd.), p. 65, p. 67.

provision. In this regard, science-based evidence can hardly be disregarded since the provision itself clearly reflects a direct connection to it. In addition, laws, rules and regulations are meant to be adhered to. Although it is understandable that man-made laws are sometimes written in a way to allow for flexibility, it is argued nevertheless that for Article 121(3), the introduction of environmental science-based evidence does not take away this flexibility. What has been suggested is merely to lay down general inevitable facts that are related to the provision which are quite impossible to reject given the factual authenticity that some of the criteria listed in Article 121(3) are indeed related to environmental science. The proposed framework that inserts these elaborations based on environmental science is meant to be general and has laid down merely those steps or criteria that cannot be denied such as the basic needs for human survival.

Chapter 12 CONCLUSION : A SOLUTION?

41. Summary of findings and Conclusion

The thesis has discussed the existing legal understanding of Article 121(3) of UNCLOS as well as from the perspective of environmental science. The issues that have been addressed sum up to show the necessity to attend to Article 121(3) situations. Basically, this very much owes to the existence of the numerous maritime features across the world with still many yet to be determined on their true entitlement to the maritime zones surrounding them; and in this respect, there are many diverse interpretations and State practice in relation to the aforesaid provision. To recapitulate, Article 121(3) provides as follows:

“Rocks which cannot sustain human habitation or economic life of their own shall have no exclusive economic zone or continental shelf.”

Essentially, Article 121(3) requires a ‘rock’ island to be able to sustain human habitation or economic life of its own for it to be entitled to an EEZ or CS. Due to the various interpretations or understandings, particularly by States whose interests are affected by the legal status that is attached to a maritime feature which consequentially determines whether it is entitled to generate a CS and an EEZ, or merely a territorial sea and contiguous zone, the effect is such that where one State benefits from those additional maritime zones, one or more States would lose out, be it due to overlapping maritime zones or even those in the open seas that can affect the high seas and the Area that could be for the common heritage of mankind. This difference in maritime area entitlement is indeed the crux of the matter that had triggered such diverse responses and actions from States, owing to the benefits and advantages that can be derived from these additional maritime zones. The matter still lies unresolved till today with many maritime features around the world still being questioned on their status vis-à-vis Article 121(3).

Determining the factors that satisfy the elements under Article 121(3) is thus extremely fundamental; with the provision being frequently invoked by States in maritime disputes to contend that an island should be denied maritime zones beyond the territorial sea. Indeed, affected maritime boundaries can have a serious bearing on the economy and security of a State due to the loss or gain of these additional maritime zones. The

sovereign rights and jurisdiction in the CS and EEZ of the island belonging to the affected State and hence whatever benefits that may be derived therefrom, be it economically, politically or security-wise, also depends on the status of the maritime feature. Control over islands and their surrounding waters is especially attractive to States especially where the islands are strategically located.¹⁴⁷⁸ There is much to gain such as hydrocarbon resources, fisheries, the environment as well as national security and prestige. There is thus clearly a lot to benefit or lose for the State whose maritime feature is being questioned.

Consequently, the determination of the factors that constitute the elements in Article 121(3) needs to be undertaken in the interest of all affected States, be it the State that has sovereignty over the island or other States that could have enjoyed those maritime zones as the high seas or the Area and its resources which are the common heritage of mankind. Coastal States have been and still are facing maritime disputes with their neighbouring countries which need to be resolved, a clear example of which is seen in the continuous practice of States in trying to secure for their respective maritime features a legal status that is not caught by Article 121(3). The recent South China Sea Arbitration Award is a good example of the importance of Article 121(3).¹⁴⁷⁹

Notably, the impact of Article 121(3) may be restricted by the existence of other provisions under UNCLOS such as those regarding archipelagic and straight baselines. Nevertheless, for the purpose of this thesis, focus is more on the interpretation of the elements that constitute Article 121(3) and hence these other provisions will not be discussed at this juncture on which future works may be undertaken.

The discussions and findings concerning existing legal understanding of Article 121(3) in this thesis have dealt with the application of the VCLT; the legislative history to Article 121(3); decisions or opinions by international adjudicating bodies; State practice; and finally, views by scholars and maritime legal experts. Relevant information from the environmental science aspects has also been discussed to complement or add to the understanding of Article 121(3) particularly in those grey areas that seem to invite diverse

¹⁴⁷⁸ Chapter 1, text at *supra* n 149.

¹⁴⁷⁹ See text at *supra* n 11 and Chapter 6.

interpretations from interested parties or scholars. The aforesaid discussions and findings are summarized below.

The VCLT, legislative history and State practice

Firstly, when interpreting a treaty under international law, the VCLT comes to mind. For the exercise of Article 121(3) of UNCLOS, Articles 31 and 32 have been focused upon since both these Articles reflect customary international law causing all States whether party to the VCLT or otherwise to be bound by these provisions. The questions that were addressed in **Chapter 2** were thus necessarily in the following order:

- (i) What are the **terms** in Article 121(3) that are in consideration;
- (ii) Is there a **special meaning** to any of the terms that has been intended by the parties;
- (iii) Otherwise, what is the **ordinary meaning** of these terms;
- (iv) What is then the **context** of these terms that would moderate such meaning;
- (v) What is the **object and purpose** of Article 121(3) that would help to further illuminate its meaning; and
- (vi) Are there any **supplementary means** of interpretation.¹⁴⁸⁰

In summary, when answering the first five questions and taking ‘good faith’ into consideration as required by Article 31(1) of the VCLT, the **terms** identified for interpretation were “rock”, “sustain”, “human habitation”, “economic life”, “of their own” and the conjunction “or”.

Indeed, the natural step to take would be to see what the intention of the parties was when agreeing to this provision that consists of these terms; for if the texts are unclear, the intention of all parties should prevail above all else.¹⁴⁸¹ A quick and natural way to identify the intention at first instance thus led to the search for any **special meaning** given by the parties to the terms in accordance with Article 31(4) of the VCLT. The results however have not shown any special meaning asserted by a State that was also intended

¹⁴⁸⁰ Chapter 2, Section 5.1 for questions (i) to (v); and Chapter 2, Section 6 for question (vi).

¹⁴⁸¹ Chapter 2, texts at *supra* nn 159-161.

by the parties to UNCLOS, with the onus of proving such, lying on that State.¹⁴⁸² Further, State practice that included domestic laws as well as actual actions by States when dealing with questionable small maritime features have not shown any special meaning intended to be established by the State parties to UNCLOS.¹⁴⁸³

Consequently, the **ordinary meaning** of the terms as per Article 31(1) of the VCLT was looked at although, similarly, they were not much of assistance in clarifying the matter. For example, the simple definition for the phrase “human habitation” which is “a dwelling place” still leaves much to be explained for purposes of Article 121(3). States have different views on such phrase and simple definitions do not really answer the question, for it now leads to the next question, which is what constitutes a dwelling place for humans. This predicament generally applies to all the other identified terms; namely, “rock”, “sustain”, “economic life” “of their own” and the conjunction “or”.¹⁴⁸⁴ Whether there are one or more simple definitions to the terms, the definitions are still ineffective since all lead to having to ask the next question as in the case of the phrase “human habitation”; and these are the actual questions that need to be answered in order to assist in the clarification of Article 121(3). Dictionary definitions that define the ordinary meanings of these terms have not led to a conclusive understanding since in this situation, what one needs to look beyond the ordinary meanings; and those are the factors that actually matter.

Hence the discussions continued on to the **context** as per question (iv) listed above, necessitating the need to look at the text, preamble and annexes of UNCLOS, as well as whether there is any agreement or instrument entered into by the parties in connection with or related to the conclusion of the treaty respectively,¹⁴⁸⁵ and also the need to look at any subsequent agreement or practice concerning the interpretation of UNCLOS or Article 121(3) itself, including relevant rules of international law.¹⁴⁸⁶

The discussions however revealed the difficulty to identify the context of the aforesaid terms or phrases. The text, preamble and annexes of UNCLOS did not provide much information for this purpose; nor was there any such **agreement** or **instrument** found

¹⁴⁸² Chapter 2, *supra* n 168.

¹⁴⁸³ Chapter 4.

¹⁴⁸⁴ Chapter 2, Section 5.4.

¹⁴⁸⁵ Chapter 2, Section 5.5(a) i.e. Article 31(2) of the VCLT.

¹⁴⁸⁶ Chapter 2, Section 5.5(b) i.e. Article 31(3) of the VCLT.

that was entered into by the parties in connection with the conclusion of the treaty in relation to Article 121(3). Even if there is any instrument made by any of the parties to UNCLOS, this is dependent on the acceptance and agreement of other parties before it can constitute an agreement as between parties, to assist in the interpretation of the provision.¹⁴⁸⁷ On this note, the findings show in the negative with only a compromise by all parties as to whether Article 121(3) and its very words therein should be included as opposed to determining the factors that clarify the words in the aforesaid provision.¹⁴⁸⁸

The discussions have also shown that there does not exist any **subsequent agreement**, or **practice** that establishes the agreement of parties regarding the interpretation of Article 121(3) to assist in understanding the context of the provision.¹⁴⁸⁹

The relevant **rules of international law** to aid in understanding the context of Article 121(3) also resulted in the necessity to derive the intention of parties as to which law is applicable, particularly whether it should be contemporary law or the law at the time when the dispute had arisen, or perhaps even when Article 121(3) finally came into force. Unfortunately, information regarding these matters is lacking to assist in the matter. It has been shown that there is no single current trend by States with regard to their practice on questionable islands that could help identify some sort of consensus that could eventually lead to customary international law or at least be argued to be an agreement amongst all parties for purposes of clarifying the provision.¹⁴⁹⁰

Understandably, States tend to act favouring their own interests, interpreting Article 121(3) to suit them, without much regard to whether it would be detrimental or beneficial to mankind as a whole. Nevertheless, this still does not solve the matter at hand.

The **object and purpose** of UNCLOS that was then discussed showed that UNCLOS aims to ensure, despite emphasizing the entitlement of States to maritime zones, that a balance of rights is achieved, necessitating the interests and needs of mankind as a whole to also be safeguarded with particular regard being given to developing and landlocked States as

¹⁴⁸⁷ Chapter 2, Section 5.5.

¹⁴⁸⁸ Chapter 3.

¹⁴⁸⁹ Chapter 2, Section 5.5(b); see also Articles 31(3)(a) and (b) of the VCLT.

¹⁴⁹⁰ Chapter 4; Art 31(3)(c) of the VCLT.

reflected in the preamble of UNCLOS.¹⁴⁹¹ Article 121(3) does surely contribute to balancing these rights. Herein, although States are entitled to claim full maritime zone rights and entitlements for their islands similar to the mainland under Article 121, paragraph 3 limits these rights in certain situations. The inability of an island to sustain human habitation or have an economic life of its own would allow such island to have only a territorial sea and a contiguous zone. In these circumstances, other States may therefore benefit from the maritime areas that such islands would otherwise generate, since these areas will not fall exclusively under one State's rights or jurisdiction.

Despite these first five questions listed above,¹⁴⁹² not much could be gained from the process of identifying the factors that constitute the terms in Article 121(3), although it may be safe to assume that at least the object and purpose of Article 121(3) may be read in line with UNCLOS, safeguarding the interests and needs of mankind as a whole, with particular regard for developing or landlocked States.

Hence, due to the lack of concrete answers according to these aforesaid steps under the general rule of interpretation in Article 31 of the VCLT, **supplementary means of interpretation** are necessary as per question (vi) of the aforementioned list, in accordance with Article 32 of the VCLT; namely, the preparatory work and circumstances of conclusion of Article 121(3) of UNCLOS. Nevertheless, the preparatory work and the circumstances in which the conclusion was arrived at regarding Article 121(3) were not of much assistance.

Herein, even if there were some views concerning any of the terms or phrases, States differed with regard to what constitutes these elements and there was no real discussion on the factors that establish the matter. For instance, the 'habitation' element goes back even prior to the debate for Article 121(3) under UNCLOS, with the comparable phrase 'capable of use or habitation' arising from as early as 1923;¹⁴⁹³ or to go back even further, in 1861, the Scottish Census declared that amongst other things, an island has to be an area surrounded by water and inhabited by man with at least one sheep that could graze.¹⁴⁹⁴ During the 1930 Codification Conference, the differences in views amongst

¹⁴⁹¹ Chapter 2, Section 5.6.

¹⁴⁹² Text at *supra* n 1480.

¹⁴⁹³ Chapter 3, texts at *supra* nn 266-269.

¹⁴⁹⁴ *Ibid.*, text at *supra* n 267.

some States concerning what ‘habitation’ or like terminology actually means where maritime features are concerned were raised, with some States opining that a maritime feature needs to have the capability for occupation and use before it can have island status,¹⁴⁹⁵ whilst others found such requirement necessary only for artificial islands.¹⁴⁹⁶ Various other similar and different views were also presented during that time.¹⁴⁹⁷ The use of such terminology developed throughout the years from various debates and discussions¹⁴⁹⁸ on the need to have such requirement in order to gain island status as well as the actual phrase or term used, resulting in today’s UNCLOS 1982. Notably, the incorporation of the words and requirements under Article 121(3) is based on the compromise decision of the States involved in the final discussions.¹⁴⁹⁹

Nevertheless, Article 32 of the VCLT clearly allows for other means to be employed beyond these two ways for purposes of interpreting a treaty or its provisions; thus, Articles 31 and 32 being merely a framework for treaty interpretation whose list of methods is non-exhaustive, leaves it open to interpreters to use other means to come to some acceptable conclusions.¹⁵⁰⁰ In fact, the rules under both Articles 31 and 32 are open-ended and interpretation is still very much a human activity and depends on human efforts, intellectual capacities, sensibilities and perchance most of all, sense of virtue.¹⁵⁰¹

The ICJ itself highlighted in the Nicaragua/Colombia case the importance of basing the circumstances of a maritime feature on actual observations and scientific evaluation, even though with caution, to ensure that such maritime feature meets the test, although in this instance, the test was regarding being above water at high tide.¹⁵⁰² The point to note is the ICJ’s acknowledgement of the relevance and importance of the circumstances of the maritime feature from the aspect of scientific evaluation, when having to decide on a certain test.

Thus, similar methods may be taken for Article 121(3). This is in line with Article 32 of the VCLT which does not confine supplementary means of interpretation to merely the

¹⁴⁹⁵ *Ibid.*, text at *supra* n 270.

¹⁴⁹⁶ *Ibid.*, text at *supra* n 272.

¹⁴⁹⁷ *Ibid.*, text at *supra* nn 273-275.

¹⁴⁹⁸ *Ibid.*, i.e. LOSC I, LOSC II, the UN SeaBed Committee meetings and finally LOSC III.

¹⁴⁹⁹ Chapter 3.

¹⁵⁰⁰ See Articles 31 and 32 of the VCLT.

¹⁵⁰¹ Chapter 2, text at *supra* n 259.

¹⁵⁰² Chapter 6, text at *supra* n 906.

preparatory work and the circumstances of conclusion of the term in question; and hence, other means may be carried out.¹⁵⁰³ Therefore, it is argued that scientific evidence may be used to assist in identifying information that can contribute to the interpretation of the provision.

Thus, in the event of a stumbling block where all clear available evidence of intention of parties, relevant agreements, instruments and State practices as discussed have not been successful, supplementary means of interpretation beyond the preparatory work of Article 121(3) and its circumstances of conclusion should be allowed in accordance with Article 32, such as introducing certain aspects of environmental science.

International Adjudicating Bodies

Secondly, apart from looking at the legal findings from the perspective of Articles 31 and 32 of the VCLT which had also included discussions pertaining to the legislative history of Article 121(3) and State practice, the decisions or opinions by international adjudicating bodies have also been addressed.¹⁵⁰⁴

Again, apart from the recent South China Sea Arbitration Award¹⁵⁰⁵ international adjudicating bodies have likewise not clearly dealt with the factors that constitute the terms in Article 121(3). The trend appears to be their disregard for questionable maritime features in overlapping claims for maritime areas in maritime delimitation by States. They incline towards deciding whether such maritime features would have a distorting effect on the delimitation line with the view to achieve equitable results. In addition, although the Jan Mayen Conciliation Commission in 1981 which was the only body that did directly address Article 121(3) before the recent South China Sea Arbitration, there was no explanation as to how it decided that Jan Mayen is not an Article 121(3) island; whilst the ICJ in 1993, despite finding Denmark's contention for Jan Mayen not to be given full effect unacceptable, had abstained from connecting such findings to this provision, because

¹⁵⁰³ See *supra* n 922 (including text).

¹⁵⁰⁴ Chapter 6.

¹⁵⁰⁵ See text at *supra* n 11 and relevant texts thereafter; see also Chapter 6.

Denmark did not argue on Jan Mayen's 'entitlement' to maritime zones but rather with regard to 'delimiting the boundary' between Iceland, Greenland and Jan Mayen.¹⁵⁰⁶

Furthermore, although the decisions by the very few adjudicating bodies to avoid addressing maritime features in the light of Article 121(3) may be fairly understandable given the maritime feature's geographical location in relevant areas under disputing States' sovereignties, this inclination to avoid Article 121(3) discussions should not be taken as the conclusive or ultimate way to deal with all situations. **Chapter 6** has established that automatically addressing situations involving questionable maritime features in such a manner should be avoided. These bodies' decisions should be looked at on a case by case basis and should not be generalised as situations differ from one another all the time or at least most of the time. Each individual case is unique and has its own circumstances. Further, it must be stressed that Article 59 of the ICJ Statute makes it clear that "[t]he decision of the Court has no binding force except between the parties and in respect of that particular case."¹⁵⁰⁷ It may also be added that the Permanent Court of Arbitration Rules 2012 is also clear that its binding effect are on parties, and clearly not on others, with the award to be made public only with the consent of the parties.¹⁵⁰⁸ Furthermore, it cannot be said that this judicial practice has reached the level of a rule of law that excludes taking into consideration these maritime features in all similar circumstances in maritime delimitation, let alone Article 121(3) that has not even been directly addressed by these bodies.¹⁵⁰⁹

If this trend to avoid discussion under Article 121(3) by adjudicating bodies is accepted as conclusive for all situations that involve questionable maritime features, the provision may as well be deleted from UNCLOS since it would have no role at all. Certainly, there

¹⁵⁰⁶ Chapter 6, texts at *supra* nn 756-757.

¹⁵⁰⁷ See Article 59 of the ICJ Statute.

¹⁵⁰⁸ Article 34(2) of the Permanent Court of Arbitration Rules 2012. The *PCA Arbitration Rules 2012* are a consolidation of four prior sets of PCA procedural rules, all of which have Article 32(2) which stresses that the award shall be final and binding on the parties, and Article 32(5) which points out that the award may be made public only with the consent of both parties. They are:

- the *Optional Rules for Arbitrating Disputes between Two States (1992)*;
- the *Optional Rules for Arbitrating Disputes between Two Parties of Which Only One is a State (1993)*;
- the *Optional Rules for Arbitration Between International Organizations and States (1996)*; and
- the *Optional Rules for Arbitration Between International Organizations and Private Parties (1996)*.

¹⁵⁰⁹ i.e. with the exception of the *South China Sea Arbitration Award*. See text at *supra* n 11 and relevant texts thereafter; see also Chapter 6.

can exist situations where avoidance of an Article 121(3) question is impossible. For instance, in situations where there is only one State involved and has sovereignty over a certain maritime feature in the open seas which the State has decided to declare an EEZ and CS for it. Therein, the State's claim may at first instance seem not to affect other States. Yet, these claimed areas would involve an area that could have been the high seas or the Area in which all other States could have certain rights under both the regimes of the high seas and the Area under UNCLOS. This act by that State can deprive other States of these 'could be' rights. It must be reminded that UNCLOS aims to balance the right of States including particularly developing, geographically disadvantaged and land-locked States. Hence, such act could be argued to have taken away this balancing that is contended to be one of the objects and purposes of UNCLOS. It would be unreasonable for a State that has sovereignty over a mere small rock island that does not have any humans living on it or more specifically, could not even sustain human habitation or economic life of its own to be entitled to a CS and an EEZ, and even more absurd if such claim were to be at its maximum.

Nevertheless, it may appear that such a situation may not be brought to adjudicating bodies for their findings since the norm is such that adjudicating bodies are involved only if there is a dispute or a question to be addressed that involves two or more States. However, States Parties to UNCLOS are governed by Part XV of UNCLOS when intending to settle a dispute¹⁵¹⁰ in which the competence of adjudicating bodies under it includes interpreting a treaty as well as providing advisory opinions.¹⁵¹¹

Nonetheless, the decisions of adjudicating bodies or individual opinions of judges in some cases, concerning how they look at the object and purpose of the concepts of the continental shelf and the EEZ may be helpful which, as opined by Judge Vukas in "The Volga Case," is presumably for the benefit of the inhabitants rather than the State.¹⁵¹²

In addition, with specific reference to the South China Sea Arbitration, despite the discussions concerning Article 121(3) requirements by the Tribunal in that case, it has been argued that there is still room for improvement in relation to its findings, including

¹⁵¹⁰ Articles 279 to 299 of UNCLOS; see also Chapter VI of the UN Charter concerning Pacific Settlement of Disputes.

¹⁵¹¹ e.g. Statute of the International Court of Justice: see Chapter II (Article 36), and Chapter IV concerning Advisory Opinions.

¹⁵¹² Chapter 6, *supra* nn 769 and 772.

the uncertainties with regard to the approach in which Article 121(3) should be applied. These concerns need to be addressed, and a clear “step by step” approach should be laid down if indeed Article 121(3) is intended to be addressed in a more systematic manner. It must also be pointed out that the Award refers directly to specific maritime features, without laying down guidelines or steps that particularly mention that they may be applied to all features alike. In addition, although some of its findings for specific features appear acceptable, there are still some issues that have yet to be addressed as discussed in **Chapter 6**.

In sum, adjudicating bodies’ inclination to disregard small maritime features in maritime delimitation cases should not be taken as a rule of law for all such cases, let alone for Article 121(3) purposes. Every case has its own unique circumstances. There is also a clear difference between Article 121(3) and maritime delimitation scenarios. Indeed, where an island caught by Article 121(3) is not at all entitled to a continental shelf and an EEZ, an island in maritime delimitation cases which has been given reduced effect due to whatever reason may still technically have a continental shelf and an EEZ, which are measured from its own baselines. Furthermore, although the Souh China Sea Arbitration seems to have provided some guidance on what could be the criteria that constitute the elements in Article 121(3), it has been highlighted in **Chapter 6** that some of the findings can be questionable such as in the case of its heavy reliance on past evidence without taking into consideration future possibilities. Indeed it must be stressed that what was, may not necessarily be so in the future. As highlighted and established throughout this thesis, environmental science could help in identifying the future possibilities of a questionable maritime feature which is the more crucial time frame to be taken into consideration. Certainly, the ultimate “conferring” of an EEZ and a CS to a maritime feature is for the purpose of benefiting humans; and thus, if environmental science shows that an island is incapable of fulfilling the criteria that constitutes the elements under Article 121(3), namely unable to sustain human habitation or have an economic life, currently or in the near future, why indeed should such island be entitled to those additional maritime zones? The Award also lacks a clear ‘step by step’ approach when applying Article 121(3) as will be seen proposed in the Framework in **Section 42** below.

Maritime Legal Experts and Scholars

Thirdly, the discussions have also addressed the views of maritime legal experts and scholars regarding Article 121(3).¹⁵¹³ Whilst most scholars agree that the provision is ambiguous, there is no consensus amongst them on how the terms contained therein should be interpreted. The various different approaches on the methodology to be used include looking at State practice, national legislation, case law, the legislative history of the provision, and decisions by adjudicating bodies.¹⁵¹⁴

They also had diverse interpretations of the terms contained therein and despite their views, none had actually ventured into real depth basing on the actual natural sense of whether humans can truly survive on a questionable island or whether the island can indeed have an economic life of its own, as may be derived from the environmental science aspects. Most arguments relate to existing relevant legal documentation with merely cursory references to the geological or geomorphological aspects of a given situation. Indeed, the VCLT has clearly provided for a framework on how to interpret a treaty or its provision; and perhaps the relevant steps may have basically been addressed by some of the scholars, particularly Articles 31 and 32 of the VCLT although most of these scholars have not made direct reference to these provisions in their interpretations. Notwithstanding that reference was hardly made to these provisions, the exercise at most, appears to stop short at Article 31 and only a part of Article 32 of the VCLT where it concerns only the expressly stated supplementary means to aid in the interpretation of the provision.¹⁵¹⁵ What has not been sufficiently done is to go beyond the 'preparatory work' of the provision and its 'circumstances of conclusion', when Article 32 in fact allows other methods beyond these two to be explored and utilised.

In view of the inconclusive findings from the entire exercise thus far, relevant environmental science aspects have therefore been looked at to add to or complement the information gathered from what has been found.

¹⁵¹³ Chapter 5.

¹⁵¹⁴ *Ibid.*, Section 19.1.

¹⁵¹⁵ i.e. preparatory work and circumstances of conclusion.

Environmental Science

Hence **fourthly**, environmental science aspects have been applied to cater for the grey area in Article 121(3). The merging of both current legal conclusions and relevant environmental science information has led to a clearer approach that may be adopted when addressing such island situations. The findings from the application and the merging of environmental science into the legal framework may be summarized as below.

First, rock in the sense of Article 121(3) must indicate island within the context of Article 121(1) of UNCLOS. It should also not be confined to the typical rock definition in dictionaries or any fixed size due to the error in judgment that can occur, that can consequentially defeat the object and purpose of UNCLOS, which stresses the benefit of mankind.¹⁵¹⁶ Indeed, environmental science aspects have proven that it is not necessarily that islands that do not conform to the meaning of rocks as defined by dictionaries can in fact sustain human habitation or economic life of its own. It is possible that there can exist maritime features that although they may not fit such rigid descriptions in dictionaries or are wider than a given fixed size, may still not be able to meet these human habitation and economic life criteria. Hence, if other maritime features other than those confined to the normal dictionary meanings are exempted from being tested under the Article 121(3) test, this may defeat the object and purpose of UNCLOS. It would be absurd to allow an EEZ and a CS to be generated from those automatically exempted maritime features merely because they do not fit such dictionary descriptions or fixed size. Such maritime zones are meant to benefit humankind and if humans do not exist on a maritime feature due to its uninhabitability, or if there is absolutely no economic life that can exist on the maritime feature, the object and purpose of UNCLOS may not be adhered to with the granting of an EEZ and a CS to a non-existent 'stakeholder' on the maritime feature itself.

Second, to satisfy the human habitation test, environmental science has shown that the essential resources that cater for human's basic needs must exist on the island. It has been established that this includes the necessity of having in existence the appropriate and sufficient amount of soil, water and sunlight as a starting point that lead towards the existence of food, or the survival of animals, birds or insects, where appropriate, as food.

¹⁵¹⁶ See discussion and rationale for 'rocks' under Section 35.1.

This includes liveable island environmental surroundings taking into consideration its landscape, ecosystem, and natural disturbances such as catastrophes and hazards which can affect the existence of suitable shelter for safety and security purposes. Further, it has been established that past habitation is not conclusive evidence that the island is still habitable.

Third, to satisfy the economic life test, whilst from the legal aspects, it has been argued that any economic activity may be considered as long as the resources used are extracted from the island itself to the extent of its territorial sea, and that such activities must have that added value that shows some profitable or commercial aspect that is beneficial and useful to humans, the act of showing whether there are indeed resources may be determined by looking at the situation from the environmental science aspects. Unused resources cannot be taken into consideration since their idle state would almost certainly not benefit anyone. This is also in line with the understanding in Article 17 of Annex III of UNCLOS, the parties of which are the same parties as for Article 121(3).¹⁵¹⁷ When referring to “economic life”, Article 17 made it necessary to consider ‘**commercial viability**’ and the ‘**depletion of ores**’ as factors, thus clearly requiring the ‘added value’ and ‘continuity’ elements when understanding “economic life.” Thus, “economic life” calls for such benefit or profit to be in existence for a reasonably long duration or Article 121(3) might have as well not have this particular word in its provision and should have merely settled for a word that can allow for the ‘dormant’ state of resources on the island.

Fourth, the term ‘sustain’ requires both the meaning of ‘support’ and ‘continuity’ to be necessary. The support for human habitation or economic life to be in existence must have some evidence of continuity to prevent claims that may not be in good faith by States.¹⁵¹⁸ This support and continuity may be evaluated from the scientific aspects. In this respect, environmental science evidence must show that this ‘support and continuity’ exists.

Fifth, the island’s ability to sustain human habitation or economic life should be independent of outside assistance. The resources required for either of these criteria

¹⁵¹⁷ See discussion at Chapter 10, Section 35.3.

¹⁵¹⁸ See Chapter 10, Section 35.4.

must independently come from the island itself to the maximum extent of its territorial sea. Nonetheless, due to the impossibility for an island to magically conjure man's basic necessities, namely water, food and shelter for survival, including the existence of economic activity, man's involvement should be allowed although clearly restricted to his actual physical efforts to ensure the materialization of either of these two elements on the island. The resources required solely for the building of human shelter may however be allowed provided that the island situation and environmental surroundings allow for a safe and secure shelter to be built on it for a prolonged period to ensure the exercise of good faith is being exercised. Further, combined external and internal resources may be allowed merely to enable the materialization of an economic life provided that the major part comes from internal resources.

Sixth, the conjunction 'or' in Article 121(3) means only either of the two tests needs to be satisfied in order to determine whether an island can be entitled to an EEZ or a continental shelf.

Finally, the common heritage of mankind should not be disregarded. In fact, Article 121(3) works together with this principle. A balance must be exercised when conferring benefits of the oceans to mankind as clearly derived from the object and purpose of UNCLOS which is reflected in its preamble, as well as the various related provisions that had taken into consideration aspects such as geographically disadvantaged, developing and landlocked States. It is erroneous to assume that Article 121(3) should be disregarded in all maritime delimitation cases, given the uniqueness of every situation and the provision is thus necessary to be addressed on a case by case basis. This includes situations where islands are in the open sea with no overlapping area with another State, since it could still encroach on maritime zones such as the high seas or the Area that could have been for the common heritage of mankind. Furthermore, disregarding Article 121(3) in all situations would lead to the redundancy of its existence.

Despite all these conclusions, the thesis has also addressed limitations which include the possible obstacles and hindrances that can challenge the implementation of Article 121(3).

Obstacles and Hindrances

As discussed in **Chapter 11**, other challenges exist for Article 121(3). These include the availability of technology that could undermine the necessity for Article 121(3); historical title claims in maritime areas beyond the territorial sea regardless of a proven Article 121(3) island; the impending climate change challenge that can alter the physical characteristics of a questionable island possibly affecting its legal status and thus its ability to generate an EEZ and continental shelf; and the geopolitical aspects that can affect the use of maritime zones regardless of whether a maritime feature is truly an Article 121(3) island or otherwise.

Despite all the aforementioned challenges, this does not mean that some guidelines should not be formulated, succumbing to the factual reality that exists. In fact, due to these realities, it is all the more necessary to have some guidelines on how to implement Article 121(3) as it would help to facilitate such island situations, and more so, if only States would come to terms with the irrefutable criteria which are evidence-based and required to satisfy the test under Article 121(3).

Therefore, although there may be challenges in the implementation of Article 121(3), it is not impossible to still ensure a workable solution since the provision is clearly in existence and is meant to be of use. Guidelines based on evidence from the environmental science aspects adapting the factors into the legal framework of the provision are meant to enable a smoother implementation of the provision. The science-based evidence can hardly be disregarded since the provision itself clearly reflects a direct connection to it. In addition, laws, rules and regulations are meant to be adhered to. Although it is understandable that man-made laws are sometimes written in a way to allow for flexibility, it is argued nevertheless that for Article 121(3), the introduction of environmental science-based evidence does not take away this flexibility. What has been suggested is merely to lay down general irrefutable facts that are related to the provision which are quite impossible to reject given the factual authenticity that some of the criteria listed in Article 121(3) are indeed related to environmental science. The proposed framework that inserts these elaborations based on environmental science is meant to be general and has laid down merely those steps or criteria that cannot be denied such as the basic needs for human survival.

In conclusion, taking into consideration all the discussions throughout the thesis, an analytical framework to assess a maritime feature's legal status under the scope of Article 121(3) has been formulated below at **Section 42**.

42. A Framework towards the Implementation of Article 121(3)

This proposed framework that takes into consideration current legal understanding as discussed in this thesis, as well as the lack of a proper step by step approach by the Tribunal in the recent South China Sea Arbitration, including the environmental science aspects can be helpful in answering the questions that revolve around the provision. This analytical framework is intended to be generic to enable sufficient flexibility in the issues that need to be assessed including the methods used, although detailed enough to ensure that the inevitable and undeniable aspects must be taken into consideration such as environmental science evidence. It consists of steps that include key principles which are fundamental, and may be used as guidance when evaluating a questionable maritime feature under Article 121(3). It provides a systematic approach following steps in an orderly manner. The Framework simplifies the efforts to be undertaken by States in order to arrive at some basic conclusions, proceeding towards obtaining further details only where it concerns the need for relevant scientific experts to play a role to verify or determine certain facts. The framework is also designed to be used at any stage prior to a conclusive determination of an island's status under Article 121(3), including the proposal that international adjudicating bodies take into consideration this framework when deciding an Article 121(3) situation.

The ultimate aim is to facilitate the implementation of Article 121(3) that is currently inclining towards various inconclusive interpretations which are not supported by some basic environmental science evidence; hence the difficulty in resolving an Article 121(3) situation. In short, the Framework acts as an aid to facilitate the ascertaining of a maritime feature vis-à-vis Article 121(3) in a neutral and unbiased manner. The framework is elaborated below.

KEY PRINCIPLES

Principle 1

The **texture or geological make-up** of the island need not satisfy the simple definition of 'rock' in dictionaries. There is no typical rock description for Article 121(3). Size is also not a determining factor.

Explanation

Although the term 'rock' appears to call for some limitations to be made on the physical make-up of the maritime feature in question, it is inaccurate to assume that those other than rocks that fit such description can automatically pass the Article 121(3) test. The scope should also include all other islands, although particular attention may be given to the smaller ones due to the higher possibility that they may not be able to escape the Article 121(3) test. To exclude all maritime features other than rocks may consequentially defeat the object and purpose of UNCLOS which stresses the benefit of mankind as a whole.

Principle 2

Only one criterion needs to be proven to avoid being caught by the consequences of Article 121(3); either the ability to 'sustain human habitation of their own' or the ability to 'sustain economic life of their own' criterion.

Explanation

Due to the purposeful act of States during the debate wherein the conjunction "and" was replaced with "or" as clearly reflected in the travaux préparatoires,¹⁵¹⁹ "or" is regarded as in the alternative.

Both the Oxford Dictionary and Webster's dictionary are also quite clear that the meaning of "or" in Article 121(3) is an alternative to another and not encompassing both the alternative subjects in question. Hence, the proving of the questionable island's ability would have to be looked at in the alternative. Only one at its minimum, needs to be proven to entitle a 'rock' to and EEZ and a CS; namely, either the "human habitation" criterion or the "economic life" criterion.

¹⁵¹⁹ Chapter 3, Section 14.1(d), see text at *supra* n 389.

Principle 3

It must be proven that both the ‘human habitation’ and the ‘economic life’ criteria must have **continuity with the view towards permanency**. A mere temporary basis is insufficient. However, this includes the island’s **ability** to have this characteristic rather than having to be in actual existence.

Explanation

The term ‘sustain’ in Article 121(3) has been argued to contain the criteria ‘support’ and ‘continuity’ as allowed by simple dictionary definitions.

The criterion ‘support’ has been generally agreed that the island must be able to support human habitation or economic life. Whereas, the criterion ‘continuity’ speaks for itself and this criterion should be mandatory to prevent the abuse of the provision by States that can arise if States argue that an island escapes Article 121(3) consequences if they merely ensured that the characteristics that fulfil the human habitation and economic life elements are in existence even if just for a day or less.

With the ‘continuity’ element as a necessary criterion, the ‘support’ criterion for human habitation or economic life would have to be augmented by showing its reasonably lasting effect to ensure genuineness of the island’s capability to sustain human habitation.

There is the need to ensure that the ‘supporting’ element includes both providing sustenance as well as allowing the survivability of humans and that these must continue for a certain period of time to the extent that false claims by States are prevented.

Principle 4

The island must have a certain degree of **independence** from external aid. The ‘ingredients’ that make up the ‘human habitation’ and ‘economic life’ criteria must be obtained from the island itself. Taking resources externally as well as importing outside assistance are not allowed in testing the island for Article 121(3) purposes. The only exception would be the building of human shelter, and the use of very minimal external resources but solely in combination with major internal resources to enable the materialization of an economic life. Such independence can however include man’s physical involvement to ensure that either of the criteria can actually take effect. These requirements include the ability to do so as explained in **Principle 3**.

Explanation

The phrase “of their own” speaks for itself. The simple dictionary definition has been employed due to the non-existence of any ‘special meaning’ as under Article 31(4) of the VCLT, to reflect the intention of parties regarding this phrase when Article 121(3) was formulated. Furthermore, Article 121(3) was more of a compromise in its end result.

Hence, the ordinary meaning of the phrase as per Article 31(1) of the VCLT was considered which has been clearly spelt out by dictionaries. Interpretations beyond what is clearly stated therein are not allowed. Herein, dictionary definitions have clearly not included that the duty or thing to be carried out by a person or body can come partly from another person or body. The word 'own' as defined by the dictionary stops short at 'the person specified' and does not have some added definition that reads comparably to "amongst others, the person specified."

In addition, if outside assistance is allowed (with the exceptions mentioned in the Principle above), then all maritime features may easily avoid Article 121(3) provided that the State that has sovereignty over them has the means to ensure that external sources may be transported to the maritime feature to address the 'human habitation' or the 'economic life' tests.

However, since an island is not a human being that can physically move things in order to ensure that either of the criteria can materialize, except for the natural occurrence that exists from its ecosystem and environment, a certain level of human involvement is allowed which is confined to man's physical involvement to ensure the materialization of either of these criteria.

In addition, very minimal external resources that are solely in combination with major internal resources may be allowed merely to enable the materialization of the economic life element. In this respect, there may be situations where internal resources can be of great value although its economic life may only materialize if in combination with some external resources, hence avoiding valuable waste.

EVALUATION STEPS

Taking into consideration the key principles, the following steps may be carried out in the implementation of Article 121(3).

STEP 1

Determine whether the maritime feature is an island or a low tide elevation (LTE).

A maritime feature must first be determined as to whether it is an island that satisfies the criteria in Article 121(1) and is not an LTE under Article 13 of UNCLOS. The maritime feature must be naturally above water at the time of evaluation. Enhancement of an LTE to change its status to an island is not allowed for the Article 121(3) test. Preservation of maritime features that are originally islands to maintain their status as islands are allowed. Nevertheless, such enhancement is merely for the purpose of maintaining it an

island under Article 121(1) and will not be taken into consideration for purposes of the test under Article 121(3).

If the maritime feature is an LTE under Article 13 of UNCLOS, this framework is no longer applicable since Article 121(3) deals with only islands which first need to have the characteristics under Article 121(1).

If the maritime feature is an island under Article 121(1), the next consideration would be

Step 2.

Explanation

The necessity to determine this is due to the different legal effects that arise out of the maritime feature's legal status. Where an island is entitled to a territorial sea, and possibly an EEZ and CS, provided that certain criteria are satisfied, an LTE would not be entitled to any of these maritime zones, except in situations where the LTE acts as a basepoint being part of a baseline in a maritime delimitation situation (which is a separate issue), there may be an EEZ or continental shelf measured from it depending on the circumstances.

It has been established that artificial islands, installations and structures do not possess the status of islands under Article 60(8) of UNCLOS.

Artificial enhancements are however allowed for purposes of preserving the legal status of an already existing maritime feature above high tide as per Article 121(1) since it is already such a feature in the first instance. If it was merely an LTE, then such man-made improvement to ensure it is above water at high tide should not enable the feature to have island status under Article 121(1).

Hence, the purpose and use of these artificial enhancements are fundamental before it can really be decided whether such enhancement may be relied on.

STEP 2

Determine whether the Article 121(1) island is also an island under Article 121(3).

To identify this, the island's characteristics would first have to be determined. These characteristics are:

- A. whether the island can sustain human habitation of its own; and
- B. whether it can sustain economic life of its own.

To determine whether an island is also an Article 121(3) island, it is necessary to determine whether the island satisfies **STEP 2A** or **STEP 2B**. Either of the steps may be

proven. **STEP 2A** does not prevail over **STEP 2B** and vice-versa. If one step or more is proven, the island will not be an Article 121(3) island.

Explanation

All maritime features that satisfy the criteria in Article 121(1) are considered islands. Nevertheless, there are two types of islands under the regime of islands of UNCLOS that result in different legal implications. Islands which are considered rocks under Article 121(3) are still islands although their entitlement to maritime zones is limited to only a territorial sea and contiguous zone; whilst islands that do not come under the provision are entitled to extended maritime areas, namely the EEZ and continental shelf.

*If the island is able to satisfy either of the two tests i.e. in **STEP 2A** or **STEP 2B**, the island will be entitled to generate an EEZ and a continental shelf. Otherwise, it will only be entitled to a territorial sea and a contiguous zone.*

STEP 2A

To determine whether an island can sustain human habitation of its own, it has to be decided whether –

- (i) it is fit for human survival;
- (ii) such human survival has continuity with the view towards permanency; and
- (iii) such human survival is independent from outside assistance.

Stage 1

To determine item (i), all the basic needs for human survival would have to be *in existence* on the island, or the island must at least have the *ability to ensure such natural existence*. These basic needs are (a) water; (b) food; and (c) shelter. The characteristics that make up these elements must be satisfied as follows:

- (a) Water
 - Water must be natural fresh water.
 - Water must be sufficient and easy to extract from the island itself. E.g. rain, river, ponds, lakes and ground water.
 - Sea water or desalinated water is not allowed.

Explanation

*The first level of test would first have to be satisfied where only the existence of **natural fresh water** will be considered as there being fresh water with at least the minimum sufficient amount, as one of humans' basic needs for survival.*

***Sea water** is not allowed due to the detrimental effects of drinking it as proven by science. It is also not originally fresh water. Technology to desalinate sea water for safe consumption should not be allowed to escape Article 121(3) consequences. The introduction of technology to 'transform' sea water into fresh water would defeat the purpose of Article 121(3) since technology in today's era makes almost anything possible, and consequently the redundancy of Article 121(3), apart from undermining the element of good faith as required by Article 31(1) of the VCLT.*

The use of desalinated sea water for human consumption may only be allowed as additional supplies if there is already in existence natural fresh water that passes the test of being sufficient and that is not merely temporary for human survival.

Water should also be reasonably easy to extract from the island itself to prevent abuse by States. This can arise in the event of assertions that an island has water and thus regarded as an island that passes this first human basic need, despite there being in existence for example, only ground water that is too deep for easy withdrawal.

(b) Food

- Food may be derived from plants and animals.
 - Vegetation/plants must be edible and safe for human consumption under the World Health Organization safety standards.
 - Animals, birds and insects may be considered as food as long as they conform to the safety standards for human consumption.
- However, for food to exist with continuity there must be resources which include **water, soil** and **sunlight**.

For water:

- The amount must be adequate to enable the growth of edible vegetation or to provide for the survivability of animals, birds or insects that may be consumed as human food.

For soil:

- The amount must be sufficient to enable the growth of edible vegetation.
- The type of soil including its nutrients must be appropriate and sufficient to enable the growth of edible vegetation.
- For **hard rocks** (e.g. granite and basalts):
 - There must be sufficient weathering towards sufficient soil formation.
 - Decomposed hard rock will have to be verified in terms of the extent of its decomposition that has made it reasonably close to transforming into suitable soil to enable the growth of edible plants.
 - Solid, hard and unweathered rocks are presumed not to have the appropriate soil.

For sunlight:

- Sufficient access to sunlight is required for the growth of plants as food.

Explanation

To ensure the continuity of the current existence of these resources or their future existence with such continuity, other main resources would have to exist due to the ecosystem's food chain process.

(c) Shelter

- The landscape and make-up of the island must be suitable for building shelter.
- There must be determination whether the physical environment and ecosystem properties are safe and secure for sustainable shelter to be built for human habitation.
- The shelter must be able to adapt to the environment and can sufficiently protect humans from possible predators for a prolonged duration.
- Although catastrophes and natural hazards may be inevitable in any surrounding, they should not be too frequent so as to destroy such shelter too often and thus causing a devastating degree of damage to the extent of

making it a truly unsafe and unsuitable place to live and as permanent residence.

- If the island is proven to have too frequent devastating disasters, any shelter built on it would not be sustainable, and hence would not be able to satisfy the requirement that such island can sustain human habitation.
- Resources to construct a shelter need not necessarily come from the island itself.

Explanation

Whether the island is suitable for building shelter may be determined from the landscape and island make-up. E.g. if the landscape shows the impossibility to build even a simple permanent shelter for human survival, then it is deemed unsuitable. Catastrophes and natural hazards include volcanic eruptions, earthquakes, tsunamis, droughts, avalanches, floods, erosion, landslides, storms and severe winters.

Identifying the suitability of shelter also includes measuring the frequency of catastrophes/hazards and the type and degree of damage occurring including the duration of the gap between the catastrophes/hazards. Too short a duration may render the island a clearly unsafe place to live and this may be measured from the likelihood of restoring and rebuilding the place into a proper settlement within such a short period of time before the next catastrophe/hazard strikes. If the permanency of shelter is hardly possible including due to such hazards/catastrophes, humans may not be able to live in such a place even if there is arguably sufficient food and water. The very mention of the word 'habitation' clearly points towards the need for the place to be habitable.

Resources may not necessarily come from the island itself since such act may be too confining on the freedom of humans to build from different sources. Emphasis is more on the safety and security of the island to enable shelter to be built for humans' continued survivability.

To give prominence to the building materials themselves, may be somewhat too restrictive on the freedom of humans who may have different desires as to the type of shelter they want to suit their individual cultural needs.

(d) Other factors:

- No minimum number of human beings is required to be able to survive and live on the maritime feature for the Article 121(3) test.
- Actual habitation is not necessary although scientific evidence to show that it can currently or in the very near future, occur including the ability to have a permanent population that is not temporary is mandatory.
- Past habitation is not proof that habitation can still exist.

Explanation

If an island can sustain human habitation on its own for a period that is not on a temporary basis regardless of the number of human beings, natural science would favour the conclusion that the island can sustain human habitation.

There is also no specific requirement that there has to be habitation in existence as a matter of necessity but the words in Article 121(3) stress the importance of the 'ability' which may be deduced from the use of the word 'cannot' in Article 121(3) as opposed to 'has not' which was not used. To measure this, environmental science aspects may be applied. There has to be some flexibility for States to decide as to when they intend to allow their citizens to occupy the questionable island.

Past habitation is not proof that habitation can still exist. The resources and island conditions that were once existing may not necessarily still exist particularly with climate change as a great concern. Whilst the mainland and larger islands may face environmental changes that may affect the ecological and environmental surroundings of the place that humans live in general, smaller islands have more cause to concern given the fact that their size can make it more affected by environmental changes. For instance, the rising ocean due to global warming that causes the melting of the glacial ice may eventually cause the submergence of small islands or to some extent alter the ecological surroundings and the species on them and consequentially affecting human survival. Notably, 'islands are less able to absorb environmental impact than larger areas.'¹⁵²⁰ Climate change can also affect natural resources needed for the proper survivability of humans.

Stage 2¹⁵²¹

To determine whether such human survival has continuity with the view towards permanency as per item (ii), **Principle 3** applies. Any scientific method for the evaluation of such capability to continue may be used.

Stage 3¹⁵²²

To determine whether such human survival is independent from outside assistance as per item (iii), **Principle 4** applies.

Deduction:

All 3 stages would have to be satisfied for **STEP 2A** to be satisfied and hence resulting in the island to escape Article 121(3) consequences.

¹⁵²⁰ UNESCO, *supra* n 1327, p. 11.

¹⁵²¹ See Flowchart in Figure 1 (appended at the end of this Chapter), at STEP 3.

¹⁵²² *Ibid.*, STEP 4.

STEP 2B

To determine whether an island can sustain an economic life of its own, it has to be decided whether-

- (i) The island has natural resources that are useful and beneficial for humans;
- (ii) Such resources are being utilized for economic purposes and not remaining dormant;
- (iii) The activities involving the utilization of such resources for economic purposes have continuity with the view towards permanency;
- (iv) The economic activity is independent from outside assistance.

Stage 1

For item (i) there must exist natural resources on the island to the maximum extent of its territorial sea that are useful and beneficial for humans. This can be any resources.

Stage 2

For item (ii), the natural resources must be utilized for economic purposes. There must also be proven that there is economic value in such utilization. They cannot remain unused. Mere provision for human survival on the island itself is not sufficient.

- Any economic activity is sufficient as long as the resources used arise from the natural resources of the island itself to the maximum extent of its territorial sea.
- There must be some economic viability that can arise from the resources beyond their mere existence. Unused resources despite their existence cannot be regarded to have satisfied the economic life test.

Explanation

All the definitions, be it assumptions by scholars or States, Article 17 of Annex III of UNCLOS, including dictionary definitions appear to revolve around the understanding for the island to remain useful and beneficial for humans.

Particularly Article 17 of Annex III of UNCLOS, when referring to the phrase “economic life”, includes the requirement to consider factors such as the ‘commercial viability’ and the ‘depletion of ores’ which suggest the necessity for the economic life to continuously exist for at least some period of time as opposed to diminishing, apart from also being useful with commercial significance. These factors show that the natural resources must provide some sort of extra benefit or profit in existence for at least a certain time period, rather than their mere presence. Activities should as a matter of fact be able to profit or benefit humans and this may only be achieved if they do not remain in their unused state.

In addition, had the intention been that there is no need to prove any benefit or profit, then the word ‘economic’ should not have been used in Article 121(3).

In simple dictionary terms, 'economic life' has been defined as "the period during which an economic good retains its utility." The term "economic" as defined in dictionaries clearly show the necessity for there to be some sort of profit, benefit or excess that surfaces as opposed to their unused state. Hence, the 'economic' element can only surface if these resources are being utilized for the benefit of humans, remain useful and have some sort of additional value or profit. There must be some beneficial or profitable element that is being enjoyed, that goes beyond a mere unused state that would otherwise make it similar to not being beneficial.

e.g. an island may not be considered to have an economic life of its own such as in the case of islands similar to Kiribati, in that although there are fishing activities that exist, the 'economic' element requirement can nevertheless be contended to have still not been satisfied since fish caught appear to not really be a marketable item as there lack consumers, and purchasers are normally on an occasional basis resulting in the non-existence of the economic viability element.¹⁵²³ As opposed to the Samoa and Viti Levu volcanic islands of Fiji, much of their respective populations that live inland are not really involved in fishing activities, hence the presence of a substantial local market for fish.¹⁵²⁴

Stage 3¹⁵²⁵

To determine whether such activities involving the utilization of such resources for economic purposes have continuity with the view towards permanency as per item (iii), **Principle 3** applies. Any scientific method for the evaluation of such capability to continue to exist may be used.

Stage 4¹⁵²⁶

To determine whether the economic activity is independent from outside assistance as per item (iv), **Principle 4** is applicable.

Deduction:

All 4 stages would have to be satisfied for **STEP 2B** to be satisfied and hence resulting in the island to escape Article 121(3) consequences.

A one-page chart reflecting the Framework with its key principles and the flow of these evaluation steps is as per **Figure 1** below.

¹⁵²³ Chapter 10, Section 35.3, text at *supra* n 1361.

¹⁵²⁴ *Ibid.*, Section 35.3, text at *supra* n 1362.

¹⁵²⁵ See Flowchart in Figure 1 (appended at the end of this Chapter), at STEP 3.

¹⁵²⁶ *Ibid.*, STEP 4.

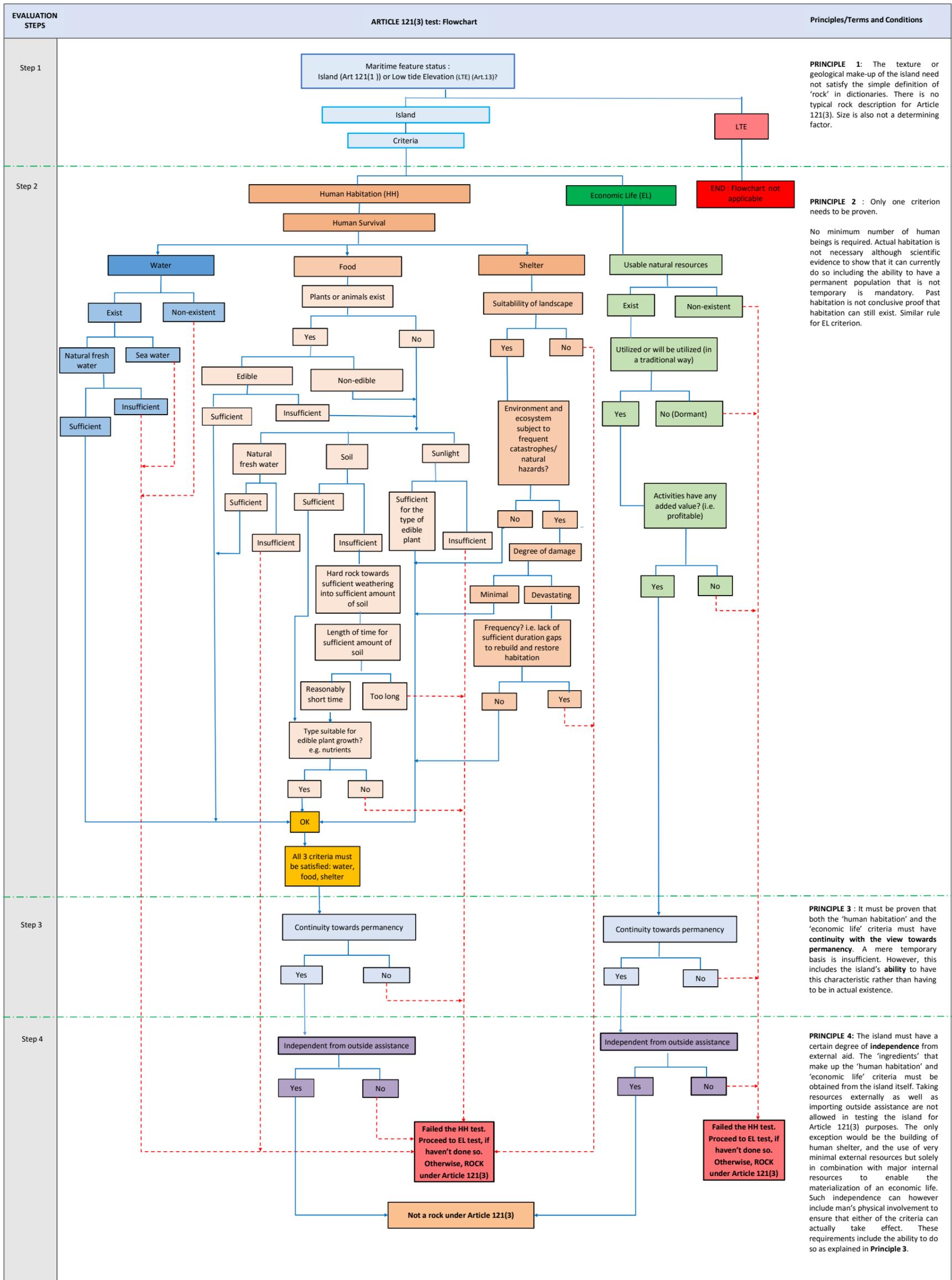


FIGURE 1: Flowchart for Article 121(3) test

43. Application of the Article 121(3) Framework to selected maritime features

To achieve a sense of completeness, some maritime features have been selected for the mere purpose of testing the proposed framework, a framework which is also reflected in the aforementioned one-page flowchart (**Figure 1**). The key principles and evaluation steps contained therein are applied to these maritime features in order to determine whether the latter is caught by Article 121(3).

It must however be highlighted that the findings related to these maritime features are based on available information mainly from the public domain. Verification on the accuracy of data obtained will be required if the features are to be tested in a “real” scenario. Hence, subject to the verification of such information, the data used for the purpose of this exercise is merely to test the workability of this framework and hence, any such findings are dependent on the correctness of such data.

In this relation, the discussions in all the following case studies are subject to the availability of actual evidence, including the admissibility of the same. As discussed in **Chapter 10** (Section 35.7.1(a)), the rules of evidence in international courts are ultimately for the latter to decide. Nevertheless, for purposes of Article 121(3), it is proposed that certain restrictions on the admissibility of evidence be employed if any of these maritime features ever go for an actual evaluation. This would include restricting evidence that have been purposefully manipulated in the sense similar to that of the situation of artificial islands so as to result in a maritime feature from being able to pass the Article 121(3) test to otherwise, or vice-versa, as the case may be.

Apart from this, the challenges under the question of temporality for the evaluation of maritime features as discussed in **Chapter 10** must also be taken into consideration. Therein, although observations on the maritime features for evaluation purposes may be current, consideration must be had on the constraints to bring forth such evidence. The evaluation steps undertaken below are thus merely to reflect the process as to how to evaluate a maritime feature, although considerations concerning the challenges faced must be borne in mind before concluding the status of the maritime feature.

It is to be reiterated that the Framework is merely to assist in facilitating the evaluation process by introducing the necessity to have the very basic requirements from the environmental science aspects that are irrefutable such as the need for fresh water for

survival. The Framework is argued to be flexible enough to allow for other considerations as evidence as long as these basic environmental science aspects are adhered to.

In this regard, the evaluation steps below would have to be read vis-à-vis the respective explanations as stated in the proposed framework including the flowchart for ease of understanding. The evaluation steps have also taken into consideration the four Key Principles (i.e. **Principles 1 to 4**) stated in the framework.

For this purpose, the maritime features that have been selected to test the proposed framework are Chile's **Sala y Gomez**, US's **Baker Island**, Japan's **Okinotorishima** and France's **Clipperton Island**. The evaluation steps and principles mentioned below are cited in accordance with the proposed framework and flowchart. It must also be emphasized that it is requisite that the evaluation steps and principles of the Framework applied in this exercise be read in accordance with the *Explanations* stated therein respectively.

(a) Sala y Gomez

As highlighted in **Chapter 1**, Chile had claimed for a 350nm continental shelf around **Sala y Gomez** which was protested by the US.¹⁵²⁷ Briefly, this maritime feature is located at more than 1790 nm from the Chilean coastline,¹⁵²⁸ is 30m above sea level at its highest point, and is approximately 0.15 km² in area and 770m in total length.¹⁵²⁹ The closest to it is Easter Island which is 320 km away¹⁵³⁰ wherein both islands are considered in extreme isolation with the nearest island to them being Pitcairn Island at a distance of

¹⁵²⁷ Text at *supra* n 138. It may however be noted that the US's protest was based on the reason of failing to meet Article 76(4) of UNCLOS instead of referring to Article 121(3).

¹⁵²⁸ Text at *supra* n 138; see also Miriam Fernández, Paula Pappalardo, Montserrat C. Rodríguez-Ruiz & Juan Carlos Castilla, *Synthesis of the state of knowledge about species richness of macroalgae, macroinvertebrates and fishes in coastal and oceanic waters of Easter and Salas y Gómez islands* in M. Fernández & S. Hormazábal (Guest Editors), "Oceanography and Marine Resources of Oceanic Islands of Southeastern Pacific", (Lat. Am. J. Aquat. Res., 42(4): 760-802, 2014) at p. 761.

¹⁵²⁹ Alan M. Friedlander, Enric Ballesteros, Jim Beets, Eric Berkenpas, Carlos F. Gaymer, Matthias Gorny and Enric, *Effects of isolation and fishing on the marine ecosystems of Easter Island and Salas y Gómez, Chile*, (2013, John Wiley & Sons, Ltd), *Aquatic Conserv: Mar. Freshw. Ecosyst.* 23: 515–531 (2013)) at p. 516, at DOI: 10.1002/aqc.2333.

¹⁵³⁰ National Geographic, <<https://www.nationalgeographic.org/expeditions/sala-y-gomez-easter-island/>> [accessed 11 November 2017].

approximately 2250km.¹⁵³¹ Sala y Gomez is considered very young being 2 million years old and very small.¹⁵³² It is described to be a ‘dark, rugged rise of volcanic basalt in the vast Pacific Ocean, its low shores flooded with tide pools’, uninhabited, and is ‘the only obstacle that the sea encounters for hundreds of kilometers in any direction’.¹⁵³³

Further details concerning Sala y Gomez will be seen highlighted below when addressing the relevant questions arising from the key principles and evaluation steps of the proposed framework.

STEP 1

Whether Sala y Gomez is an island or a low tide elevation (LTE).

Based on available information, Sala y Gomez falls under the category of an island¹⁵³⁴ and not an LTE.¹⁵³⁵

Firstly, it is naturally formed, being part of the Sala y Gomez Ridge¹⁵³⁶ and ‘located on the Nazca Plate in the southeast subtropical Pacific’.¹⁵³⁷ There is no information or evidence of human interference concerning its formation. It is reported as ‘one of the last undisturbed and relatively pristine places left in the ocean’.¹⁵³⁸

Secondly, it is surrounded by water which is above water at high tide. This is evidenced by it being part of the Salas y Gómez Ridge which ‘are the only places where the submarine mountain range rises above sea level’ with 30 metres above sea level at its highest point.¹⁵³⁹ It may also be noted that Salas y Gómez and Easter Island ‘are the only visible

¹⁵³¹ Fernández et al, *supra* n 1528, p. 761; see also Marcelo A. Flores, Roberto P. Schlatter & Rodrigo Huckle-Gaete, *Seabirds of Easter Island, Salas y Gómez Island and Desventuradas Islands, southeastern Pacific Ocean*, Lat. Am. J. Aquat. Res., 42(4): 752-759, 2014 in M. Fernández & S. Hormazábal (Guest Editors) “Oceanography and Marine Resources of Oceanic Islands of Southeastern Pacific”, p. 753.

¹⁵³² Fernández et al, *supra* n 1528, p. 761.

¹⁵³³ National Geographic, *supra* n 1530; see also Flores *et al*, *supra* n 1531, pp. 756-757 – i.e. reporting also on the uninhabited condition of Sala y Gomez.

¹⁵³⁴ Article 121(1) of UNCLOS provides as follows: “An island is a naturally formed area of land, surrounded by water, which is above water at high tide.”

¹⁵³⁵ Article 13 of UNCLOS.

¹⁵³⁶ Friedlander *et al*, *supra* n 1529, p. 516.

¹⁵³⁷ Fernández *et al*, *supra* n 1528, p. 761.

¹⁵³⁸ Silversea Cruise website, <<https://www.silversea.com/other-resources/find-port/i/isla-salas-y-gomez.html>> [accessed 11 November 2017].

¹⁵³⁹ Friedlander *et al*, *supra* n 1529, p. 516 (including text).

peaks in a chain of now submerged seamounts in the Salas y Gómez Ridge', clearly showing its formation to be surrounded by water and above water.¹⁵⁴⁰

Preliminary Conclusion

Sala y Gomez thus appears to satisfy the criteria of an island and not an LTE, and hence, the next consideration would be **STEP 2** below.

STEP 2

Whether Sala y Gomez is also an island under Article 121(3).

To identify this, the following questions need to be answered:

- A. whether Sala y Gomez can sustain human habitation of its own; and
- B. whether Sala y Gomez can sustain economic life of its own.

To determine whether an island is also an Article 121(3) island under **STEP 2**, it is necessary to determine whether the island satisfies **STEP 2A** or **STEP 2B**. Either of the steps may be proven in accordance with **Principle 2**. **STEP 2A** does not prevail over **STEP 2B** and vice-versa. If at least one step is proven, the island will not be an Article 121(3) island.

Hence, first addressing **STEP 2A** as below.

STEP 2A

To determine whether **Sala y Gomez** can sustain human habitation of its own, it has to be decided whether -

- (i) it is fit for human survival;
- (ii) such human survival has continuity with the view towards permanency; and
- (iii) such human survival is independent from outside assistance.

At the outset, information shows Sala y Gomez to be at a great distance from all other land masses, the closest being Easter Island at a distance of approximately 320 km whilst

¹⁵⁴⁰ Fernández et al, *supra* n 1528, p. 761.

other land masses at far beyond 1000km away.¹⁵⁴¹ It is reported to be uninhabited, undisturbed and in extreme isolation.¹⁵⁴² Despite these information, applying the test in **STEP 2A**, it may be observed as below.

Stage 1

To determine item (i), i.e. it is fit for human survival, all the basic needs for human survival would have to be *in existence* on **Sala y Gomez**, or it must at least have the *ability* to ensure the natural existence of all such basic needs. These basic needs are (a) water; (b) food; and (c) shelter. The characteristics that make up these elements must be satisfied as follows:

(a) Water

Water must be natural fresh water.

➤ Observation/Information:

- There is no permanent source of freshwater on Sala y Gomez.¹⁵⁴³ There is only a rainwater pool in a depression on the eastern rock forming a cache of freshwater of 75 meters in diameter which is however, merely intermittent and sufficient for the survival of the existing seabirds there,¹⁵⁴⁴ the depression of which is also used for their nesting.¹⁵⁴⁵

Water must be sufficient and easy to extract from the island itself. E.g. rain, river, ponds, lakes and ground water.

➤ Observation/Information:

Current facts show that Sala y Gomez has clearly insufficient water. There is merely the aforesaid depression collecting rainwater sufficient only for the seabirds. Nevertheless, scientific experts may be called to prove if any further

¹⁵⁴¹ See texts at *supra* nn 1528, 1530 and 1531.

¹⁵⁴² See texts at *supra* nn 1531, 1533 and 1538.

¹⁵⁴³ See Wikipedia, <https://en.wikipedia.org/wiki/Isla_Salas_y_G%C3%B3mez> [accessed 11 November 2017].

¹⁵⁴⁴ *Ibid.*

¹⁵⁴⁵ Silversea Cruise, *supra* n 1538.

natural fresh water exists which may be found from this island such as easily extractable ground water. Subject to confirmation by such experts, it may however be observed that Sala y Gomez is only 30 m above sea level at its highest point¹⁵⁴⁶ with a volcanic basalt geological make-up¹⁵⁴⁷ and hence arguably, highly unlikely to have any such ground water easily extractable. This should however be confirmed by such experts.

Sea water or desalinated water is not allowed.

➤ *Observation/Information:*

Saltwater showers Sala y Gomez, with its shoreline scattered with numerous tide pools.¹⁵⁴⁸ Its sub-tidal area '*had little protection from the dominant southern swells from Antarctica*'.¹⁵⁴⁹ Clearly, despite the existence of tide-pools and such showers, these are saltwater from the sea. According to the test under this framework, such water does not fall under the category of allowable water for human survival for Article 121(3) purposes.

Preliminary Conclusion

Based on the available information, it is obvious that there lacks sufficient freshwater essential for human survival. There is no pond, lake, river or similar natural catchments of water existing on the island. The only natural fresh water available is rainwater pool from a single depression of a mere 75 meters sufficient only for the seabirds. The only obvious water permanently available is saltwater from the sea and the tide pools which cannot be taken into consideration due to reasons elaborated in the *Explanation* for this Stage 1(a)-*Water* test.¹⁵⁵⁰

Based on the above, it would appear that the island has failed the Stage 1(a)-*Water* test.

¹⁵⁴⁶ See text at *supra* n 1529.

¹⁵⁴⁷ See text at *supra* n 1533.

¹⁵⁴⁸ National Geographic, *supra* n 1530; see also Wikipedia, *supra* n 1543; see Merriam Webster online, <<https://www.merriam-webster.com/dictionary/tide%20pool>> [accessed 11 November 2017] - Tide pool is defined as "a pool of salt water left (as in a rock basin) by an ebbing tide — called also *tidal pool*".

¹⁵⁴⁹ Friedlander *et al*, *supra* n 1529, pp. 520-521.

¹⁵⁵⁰ See *Explanation* for STEP 2A, Stage 1(a) in the Framework at Section 42 above.

Nevertheless, taking into consideration **Principle 3**¹⁵⁵¹ that allows evidence that shows the ‘ability’ of the island to provide such natural fresh water to be acceptable, scientific experts in this field may be called to prove such ability to do so, including the sufficiency and continuity of the existence of such water towards permanency for human habitation. This would also be subjected to **Principle 4**¹⁵⁵² which clearly requires that the island must have a certain degree of independence from external aid. Hence, such ability to produce natural fresh water in this scenario would mean that such natural fresh water cannot be imported from ‘outside’ for the purpose of proving such ability to do so. Natural fresh water would have to come from Sala y Gomez itself. The only aid allowed from outside would be for instance, man’s physical involvement such as for example, utilizing some basic tools or machinery to enable fresh water to be produced from the island itself, such as digging wells for the production of ground water. This must however be reasonably easily extractable. In addition, sea water does not fall under the category of allowable water for human survival for Article 121(3) purposes as explained in the Framework.

Therefore, provided that it can be proven scientifically that the island has clear ability to provide natural fresh water that is easily extractable from the feature, including the ability to show sufficiency and continuity towards permanency, it may be concluded that Sala y Gomez has failed the Stage 1(a)-*Water* test.

At this juncture, given the fact that all the criteria for all the identified human basic needs (i.e. water, food and shelter) must be satisfied in order to pass the human habitation test, this would mean that this maritime feature has failed to prove its ability to sustain human habitation even at the first instance. Without fresh water, an island is not fit for human survival.

Due to this fact, it is not necessary to look at the other basic needs (i.e. food and shelter) in this Stage 1 of STEP 2A, since if one human basic need fails the test, the entire **STEP 2A** test fails. The chapeau to Stage 1 of STEP 2A clearly states the necessity to satisfy all the basic needs and their respective characteristics.

¹⁵⁵¹ i.e. also in accordance with the evaluation for Stage 3 of STEP 2A of this Framework, and STEP 3 of the Flowchart in **Figure 1**.

¹⁵⁵² i.e. also in accordance with the evaluation for Stage 4 of STEP 2A of this Framework, and STEP 4 of the Flowchart in **Figure 1**.

Furthermore, as elaborated in the *Deduction* for the entire **STEP 2A** in the proposed framework, all 3 Stages of **STEP 2A** would also have to be satisfied to result in the island escaping Article 121(3) consequences.¹⁵⁵³

On a side note, information also shows Sala y Gomez to be uninhabited with landing by sea to be very difficult.¹⁵⁵⁴ Furthermore, the only place suitable for the landing of helicopters is a flat sandy area which is continuously moist a few inches below the surface even when it seems dry.¹⁵⁵⁵ Access for both scientists and civilians is difficult with the Chilean Navy being the only regular ‘visitor’ for maintenance of marine signalling equipment, using helicopters.¹⁵⁵⁶ There are also no vessels on the nearest island to Sala y Gomez (i.e. Easter Island) that can ‘cover the distance round trip without refueling at sea’.¹⁵⁵⁷ This information and the fact that the island is ‘located near the center of the largest ocean habitat, and one of the most extreme ocean surface environments, on the Earth’¹⁵⁵⁸ raise the question of whether indeed humans can live on such feature.

Nevertheless, the test under Stage 1(a)-*Water* test of STEP 2A has already at the first instance proven Sala y Gomez to have failed the entire human habitation test. There is no need to elaborate further on the aforementioned information in the preceding paragraph that could have been used for purposes of the Stage 1(b)-*Food* test, and the Stage 1(c)-*Shelter* test. Regardless, the aforementioned information only supports the finding under Stage 1(a)-*Water* test that Sala y Gomez has failed the entire human habitation test.

Hence, subject to scientific expert evidence that proves otherwise, it may be summarized from the current available facts that Sala y Gomez has failed to show that it is fit for human survival. Thus, it may be concluded that Sala y Gomez has failed to prove its ability to sustain human habitation even at the first instance.

¹⁵⁵³ See Framework at Section 42.

¹⁵⁵⁴ Flores *et al*, *supra* n 1531, pp. 756-757.

¹⁵⁵⁵ Wikipedia, *supra* n 1543.

¹⁵⁵⁶ Flores *et al*, *supra* n 1531, pp. 756-757.

¹⁵⁵⁷ *Ibid*.

¹⁵⁵⁸ Peter von Dassow & Silvana Collado-Fabbri, *Biological oceanography, biogeochemical cycles, and pelagic ecosystem functioning of the east-central South Pacific Gyre: focus on Easter Island and Salas y Gómez Island*, in M. Fernández & S. Hormazábal (Guest Editors), “Oceanography and Marine Resources of Oceanic Islands of Southeastern Pacific”, (Lat. Am. J. Aquat. Res., 42(4): 703-742, 2014), p.721.

Due to this fact, and taking into consideration **Principle 2** that provides that only one criterion needs to be proven i.e. either “human habitation” criterion or the “economic life” criterion, it is therefore necessary to proceed directly to **STEP 2B**.

STEP 2B

To determine whether an island can sustain an economic life of its own, it has to be decided whether-

- (i) The island has natural resources that are useful and beneficial for humans;
- (ii) Such resources are being utilized for economic purposes and not remaining dormant;
- (iii) The activities involving the utilization of such resources for economic purposes have continuity with the view towards permanency; and
- (iv) The economic activity is independent from outside assistance.

Stage 1

For item (i) there must exist natural resources on the island itself to the maximum extent of its territorial sea that are useful and beneficial for humans. This can be any resources.

➤ **Observation/Information:**

Unfortunately, there is not much information obtainable concerning Sala y Gomez’s available natural resources, let alone those that are useful and beneficial to humans. It may be reiterated that there are constraints in obtaining such information and hence the observations hereunder are again subject to verification which may include evidence from scientific experts from the relevant fields, when the actual test is being carried out for this island. Nevertheless, in order to arrive to some conclusions for the purpose of testing the steps in this framework, some observations may be made from available information.

The island

Where it concerns the island itself, current information shows lack of natural resources that may be utilised for economic purposes. In fact, the limited 'existence' seen on the island includes firstly, approximately a dozen species of seabirds as the only non-aquatic fauna which use the island as a rookery.¹⁵⁵⁹ In this connection, information provides that seabirds 'depend entirely on marine ecosystems to obtain their food'.¹⁵⁶⁰ Secondly, information provides that the island is 'largely barren with no forests and only four species of terrestrial plants... which include *Asplenium obtusatum* ("spleenwort"), a type of fern which only grows in protected areas at higher elevations.'¹⁵⁶¹

In this respect, with only this non-aquatic fauna (seabirds) found on the island and of which depends entirely on the marine ecosystem for food, and with these very limited plants in existence, chances are that any such natural resources beneficial for humans are most unlikely to be found on the island. This fact could be amongst the reasons why there is no information available to show that there exist any such natural resources beneficial to humans.

However, it may be observed that Sala y Gomez is in fact the summit of a large volcanic seamount that measures up to 30 to 50 km southwest and southeast below the surface of the ocean with only a tiny total area above sea level measuring approximately 0.3 km².¹⁵⁶² It is this tiny area that is above sea level that makes Sala y Gomez an island. This exposed area are of rocks which comprise "*mugearite flows separated by a layer of calcareous marine sediment ... [On this note,] [c]hemical analyses of lavas... identify them as alkali basalt and mugearites.*"¹⁵⁶³

¹⁵⁵⁹ Wikipedia, *supra* n 1543; see also Flores *et al*, *supra* n 1531, p. 754.

¹⁵⁶⁰ Flores *et al*, *supra* n 1531, p. 754.

¹⁵⁶¹ Wikipedia, *supra* n 1543.

¹⁵⁶² Gunter Faure, *Origin of Igneous Rocks: The Isotopic Evidence* (Berlin, Heidelberg : Springer Berlin Heidelberg, 2001), p. 64.

¹⁵⁶³ *Ibid.*

In this regard, mugearite has been defined as “*an igneous rock containing oligoclase, olivine, orthoclase, and apatite.*”¹⁵⁶⁴ It is ‘a volcanic rock distinguishable from the surrounding more altered basalt by its grayish tone due to a more differentiated stage inside the magma chamber, becoming enriched in silica and alkalis such as Na and K.’¹⁵⁶⁵ It is “*a type of oligoclase-bearing basalt, comprising olivine, apatite, and opaque oxides [and] [t]he main feldspar in mugearite is oligoclase.*”¹⁵⁶⁶ The rocks ‘*are naturally occurring solids which are composed of minerals ...[and] have been used by humans since ages.... Some of the [p]roperties of Mugearite are hardness, structure, streak, fracture etc. Mugearite is significant as it is composed of minerals and has variety of uses in our day to day life...*’.¹⁵⁶⁷

The point to note is that, given such information, scientific experts may be required to verify on the realistic usability of such mugearites for the benefit of humans. Consideration must also be had on the volume of mugearites on the island to identify the possible length of time leading to continuity towards permanency of its use for the benefit of humans for purposes of testing this information under **Stage 3** of **STEP 2B**. On this note, it is difficult to verify at this juncture as to the usability of such ‘natural resources’ without the aid of scientific experts.

Nevertheless, if in the event that such natural resources are found to be much lacking in its usefulness for the benefit of humans, and in the event that there are no other natural resources of benefit found on the island, the whole test for the economic life criterion fails under the entire **STEP 2B** of the Framework. Indeed, without any usable natural resources beneficial to humans, it is impossible to proceed to answer further questions under this **STEP 2B** as listed in the Framework (i.e. **Stage 2**, **Stage 3** and **Stage 4**).

¹⁵⁶⁴ Collins Dictionary, <<https://www.collinsdictionary.com/dictionary/english/mugearite>> [accessed 14 November 2017].

¹⁵⁶⁵ see <https://www.geocaching.com/geocache/GC1YZN6_pico-ana-ferreira?guid=3657695f-9212-4971-9e4a-d044695308ec> [accessed 14 November 2017].

¹⁵⁶⁶ See <<http://www.worldofstones.com/blog/mugearite-rock/>> [accessed 14 November 2017].

¹⁵⁶⁷ *Ibid.*

On the other hand, if such natural resources are verified by scientific experts to be useful and beneficial to humans, the next step will be to proceed to **Stage 2 of STEP 2B** which is to identify whether such resources are or will be utilized for economic purposes and not left dormant. At this juncture, if it can be proven that such natural resources are or will be utilized for economic purposes, **Stage 3** must consequently come in to play. In this regard, it must be proven that such resources have continuity with the view towards permanency as required also by **Principle 3**. Subsequently, the final stage i.e. Stage 4 would also have to be satisfied. In this regard and in tandem with **Principle 4**, such economic activity utilizing such resources must be independent from outside assistance except for a certain level of human involvement that includes very minimal external resources that are solely combined with the original natural resources of the island in order to ensure the materialization of the economic life element.

Surrounding waters

Nevertheless, information concerning the surrounding waters unsurprisingly shows the existence of marine life. This includes 26 fish species and 14 invertebrates in Sala y Gomez's EEZ from the first deep sea surveys.¹⁵⁶⁸ Other records show that 43 fish species were found near Salas y Gómez itself.¹⁵⁶⁹ It was also found that '73 percent of the individual fish around Sala y Gómez are endemic, and 44 percent of the seabed contains live corals that serve as habitat for several species of fish and invertebrates' whilst 'large predators such as sharks, horse mackerel, and amberjacks' make up 43 percent of the island's reef fish.¹⁵⁷⁰ Sala y Gomez (together with Easter Island) also represents the south-easternmost coral reefs and coral reef organisms distribution in the Pacific.¹⁵⁷¹ The benthic community seems to be structured mainly by the wave

¹⁵⁶⁸ Friedlander *et al*, *supra* n 1529, p. 527-528 – This information was obtained by researchers via 'drop camera' method.

¹⁵⁶⁹ *Ibid.*, p. 521.

¹⁵⁷⁰ National Geographic, *supra* n 1530.

¹⁵⁷¹ Friedlander *et al*, *supra* n 1529, p. 525-526.

environment and depth at Sala y Gomez and depending on the degree of exposure of the site, which will show the dominance of one or the other coral genera.¹⁵⁷² There exists twenty algal species, as well as the *Panulirus pascuensis* lobster mostly between 20 and 35m, showing lack of shallow water caused by the island's high wave energy environment.¹⁵⁷³

There is also the suggestion that seamounts in the area shelter a rich benthic community and diverse fauna.¹⁵⁷⁴ Information includes that '*[a]t 10 m, the benthic community was dominated by crustose coralline algae, ...followed by Pocillopora spp..., and Porites lobata... At 20m, Porites lobata accounted for 32.6% of the benthic cover, followed by crustose coralline algae., and Pocillopora spp...'*'.¹⁵⁷⁵ Regardless, information provides that seamounts are extremely fragile ecosystems and frequently will not recover from intensive fishing pressure.¹⁵⁷⁶ In addition, the marine population at the seamounts between Salas y Gómez and Easter Island Sala y Gomez are limited and frequently not replenished, hence the need for marine protection.¹⁵⁷⁷

The point to note however, is that these marine life or population should not be considered as natural resources if it is within the EEZ area surrounding Sala y Gomez as claimed by the Chilean Government. Only those within the territorial sea will be considered and even so, this is subject to the island itself first proving the existence of natural resources within its land mass, as

¹⁵⁷² *Ibid.*

¹⁵⁷³ *Ibid.*

¹⁵⁷⁴ *Ibid.*, p. 527-528; see <https://en.wikipedia.org/wiki/Seamount#cite_note-IHO_2008-1> [accessed 14 November 2017] (also referring to IHO, 2008. Standardization of Undersea Feature Names: Guidelines Proposal form Terminology, 4th ed. International Hydrographic Organisation and Intergovernmental Oceanographic Commission, Monaco). i.e. "A **seamount** is a mountain rising from the ocean seafloor that does not reach to the water's surface (sea level), and thus is not an island, islet or cliff-rock. Seamounts are typically formed from extinct volcanoes that rise abruptly and are usually found rising from the seafloor to 1,000–4,000 m (3,300–13,100 ft) in height. They are defined by oceanographers as independent features that rise to at least 1,000 m (3,281 ft) above the seafloor, characteristically of conical form."; see also <http://www.gebco.net/data_and_products/undersea_feature_names/documents/b6_ej_ed4.pdf> [accessed 14 November 2017] i.e. on seamounts; see definition of "benthic" at <<https://www.merriam-webster.com/dictionary/benthic>> [accessed 14 November 2017]:

"1:of, relating to, or occurring at the bottom of a body of water

2:of, relating to, or occurring in the depths of the ocean."

¹⁵⁷⁵ *Ibid.*, pp. 520-521.

¹⁵⁷⁶ *Ibid.*, p. 527-528.

¹⁵⁷⁷ *Ibid.*, p. 528.

required by the criteria of this test under the Framework. As such, subject to scientific experts proving the existence of natural resources within the island itself, information may also be required as to whether the territorial sea of the island also has natural resources that is usable to humans leading to economic life activities. In addition, given the fact that this area requires marine protection raises the question as to whether indeed the natural resources therein can prove the possible existence of an economic life, particularly in relation to the sufficiency and continuity of such resources including minimal external aid as required by **Stage 3** and **Stage 4** of this **STEP 2B** respectively.

Current activities

It may also be prudent to observe if there are any ongoing activities carried out by humans that could perhaps show that there exists some economic life within the scope of this **STEP 2B** test. In this regard, it is observed that there are indeed reported activities surrounding Sala y Gomez. Nevertheless, such activities are found to be clearly limited to the surrounding waters of Sala y Gomez, with no clear evidence or information of any such activities on the island itself. These activities include the creation of a 150,000km² ‘no-take area’ announced in October 2010 by the Chilean Government, namely a Marine Protected Area (Motu Motiro Hiva Marine) which in fact had expanded *“Chile’s total marine protected area more than 100 times, from the previous 0.03% to 4.14% of the country’s ...EEZ, and is the largest no-take marine reserve in South America.”*¹⁵⁷⁸ Activities also include the survey of the area in the following year by the National Geographic, Oceana and the Chilean Navy, including involving a team of 18 scientists and filmmakers who *“spent six days diving beneath the swells and studying their surroundings.”*¹⁵⁷⁹ Information

¹⁵⁷⁸ *Ibid.*, p. 516; see also National Geographic, *supra* n 1530; see also Definition of “no-take zone” by the National Geographic:

“No-take zones are marine protected areas that do not allow any fishing, mining, drilling, or other extractive activities. As a result, fish in no-take zones can age and grow to large, healthy sizes. Potato cod in a no-take zone of Australia’s Great Barrier Reef Marine Park can weigh up to 30 kilograms (66 pounds).” – see <<https://www.nationalgeographic.org/encyclopedia/no-take-zone/>> [accessed 15 November 2017].

¹⁵⁷⁹ National Geographic, *supra* n 1530.

also provides that “[o]nly 10 biological oceanographic expeditions have entered this [EEZ] zone in 105 years (1905-2010)” with “[p]lankton production... limited by lack of dissolved inorganic fixed nitrogen, not phosphorous.”¹⁵⁸⁰ Illegal fishing activities were however observed despite the water’s protected status.¹⁵⁸¹

Despite these activities, a number of points need to be highlighted. Firstly, the activities involved are merely in the surrounding waters of Sala y Gomez; and even so, it concerns the EEZ of the island instead of its territorial sea which thus would not satisfy the test under this **Stage 1** of **STEP 2B**. Secondly, the activities are of such nature that hardly involves anything related to economic life activities for purposes of Article 121(3) which would have failed **Stage 2** of the **STEP 2B** test even if it reaches this stage in the first place. Thirdly, such activities in fact only shows the need to protect the marine life there, apart from the already discussed fact that the marine population at the seamounts between Sala y Gomez and Eater island is limited and rarely replenished, thus suggesting the current depletion of such life as natural resources, if any.¹⁵⁸² This would mean that the lifespan of such resources could fail to meet the continuity towards permanency test as required by the **Stage 3** of the **STEP 2B** test.

Due to these facts, and subject to the verification of relevant scientific experts, **Stage 4** that requires the economic activity to be independent from outside assistance would indeed be hardly applicable. The fact remains that these are not even activities within the scope of the ‘economic life’ category of Article 121(3) under **STEP 2B**; hence questioning whether such activities have received outside assistance is not even an issue in such scenario.

¹⁵⁸⁰ Von Dassow & Collado-Fabbri, *supra* n 1558, p. 703.

¹⁵⁸¹ National Geographic, *supra* n 1530.

¹⁵⁸² See text at *supra* n 1577.

Preliminary Conclusion for STEP 2B

Based on the above information, there is no clear evidence or information on the existence of natural resources that may be utilized for the benefit of humans that are generated by the island itself. The description elaborated on the lack of fauna with the exception of only seabirds, coupled with the fact that the island is quite barren with plants that are very scarce and limited suggest the high probability that natural resources useful to humans have yet to be proven to exist.

Although there may be marine life in the territorial sea of Sala y Gomez, unfortunately, the test is such that the natural resources must also first exist on the island itself. Reliance on merely the natural resources of the territorial sea would defeat the purpose of Article 121(3) since as elaborated, any maritime feature in the whole world could thus escape Article 121(3) since the highly likely chances are, the sea would always have marine life that may be used for purposes of proving the economic life criterion.

The activities that have been carried out in relation to this island also do not prove that there exist any such natural resources on the island. All such activities as discussed above clearly relate to the surrounding waters of the island and particularly the EEZ claimed by Chile for Sala y Gomez and the Marine Protected Area which goes even far beyond the aforesaid EEZ. It may be reiterated that only such activities that may prove the existence of natural resources to the maximum of the territorial sea are allowed for the consideration of the Article 121(3) test and even so, this is subject to first proving the existence of natural resources from the island itself. Total reliance on the territorial sea is insufficient as explained above.

In view of these lack of natural resources useful to mankind on the island itself, and given the geographical and geological characteristics including the landscape of the island, the chances of proving the existence of such natural resources is highly unlikely.

Nevertheless, in view of the fact that this exercise is largely based only on accessible data, experts and scientists in the relevant fields should be called to verify the aforementioned assumption. Hence, subject to the verification and findings of these experts, it would appear that Sala y Gomez would have failed the **Stage 1** test for **STEP 2B** even at the first instance.

The failure to prove the existence of natural resources even at **Stage 1** clearly shows the failure of the island to prove the ability to have an economic life. Given this fact, it is impossible to proceed to **Stage 2** that requires for the natural resources to be utilized for economic purposes, and that there is economic value in such utilization. It is impossible to proceed to **Stage 2** when there are no natural resources even at the first instance.

Nevertheless as is the case for the human habitation test as discussed in **STEP 2A**, taking into consideration **Principle 3** (also in tandem with the evaluation for **Stage 3** of **STEP 2B** concerning the 'ability' of the island to provide such natural resources, scientific experts in this field may be called to prove such ability to do so, including the sufficiency and continuity of the economic life activity from such resources towards permanency. This would also be subjected to **Principle 4** (also in tandem with the evaluation for **Stage 4** of **STEP 2B** which clearly requires that the island must have a certain degree of independence from external aid. Hence, such ability to produce natural resources in this scenario would mean that outside resources cannot be imported for the purpose of proving the ability to do so. The natural resources would first have to come from Sala y Gomez itself. The only aid allowed from outside would be for instance, limited to man's physical involvement such as for example, utilizing some basic tools or machinery to enable the natural resources to be utilised for economic life to be produced from the island itself. In addition, such natural resources must be shown to be utilised or at least capable of being utilized towards showing some sort of profit and benefit as opposed to their unused and dormant state.

As is also the case for the human habitation test, all **4 Stages** under **STEP 2B** would also have to be satisfied to result in the island escaping Article 121(3) consequences.

Hence, subject to the verification of experts and scientists of the relevant fields, current information only goes to prove that Sala y Gomez has also failed the test concerning the economic life criterion.

CONCLUSION

Having gone through the evaluation steps under the Framework, it is found that Sala y Gomez has failed the tests for both the 'human habitation' and the 'economic life'

criteria. Although **Principle 2** provides that only one criterion needs to be proven, the island has failed to overcome either of the criterion in order to escape Article 121(3).

In conclusion, subject to the verification of experts and scientists in the relevant fields concerning the information obtained and the requirement for further relevant information, the current situation shows that Sala y Gomez is caught by Article 121(3). This island is therefore not entitled to an EEZ or a CS as claimed by the Chilean Government.

(b) Baker Island

Both Baker Island and Howland Island are amongst the US's minor outlying islands in the central Pacific Ocean,¹⁵⁸³ outliers of the Phoenix Islands Group.¹⁵⁸⁴ For the purpose of this exercise, focus will however be upon Baker Island. Baker Island has been described as an atoll which is located in the Pacific Ocean about 3,390 km southwest of Honolulu.¹⁵⁸⁵

Based on available limited information, briefly, **Baker Island** comes under the sovereignty of the US, who had attributed 50 nm from the "mean water lines" to be managed by the Director of the United States Fish and Wildlife Service¹⁵⁸⁶ which the US also claimed a 200 nm EEZ.¹⁵⁸⁷ Baker Island is an uninhabited atoll of 1.24 square km¹⁵⁸⁸ and reported to have no indigenous inhabitants, no natural fresh water and no economic activity.¹⁵⁸⁹

Chapter 5 had also informs of the lack of 'fertile soils and/or other physical necessities' as well as the existence "*scientific, usually meteorologic, administrative or service personnel*" on Howland, Jarvis, and Baker Islands.¹⁵⁹⁰

¹⁵⁸³ CIA, *supra* n 89, <<https://www.cia.gov/library/publications/the-world-factbook/geos/um.html>> [accessed 16 November 2017].

¹⁵⁸⁴ Bruce C. Mundy, Richard Wass, Edward Demartini, Brian Greene, Brian Zgliczynski, Robert E. Schroeder, And Craig Musberger, *Inshore Fishes Of Howland Island, Baker Island, Jarvis Island, Palmyra Atoll, And Kingman Reef*, (December 2010), National Museum of Natural History, Smithsonian Institution, Washington DC, USA), Atoll Research Bulletin, No. 585, p.1.

¹⁵⁸⁵ CIA, *supra* n 1583; see also definitions for atolls and reefs at texts *supra* nn 18-26.

¹⁵⁸⁶ See texts at *supra* nn 112-113; see also Mundy *et al*, *supra* n 1584, p.2.

¹⁵⁸⁷ See texts at *supra* nn 118 and 464.

¹⁵⁸⁸ See text at *supra* n 115.

¹⁵⁸⁹ See texts at *supra* n 116 - 117.

¹⁵⁹⁰ See text at *supra* n 636.

In addition, available information shows it to have its highest point at only 8 metres, a total length of its coastline at 4.8 km, an area about the size of 2.5 times the size of the national mall in Washington DC, and with an emergent area of land of 2.1 sq km whilst its total submerged area at 127 sq km.¹⁵⁹¹ It has an equatorial climate with scant rainfall, constant wind and burning sun; and no natural freshwater resources, and poses a maritime hazard due to its narrow fringing reef surrounding it.¹⁵⁹²

Further details concerning Baker Island will be seen highlighted when addressing the relevant questions arising from the key principles and evaluation steps of the proposed framework as elaborated below.

STEP 1

Determine whether Baker Island is an island or a low tide elevation (LTE).

Available information shows Baker Island to be an island under Article 121(1) and not an LTE under Article 13 of UNCLOS.

Firstly, it is naturally formed and not man-made, being described as part of a terrain which is of “low and nearly flat sandy coral islands with narrow fringing reefs that have developed at the top of submerged volcanic mountains, which in most cases rise steeply from the ocean floor.”¹⁵⁹³ Secondly, it is clearly surrounded by water and above water at high tide with information showing it to be above sea level although its maximum height is merely 5 to 8 metres high.¹⁵⁹⁴

Preliminary Conclusion

These aforementioned criteria thus satisfy Baker Island to be an island under Article 121(1) and not an LTE and hence, the next consideration would be **STEP 2** below.

¹⁵⁹¹ CIA, *supra* n 1583; see also Mundy *et al*, *supra* n 1584, p. 3 - Baker Island has however been described in hectares i.e. having an emergent area of 163.9 hectares.

¹⁵⁹² CIA, *supra* n 1583.

¹⁵⁹³ *Ibid.*

¹⁵⁹⁴ Mundy *et al*, *supra* n 1584, p.2.

STEP 2

Whether Baker Island is also an island under Article 121(3).

To identify this, the island's characteristics would first have to be determined. These characteristics are:

- A. whether Baker Island can sustain human habitation of its own; and
- B. whether Baker Island can sustain economic life of its own.

To determine whether an island is also an Article 121(3) island, it is necessary to determine whether the island satisfies **STEP 2A** or **STEP 2B**. Either of the steps may be proven. **STEP 2A** does not prevail over **STEP 2B** and vice-versa. If one step or more is proven, the island will not be an Article 121(3) island.

Hence, first addressing **STEP 2A** as below:

STEP 2A

To determine whether **Baker Island** can sustain human habitation of its own, it has to be decided whether –

- (i) it is fit for human survival;
- (ii) such human survival has continuity with the view towards permanency; and
- (iii) such human survival is independent from outside assistance.

At the outset, it is observed that Baker Island is an atoll, consisting of coral reefs and is low sand.¹⁵⁹⁵ It is also a minor outlying island in the central Pacific Ocean about 3,390 km southwest of Honolulu.¹⁵⁹⁶ It has also reported to be only 1.24 square km in area,

¹⁵⁹⁵ Roy T. Tsuda, Peter S. Vroom, Isabella A. Abbott, Jack R. Fisher, and Kevin B. Foster, *Additional Marine Benthic Algae from Howland and Baker Islands, Central Pacific* (Pacific Science, Apr 2008) Vol. 62, Issue 2, pp. 271- 290, at p. 271.

¹⁵⁹⁶ See texts at *supra* nn 1583- 1585.

uninhabited with no indigenous inhabitants, no natural fresh water and no economic activity.¹⁵⁹⁷

Stage 1

To determine item (i), all the basic needs for human survival would have to be in existence on the island, or the island must at least have the ability to ensure such natural existence. These basic needs are (a) water; (b) food; and (c) shelter. The characteristics that make up these elements must be satisfied as follows:

(a) Water

Water must be natural fresh water.

➤ Observation/Information:

Information provides that Baker Island has no natural fresh water resources¹⁵⁹⁸ and despite its equatorial climate, it has scant rainfall.¹⁵⁹⁹

Nevertheless, to ensure that this is indeed the case, evidence from scientific experts may be required to prove otherwise, or whether there is such possibility of Baker island's 'ability' to do so. On this note, it may further be observed as below.

Water must be sufficient and easy to extract from the island itself. E.g. rain, river, ponds, lakes and ground water.

➤ Observation/Information:

There is constant wind and burning sun.¹⁶⁰⁰ It is a terrain which is of "low and nearly flat sandy coral islands with narrow fringing reefs that have developed at the top of submerged volcanic mountains, which in most cases rise steeply from the ocean floor."¹⁶⁰¹ Apart from this information, there is yet any that

¹⁵⁹⁷ See texts at *supra* nn 1588 - 1590.

¹⁵⁹⁸ See texts at *supra* n 116 - 117; see also CIA, *supra* n 1583.

¹⁵⁹⁹ CIA, *supra* n 1583.

¹⁶⁰⁰ *Ibid.*

¹⁶⁰¹ See text at *supra* n 1593.

shows that Baker Island has any river, lakes, ponds or any sort of catchment area of water that may show that natural water does or can exist.

In addition, available information shows it to have its highest point at only 8 metres, a total length of its coastline at 4.8 km, an area about the size of 2.5 times the size of the national mall in Washington DC, and with an emergent area of land of 2.1 sq km whilst its total submerged area at 127 sq km.¹⁶⁰² It also poses a maritime hazard due to its narrow fringing reef surrounding it.¹⁶⁰³

Based on this information, it is uncertain whether indeed Baker Island can produce any such natural fresh water required for human survival including its sufficiency and continuity towards permanency. With an obvious landscape that shows no evidence of any catchment of water on quite a small surface area above sea level, and a climate that informs of the burning sun with constant wind, it is doubtful whether any source of fresh water could be expected to be found.

In short, subject to the verification of scientific experts on the possibility of the existence of natural fresh water, Baker Island may be considered as an island that does not have and is not able to produce natural fresh water.

Sea water or desalinated water is not allowed.

➤ **Observation/Information:**

According to the test under this framework, such water does not fall under the category of allowable water for Article 121(3) purposes. Hence, the sea water surrounding Baker Island cannot be taken into consideration.

Preliminary Conclusion

Indeed if based on these observations, there appears to be no natural fresh water. There is no pond, lake, river or similar natural catchments of water existing on the island.

¹⁶⁰² CIA, *supra* n 1583; see also Mundy *et al*, *supra* n 1584, p. 3. Baker Island has however been described in hectares i.e. having an emergent area of 163.9 hectares.

¹⁶⁰³ CIA, *supra* n 1583.

It is also unlikely that Baker Island can produce any such natural fresh water required for human survival including its sufficiency and continuity towards permanency in accordance with **Principle 3**.¹⁶⁰⁴ With an obvious landscape that shows no evidence of any catchment of water on quite a small surface area above sea level,¹⁶⁰⁵ and a climate that informs of the burning sun with constant wind, it is doubtful whether any source of fresh water could be expected to be found.

This would also be subjected to **Principle 4**¹⁶⁰⁶ which clearly requires that the island must have a certain degree of independence from external aid. Hence, such ability to produce natural fresh water in this scenario would mean that such natural fresh water cannot be imported from 'outside' for the purpose of proving such ability to do so. Natural fresh water would have to come from Baker Island itself. External aid such as man's physical involvement only may be allowed. This includes utilizing some basic tools or machinery to enable fresh water to be produced from the island itself, such as digging wells for the production of ground water. This must however be reasonably easy to extract.

Therefore, Baker Island must fail the **Stage 1 -water test** which means it will fail the **STEP 2A** test entirely. This is due to the need to show that all the human basic needs on the island can exist, including all the stages therein, and hence failure to prove even one basic need under Stage 1 would mean failing the entire **Step 2A** test, and thus unnecessary to proceed to the *food* and *shelter* tests under **Stage 1**.

On a side note, information also shows that Baker Island poses as a maritime hazard due to its narrow fringing reef surrounding it.¹⁶⁰⁷ This information and the fact that the island is located a good 3,390 km southwest of Honolulu¹⁶⁰⁸ raise the question of whether indeed humans can live on such feature on a permanent basis. This information will however be relevant to the *food* and *shelter* test. In addition, Baker Island also has reduced rainfall, and guano.¹⁶⁰⁹ It may however be noted that Baker Island has sea surface temperatures of more than 27°C, and not much seasonal variability in

¹⁶⁰⁴ Also Stage 2 of STEP 2A this Framework, and STEP 3 in the Flowchart in Figure 1.

¹⁶⁰⁵ See texts at *supra* nn 1600 to 1602.

¹⁶⁰⁶ i.e. also in line with the evaluation for Stage 3 of STEP 2A of this Framework, and STEP 2B of the Flowchart in Figure 1.

¹⁶⁰⁷ CIA, *supra* n 1583.

¹⁶⁰⁸ See text at *supra* n 1585.

¹⁶⁰⁹ Mundy *et al*, *supra* n 1584, pp. 92-93.

'thermocline depth and current velocities'¹⁶¹⁰ thus arguably appears quite stable in its weather temperature resulting in possibly a livable place for humans if only it could past the water test and proceed to be tested under the *shelter* test. In relation to oceanography, Baker Island also experiences lesser effects from equatorial upwelling including lesser tropical instability waves compared to the maritime features to its east such as Jarvis, Palmyra, and Kingman.¹⁶¹¹

Furthermore, the island climate is such that easterly winds dominate the weather, with the swells normally from the east and northeast and hence resulting in making the western slopes the most protected areas.¹⁶¹² Nevertheless "*the abrupt shoaling of the bottom at these islands causes large surf to result at the shelf breaks, making small boat operations hazardous.*"¹⁶¹³ Such information may be relevant if the test had indeed proceeded to the *shelter* test for human habitation under STEP 2A, particularly the point where the landscape and island environment would be sufficiently safe for the building of shelter with continuity towards permanency.

Nevertheless, since it has been proven that Baker Island has failed the *water* test, it is unnecessary to proceed to the *food* and *shelter* tests for reasons already mentioned above.

Hence, subject to scientific expert evidence that provides otherwise, it may be summarized from the current available facts, that Baker Island has failed to show that it is fit for human survival. Thus, it may be concluded that Baker Island has failed to prove its ability to sustain human habitation even at the first instance.

Due to this fact, and taking into consideration **Principle 2** that provides that only one criterion needs to be proven, it is therefore necessary to proceed directly to **STEP 2B**.

¹⁶¹⁰ *Ibid.*, p. 96.

¹⁶¹¹ *Ibid.*, p. 97.

¹⁶¹² *Ibid.*, p. 6.

¹⁶¹³ *Ibid.*

STEP 2B

To determine whether an island can sustain an economic life of its own, it has to be decided whether-

- (i) The island has natural resources that are useful and beneficial for humans;
- (ii) Such resources are being utilized for economic purposes and not remaining dormant;
- (iii) The activities involving the utilization of such resources for economic purposes have continuity with the view towards permanency;
- (iv) The economic activity is independent from outside assistance.

Stage 1

For item (i) there must exist natural resources on the island to the maximum extent of its territorial sea that are useful and beneficial for humans. This can be any resources.

➤ *Observation/Information:*

The island

Where it concerns the island itself, current information provides that there is terrestrial wildlife as natural resources at Baker Island.¹⁶¹⁴ However, upon further observation, these are “*scattered vegetation consisting of grasses, prostrate vines, and low growing shrubs; primarily a nesting, roosting, and foraging habitat for seabirds, [and] shorebirds*”.¹⁶¹⁵

In fact, there is no agricultural land, absolutely no arable land, no permanent crops and no permanent pasture.¹⁶¹⁶ There is also no forest at all.¹⁶¹⁷ **Chapter 5** also informs of the lack of ‘fertile soils and/or other physical necessities’¹⁶¹⁸

There is however “*one abandoned World War II runway of 1,665 m covered with vegetation and unusable*”.¹⁶¹⁹ In addition, there are no ports or terminals, and merely an offshore anchorage.¹⁶²⁰

¹⁶¹⁴ CIA, *supra* n 1583.

¹⁶¹⁵ *Ibid.*

¹⁶¹⁶ *Ibid.*

¹⁶¹⁷ *Ibid.*

¹⁶¹⁸ See text at *supra* n 636.

Baker Island is of coral reef and low sand make-up.¹⁶²¹ The closest island is Howland Island which is approximately 60 km away, whilst the next closest to it is Canton Island about 400 km.¹⁶²² The seafloor upon which Baker resides formed during the early to mid-Cretaceous period, between 130 and 123.8 ma.¹⁶²³ Baker Island itself is thought to have formed between 72 and 70 ma, making the, among the oldest in the Pacific.¹⁶²⁴ The island is 'part of the Tokelau submarine ridge that extends from Swains Island and the Tokelaus northward, but west of the main Phoenix Islands.'¹⁶²⁵

Despite the above, it may be observed that there were once guano deposits on the island that were mined during the second half of the 19th Century by the US and British companies.¹⁶²⁶ It is however unclear whether there are still guano deposits to be mined from the island. Thus, relevant scientific experts may be called to verify this.

Surrounding waters

Nevertheless, information concerning the surrounding waters provides that there is also aquatic wildlife as natural resources at Baker Island.¹⁶²⁷ However, this marine wildlife is closed to the public.¹⁶²⁸ Briefly, Howland Island and Baker Island's marine flora include 104 species of marine benthic algae, with *Udotea palmetta* Decaisne on Baker Island as the first record for this green algal genus in the central Pacific region.¹⁶²⁹ In addition, a few reef fishes found in isolated Baker Island, Howland Island, Jarvis, Palmyra and Kingman Reef are found nowhere else in the US.¹⁶³⁰ Apparently, the earliest fish collection according to records found,

¹⁶¹⁹ CIA, *supra* n 1583.

¹⁶²⁰ *Ibid.*

¹⁶²¹ Tsuda *et al*, *supra* n 1595, p. 271.

¹⁶²² *Ibid.*

¹⁶²³ Mundy *et al*, *supra* n 1584, p. 83; ma = Million years ago.

¹⁶²⁴ *Ibid.*, pp. 83-84.

¹⁶²⁵ *Ibid.*, p. 84.

¹⁶²⁶ CIA, *supra* n 1583.

¹⁶²⁷ *Ibid.*

¹⁶²⁸ *Ibid.*

¹⁶²⁹ Tsuda *et al*, *supra* n 1595, p. 271.

¹⁶³⁰ Mundy *et al*, *supra* n 1584, pp. 1-2.

was in 1864 by Captain Joseph Hammond.¹⁶³¹ “A total of 506 shore-fish species and 27 epipelagic species are recorded from the U.S. equatorial Pacific islands in this survey. ... Baker Island - 268 species with 188 (70.1%) as new CRED records.”¹⁶³²

More importantly, it was predicted according to island biogeography theory that, some fish species there are transitory possibly due to colonization and local extinction occurrences, with the possibility of even more frequent changes arising from the increasing global climate change and decadal regime shifts; hence causing the likelihood of the population of the least abundant inshore-fish species to be unstable in the near future.¹⁶³³ These influences on fish species may also be caused by the differences in freshwater input on the island, namely the rainfall that characterizes its climate, with Baker Island receiving rainfall at an average of 750 mm/yr, including the fact that its coral rock warming would create thermal convection that frequently result in rain squalls making it having “*even less rainfall than the surrounding ocean.*”¹⁶³⁴

Information provides that sea level changes had characterized the late Pleistocene and Holocene periods during glacial and interglacial periods, in which as sea levels continued to drop, lagoons had filled islands such as Baker Island.¹⁶³⁵ “The positions of islands with respect to the surface geostrophic currents, zonal in the equatorial region, are usually suggested as the major influence on the biogeography of the islands via the transport of larvae and pelagic juveniles from islands upstream (e.g., Randall et al., 2003; Maragos et al., 2008).”¹⁶³⁶ In addition, there exist weak meanders or cyclonic eddies in the vicinity of Baker Island, which can influence meridional water transport which affects the distributions of larvae.¹⁶³⁷

¹⁶³¹ *Ibid.*, pp. 2-3.

¹⁶³² *Ibid.*, p. 50.

¹⁶³³ *Ibid.*, p. 51.

¹⁶³⁴ *Ibid.*, p. 79.

¹⁶³⁵ *Ibid.*, pp. 92-93.

¹⁶³⁶ *Ibid.*, p. 97.

¹⁶³⁷ *Ibid.*, p. 100.

Current activities

In addition to the above, information also provides that there is no economic activity at Baker Island.¹⁶³⁸ The only activities appear to be that of “*scientific, usually meteorologic, administrative or service personnel*” on Howland, Jarvis, and Baker Islands.¹⁶³⁹ In 1974, Baker Island was established as a Pacific Remote Islands National Wildlife Refuge, and its endemic species which are being sustained include “*corals, fish, shellfish, marine mammals, seabirds, water birds, land birds, insects, and vegetation not found elsewhere* are sustained.”¹⁶⁴⁰ Clearly, Baker Island has been intended by the US to be managed by ‘the Fish and Wildlife Service of the US Department of the Interior as part of the National Wildlife Refuge System’.¹⁶⁴¹

Preliminary Conclusion

A look at the terrestrial natural resources of Baker Island only draws the conclusion that such natural resources could hardly be of economic value that could be used for economic life purposes under Article 121(3). Indeed the existing vegetation which are scattered and consists of merely grasses, prostrate vines and low shrubs¹⁶⁴² raises the question as to whether any economic life can arise out of such vegetation. In addition, the animal life is such that is limited to seabirds and shorebirds¹⁶⁴³ that arguably, could hardly be used for economic purpose. It is noted that guano did once exist¹⁶⁴⁴ and thus could perhaps be argued to be of economic value. Nevertheless, information shows that this is in the past and that mining had already been carried out during the second half of the 19th Century¹⁶⁴⁵ and hence the fact that there is no guano left to be mined. Given the fact that there is indeed nothing on the island that perhaps could be utilized for economic purposes of Article 121(3), it is in fact unnecessary to see the surrounding waters of Baker Island. The fact remains that Baker Island must first show that it has natural resources of

¹⁶³⁸ CIA, *supra* n 1583.

¹⁶³⁹ See text at *supra* n 636.

¹⁶⁴⁰ CIA, *supra* n 1583.

¹⁶⁴¹ *Ibid.*

¹⁶⁴² See text at *supra* n 1615.

¹⁶⁴³ *Ibid.*

¹⁶⁴⁴ See text at *supra* n 1626.

¹⁶⁴⁵ *Ibid.*

economic value before it could argue that any such natural resources in its surrounding territorial sea further supports its ability to have an economic life.

Nevertheless, for purposes of satisfying further the finding that Baker Island does not have natural resources that shows its ability to have an economic life, a look into the surrounding waters would be interesting. From the aforementioned information, indeed it is of no surprise that there would be marine life in Baker Island's surrounding waters. Nevertheless, there is nothing much that can be derived from the aforesaid that would result in concluding its surrounding waters to be suitable to trigger an "economic life" for purposes of Article 121(3). Instead, the population of certain inshore-fish species is predicted to be unstable due to the increasing global climate change,¹⁶⁴⁶ hence raises the question as to whether the reduction of such could be argued to have continuity towards permanency even if such is utilized for economic purposes.

In addition, the fact that Baker Island has been established as one of the Pacific Remote Islands National Wildlife Refuge¹⁶⁴⁷ only leads to the notion that there is a need to protect such wildlife, which presumably could diminish in population, instead of using such wildlife for economic life purposes under Article 121(3). On this note, current activities show that there is no economic activity, and that other existing activities are merely scientific, usually meteorologic, administrative or service personnel" which could hardly fall under Article 121(3)'s economic life criterion .

In conclusion, subject to the verification of relevant scientific experts on the existence of natural resources that are suitable for economic life under the ambit of Article 121(3), it may be concluded that Baker Island does not have such natural resources.

In this respect, it is impossible to proceed to **Stage 2** of the **STEP 2B** test which requires that the natural resources are utilized for economic purposes when in the first instance, there does not exist any such resources. Likewise, **Stage 3** of this **STEP 2B** which requires for such resources to exist continuously towards permanency is also not impossible to apply due to the same reasons.

¹⁶⁴⁶ See text at *supra* n 1633.

¹⁶⁴⁷ See text at *supra* nn 1640 and 1641.

Stage 4 is again of similar standing in that there is no economic activity existing and hence the impossibility of evaluating Baker Island under this Stage, namely whether there exists external aid that undermines the “of their own” criterion.

Hence, subject to the verification of experts and scientists of the relevant fields, current information only goes to prove that Baker Island has also failed the test concerning the economic life criterion.

CONCLUSION

Having gone through the evaluation steps under the Framework, it is found that Baker Island has failed the tests for both the ‘human habitation’ and the ‘economic life’ criteria. Although **Principle 2** provides that only one criterion needs to be proven, the island has failed to overcome either of the criterion in order to escape Article 121(3).

In conclusion, subject to the verification of experts and scientists in the relevant fields concerning the information obtained and the requirement for further relevant information, the current situation proves that Baker Island is caught by Article 121(3). This island is therefore not entitled to an EEZ or a CS as claimed by the US.

(c) Okinotorishima

At the outset, Japan ratified UNCLOS in 1996 whilst at the same time its Parliament passed the “Law on the Exclusive Economic Zone and the Continental Shelf.”¹⁶⁴⁸

Okinotorishima has been claimed a 200 nm EEZ by Japan.¹⁶⁴⁹ Both China and the Republic of Korea dispute this claim.¹⁶⁵⁰ Okinotorishima has been described as ‘an incredibly barren place, no one ever living there, and no signs of economic life.’¹⁶⁵¹

Further details concerning Okinotorishima will be seen highlighted when addressing the relevant questions arising from the key principles and evaluation steps of the proposed framework as elaborated below.

¹⁶⁴⁸ Song, *supra* n 97, p. 156.

¹⁶⁴⁹ See text at *supra* n 94.

¹⁶⁵⁰ See texts at *supra* nn 95 and 96.

¹⁶⁵¹ See texts at *supra* nn 97, 98 and 99.

STEP 1**Whether Okinotorishima is an island or a low tide elevation (LTE).**

Based on available information, the shape of Okinotorishima is elliptically slender measuring approximately 4.5 km from east to west and 1.7 km from north to south, with an 11 km circumference.¹⁶⁵² It is located 1,700 km south of Tokyo in the Philippine Sea in the Western Pacific, and is Japan's most southerly tropical territory.¹⁶⁵³ It has been described as an atoll,¹⁶⁵⁴ an "almost table reef" having a flat table reef in the center.¹⁶⁵⁵ Okinotorishima has water around it that is of a depth of about three to five meters.¹⁶⁵⁶ The elliptical sea surrounding Okinotorishima in the 1930s allowed a vision of six rock reefs, with only five left by 1952 due to the rising tide.¹⁶⁵⁷

Currently, the area has three individual tiny islets, but only two are original although still considered quite artificial with very little trace of the natural rocks above water at high tide.¹⁶⁵⁸ These two are the Northern and Eastern Islets in Okinotorishima's lagoon.¹⁶⁵⁹ They appear barren, no terrestrial vegetation with artificial dry land areas.¹⁶⁶⁰ They have been encased with concrete, each now having a diameter of 60 meters with a total area of approximately 2,827 m² per islet¹⁶⁶¹ to prevent them from being completely submerged.¹⁶⁶²

Information also provides that over the last 125,000 years, Okinotorishima has sunk 13 meters, and continues to sink at an average of 1 cm per year.¹⁶⁶³ In 1988, the Japan Marine Science and Technology Center built a platform on stilts in the shallow part of the lagoon, the platform of which has a helicopter landing pad and a large three-story

¹⁶⁵² Song, *supra* n 97, p. 148.

¹⁶⁵³ *Ibid.*; Song, *supra* n 70, p. 664; see also Wikipedia at <<https://en.wikipedia.org/wiki/Okinotorishima>> [accessed 4 December 2017].

¹⁶⁵⁴ Wikipedia *supra* n 1653.

¹⁶⁵⁵ Song, *supra* n 97, p. 148.

¹⁶⁵⁶ *Ibid.*

¹⁶⁵⁷ *Ibid.*

¹⁶⁵⁸ Wikipedia *supra* n 1653.

¹⁶⁵⁹ Song, *supra* n 70, pp. 668, 692.

¹⁶⁶⁰ Wikipedia *supra* n 1653; Song, *supra* n 70, p. 696.

¹⁶⁶¹ Wikipedia *supra* n 1653; Song, *supra* n 70, p. 668.

¹⁶⁶² Song, *supra* n 70, p. 693; Song, *supra* n 97, p. 145.

¹⁶⁶³ Song, *supra* n 97, p. 149.

building with a marine investigation facility and a meteorological station¹⁶⁶⁴ although above water at high tide.¹⁶⁶⁵

At high tide, one area of the reef measures up to 1.58 square meters, roughly the size of a twin bed, jutting out at merely 7.4 cm above the ocean.¹⁶⁶⁶ Another area shows 7.86 square metres, the size of a small bedroom, arising only at 16 cm above high tide.¹⁶⁶⁷ The entire reef is about 7.8 square kilometers with most of it being submerged even at low tide.¹⁶⁶⁸

The islets are geologically “a coral atoll, built on the Kyushu-Palau Ridge, the westernmost part of the Izu-Bonin-Mariana Arc System”. The name “Parece Vela” is the original name of the Okinotorishima maritime feature, which name was also given to the back-arc basin formed by seafloor spreading between the late Oligocene and Miocene.¹⁶⁶⁹ This Parece Vela Basin ‘contains the longest megamullion in the world.’¹⁶⁷⁰

Clearly, despite the artificiality added to Okinotorishima, there is still part of the original rock of Okinotorishima that is above high tide although extremely minimal.¹⁶⁷¹ In addition, information shows that this part of the rock is natural, namely a reef forming an atoll.¹⁶⁷²

Hence, ignoring the added artificiality, its original part is still naturally formed, and this original part still protrudes above water at high tide as aforementioned, albeit extremely minimal. In view of these facts, namely that the original part of Okinotorishima is

¹⁶⁶⁴ Wikipedia *supra* n 1653; see also Song, *supra* n 97, p. 149- 150 - The construction began in 1987 to counter this phenomenon; Song, *supra* n 70, p. 693.

¹⁶⁶⁵ Song, *supra* n 70, p. 693.

¹⁶⁶⁶ Wikipedia *supra* n 1653.

¹⁶⁶⁷ *Ibid.*

¹⁶⁶⁸ Wikipedia, *supra* n 1653.

¹⁶⁶⁹ *Ibid.*; The Oligocene is “a geologic epoch of the Paleogene Period and extends from about 33.9 million to 23 million years before the present.” - see <<https://en.wikipedia.org/wiki/Oligocene>> [accessed 14 November 2017]; The Miocene is “the first geological epoch of the Neogene Period and extends from about 23.03 to 4.333 million years ago (Ma).” – see <<https://en.wikipedia.org/wiki/Miocene>> [accessed 14 November 2017].

¹⁶⁷⁰ Wikipedia, *supra* n 1653; Megamullion is an oceanic core complex which is “a seabed geologic feature that forms a long ridge perpendicular to a mid-ocean ridge. It contains smooth domes that are lined with transverse ridges like a corrugated roof. They can vary in size from 10 to 150 km in length, 5 to 15 km in width, and 500 to 1500 m in height.” – see <https://en.wikipedia.org/wiki/Oceanic_core_complex> [accessed 14 November 2017].

¹⁶⁷¹ See texts at *supra* nn 1666 and 1667.

¹⁶⁷² See texts at *supra* nn1654 and 1655.

naturally formed and surrounded by water at high tide, the maritime feature should come under the category of an island¹⁶⁷³ and not an LTE.¹⁶⁷⁴

Preliminary Conclusion

Okinotorishima thus appears to satisfy the criteria of an island and not an LTE. Hence, the next consideration would be **STEP 2** below.

STEP 2

Whether Okinotorishima is also an island under Article 121(3).

To identify this, the following questions need to be answered:

- A. whether Okinotorishima can sustain human habitation of its own; or
- B. whether Okinotorishima can sustain economic life of its own.

To determine whether an island is also an Article 121(3) island under **STEP 2**, it is necessary to determine whether the island satisfies **STEP 2A** or **STEP 2B**. Either of the steps may be proven in accordance with **Principle 2**. **STEP 2A** does not prevail over **STEP 2B** and vice-versa. If at least one step is proven, the island will not be an Article 121(3) island.

Hence, first addressing **STEP 2A** as below.

STEP 2A

To determine whether **Okinotorishima** can sustain human habitation of its own, it has to be decided whether -

- (i) it is fit for human survival;
- (ii) such human survival has continuity with the view towards permanency; and
- (iii) such human survival is independent from outside assistance.

¹⁶⁷³ Article 121(1) of UNCLOS provides as follows: "An island is a naturally formed area of land, surrounded by water, which is above water at high tide."

¹⁶⁷⁴ Article 13 of UNCLOS.

At the outset, information shows **Okinotorishima** to fall under the category of an island under Article 121 of UNCLOS as discussed in **STEP 1** above. Nevertheless, applying the test in **STEP 2A** in order to determine whether it is also an island caught by Article 121(3), it may be observed as below.

Stage 1

To determine item (i), i.e. it is fit for human survival, all the basic needs for human survival would have to be *in existence* on **Okinotorishima**, or it must at least have the *ability* to ensure the natural existence of all such basic needs. These basic needs are (a) water; (b) food; and (c) shelter. The characteristics that make up these elements must be satisfied as follows:

(a) Water

Water must be natural fresh water.

➤ Observation/Information:

- The aforementioned facts show that Okinotorishima is currently merely of two natural rocks, i.e. the Northern and Eastern Islets in Okinotorishima's lagoon that is above water at high tide. Its land area is artificial, dry and made mostly of concrete encasings.¹⁶⁷⁵ Okinotorishima has also been described to have no fresh water.¹⁶⁷⁶ Basically, there is no evidence of natural fresh water. It is uncertain whether the lagoon itself acts as fresh water for Okinotorishima and there is no where that suggests that this is so. Based on the constraints to access further information and for the purpose of the exercise of this Framework, it will be assumed that the lagoon not potable. However, in an actual test of Okinotorishima, all verified facts need to be obtained from the relevant experts.

¹⁶⁷⁵ See text at *supra* n 1661.

¹⁶⁷⁶ Song, *supra* n 70, p. 693.

Water must be sufficient and easy to extract from the island itself. E.g. rain, river, ponds, lakes and ground water.

➤ Observation/Information:

- Current facts show that **Okinotorishima** has clearly no natural fresh water. With no natural fresh water, the issue of its sufficiency for human survival is irrelevant. Nevertheless, if indeed Okinotorishima is to be given the benefit of the doubt, then relevant experts may be required to verify or prove otherwise such facts.

Sea water or desalinated water is not allowed.

➤ Observation/Information:

- Saltwater would naturally surround Okinotorishima, being located in the Philippine Sea.¹⁶⁷⁷ Unfortunately, according to the test under this framework, such water is not allowed for human survival for Article 121(3) purposes. Such water cannot be taken into consideration due to reasons elaborated in the *Explanation* for this Stage 1(a)-*Water* test.¹⁶⁷⁸

Preliminary Conclusion

Based on the available information, it is obvious that there is hardly freshwater essential for human survival, let alone its sufficiency. There is no pond, lake, river or similar natural catchments of water existing on Okinotorishima. Based on the above, it would appear that Okinotorishima has failed the Stage 1(a)-*Water* test.

Nevertheless, taking into consideration **Principle 3**¹⁶⁷⁹ that allows evidence of the ‘ability’ of the island to provide such natural fresh water, relevant scientific experts may be called to prove such ability to do so, including the sufficiency and continuity of the existence of such water towards permanency for human habitation. This would also be subjected to

¹⁶⁷⁷ See text at *supra* n 1653.

¹⁶⁷⁸ See *Explanation* for STEP 2A, Stage 1(a) in the Framework at Section 42 above.

¹⁶⁷⁹ Also in accordance with the evaluation for Stage 3 of STEP 2A of this Framework, and STEP 3 of the Flowchart in Figure 1.

Principle 4¹⁶⁸⁰ which provides that the island must have a certain degree of independence from external aid. Such ability to produce natural fresh water means that natural fresh water cannot be imported from 'outside' for the purpose of proving such ability to do so. Natural fresh water would have to come from Okinotorishima itself. Outside assistance is only allowed to the extent of man's physical involvement such as for example, employing basic tools or machinery to enable fresh water to be produced from the island itself, such as digging wells for the production of ground water. This must however be reasonably easily extractable. Given the geological evidence from the information obtained, including the fact that Okinotorishima is merely an atoll that has been encased with concrete and the shallow part of its lagoon being built a platform on stilts,¹⁶⁸¹ the high chances are that there are no extractable natural fresh water. In addition, sea water does not fall under the category of allowable water for human survival for Article 121(3) purposes as explained in the Framework.

Therefore, provided that it can be proven scientifically that the island has clear ability to provide natural fresh water that is easily extractable from the feature, including the ability to show sufficiency and continuity towards permanency, it may be concluded that **Okinotorishima** has failed the Stage 1(a)-*Water* test.

Consequentially, since all the criteria for all the identified human basic needs (i.e. water, food and shelter) must be satisfied in order to pass the human habitation test, this would mean that Okinotorishima has failed to prove its ability to sustain human habitation even at the first instance. Without fresh water, an island is not fit for human survival.

Due to this fact, it is unnecessary to address the other basic needs (i.e. food and shelter) in this **Stage 1** of **STEP 2A**, since if one human basic need fails the test, the entire **STEP 2A** test fails. The chapeau to **Stage 1** of **STEP 2A** clearly states the necessity to satisfy all the basic needs and their respective characteristics.

Furthermore, as elaborated in the *Deduction* for the entire **STEP 2A** in the Framework, all 3 Stages of **STEP 2A** would also have to be satisfied to result in the island escaping Article 121(3) consequences.¹⁶⁸²

¹⁶⁸⁰ Also in accordance with the evaluation for Stage 4 of STEP 2A of this Framework, and STEP 4 of the Flowchart in Figure 1.

¹⁶⁸¹ See texts at *supra* nn 1661 and 1664.

¹⁶⁸² See Framework at Section 42 of this thesis.

On a side note, given the information that shows among other things, **Okinotorishima** to be mostly of concrete with an extremely minimal height above water at high tide, incredibly barren, no tillable soil, including the fact that it is sinking at an average of 1 cm a year¹⁶⁸³ and no vegetation¹⁶⁸⁴ raise the question of whether humans can live on such feature. Indeed, Okinotorishima has been reported to be ‘barely visible at high tide.’¹⁶⁸⁵

Nevertheless, the test under Stage 1(a)-*Water* test of **STEP 2A** has already at the first instance proven Okinotorishima to have failed the entire human habitation test. There is no need to elaborate further on the aforementioned information in the preceding paragraph that could have been used for purposes of the Stage 1(b)-*Food* test, and the Stage 1(c)-*Shelter* test. The aforementioned information only supports the finding under the Stage 1(a)-*Water* test that Okinotorishima has failed the entire human habitation test. Hence, subject to scientific expert evidence that proves otherwise, it may be summarized from the current available facts that Okinotorishima has failed to show that it is fit for human survival. Thus, it may be concluded that **Okinotorishima** has failed to prove its ability to sustain human habitation even at the first instance.

Due to this fact, and taking into consideration **Principle 2** that provides that only one criterion needs to be proven i.e. either the “human habitation” criterion or the “economic life” criterion, it is therefore necessary to proceed directly to **STEP 2B**.

STEP 2B

To determine whether an island can sustain an economic life of its own, it has to be decided whether-

- (i) The island has natural resources that are useful and beneficial for humans;
- (ii) Such resources are being utilized for economic purposes and not remaining dormant;
- (iii) The activities involving the utilization of such resources for economic purposes have continuity with the view towards permanency; and

¹⁶⁸³ See texts at *supra* nn 1658 to 1668.

¹⁶⁸⁴ See texts at *supra* n 1660.

¹⁶⁸⁵ The Japan Times News on “Japan steps up rhetoric over Okinotorishima in wake of Hague ruling” dated 15 July 2016, <<https://www.japantimes.co.jp/news/2016/07/15/national/politics-diplomacy/japan-steps-rhetoric-okinotorishima-wake-hague-ruling/#.WjCdy9-Wbct>> [accessed 14 November 2017].

- (iv) The economic activity is independent from outside assistance.

Stage 1

For item (i) there must exist natural resources on the island itself to the maximum extent of its territorial sea that are useful and beneficial for humans. This can be any resources.

➤ Observation/Information:

At the outset, it may be reiterated that the analysis concerning Okinotorishima is based on obtainable information. Hence the observations hereunder are again subject to verification which may include evidence from scientific experts from the relevant fields, when the actual test is being carried out for Okinotorishima.

Despite the constraints in obtaining full and accurate information, in order to arrive to some conclusions for the purpose of testing the steps in this Framework, some observations may be made from such available information.

The island

Where it concerns the island itself, current information shows hardly any natural resources from Okinotorishima itself, particularly with regard to those that may be utilized for economic purposes. Indeed, as elaborated before this, Okinotorishima is made of only two natural rocks that appear above water at such extremely minimal height and area, with a lagoon in it.¹⁶⁸⁶ In addition, it is partially artificial being strengthened by concrete and encased by titanium, clearly suggesting the absence of natural resources for economic life purposes from the limited “natural” available area which are merely the aforementioned two rocks.

Despite this information, scientific experts may be called to verify whether indeed there are any such natural resources that can benefit humans within the definition of ‘economic life’ under Article 121(3) as earlier established. In addition, if such natural resources are even identified by these experts, the latter must verify on the realistic usability of the

¹⁶⁸⁶ See texts at *supra* nn 1658 to 1662.

former, for the benefit of humans. The volume of such natural resources must also be taken into account to estimate the possible length of time leading to continuity towards permanency of its use for the benefit of humans for purposes of testing this information under **Stage 3** of **STEP 2B**.

If such natural resources even if identified, are found to be barely useful for humans, the whole test for the economic life criterion fails under the entire **STEP 2B** of the Framework. Indeed, without any usable natural resources beneficial to humans, it is impossible to proceed to answer further questions under this **STEP 2B** as listed in the Framework; the further questions of which are concerning the need to utilize the resources and not remaining dormant, having the continuity element towards permanency, and not having external aid within the scope discussed (i.e. **Stage 2**, **Stage 3** and **Stage 4** respectively) as reiterated below.

In this regard, if such natural resources are verified by scientific experts to be useful and beneficial to humans, the next step will be to proceed to **Stage 2** of **STEP 2B** which is to identify whether such resources are or will be utilized for economic purposes and not left dormant. At this juncture, if it can be proven that such natural resources are or will be utilized for economic purposes, **Stage 3** must accordingly follow suit. It must be shown that such resources have continuity with the view towards permanency as necessitated also by **Principle 3**. Consequently, the final stage i.e. **Stage 4** must also be satisfied. In tandem with **Principle 4**, such economic activity utilizing such resources must be independent from external aid save for a certain level of human involvement that includes very minimal external resources that are solely combined with the original natural resources of the island in order to ensure the materialization of the economic life element.

For now, information shows no natural resources that may be used for economic life purposes, from Okinotorishima itself. As such, subject to the confirmation of relevant scientific experts on the existence of such usable natural resources, Okinotorishima should fail the economic life test at the first instance, given the requirement that there must first exist such natural resources on the island itself before considering its surrounding waters. This would lead to Okinotorishima failing the Article 121(3) test under this Framework since it has now failed both criteria i.e. the “human habitation” test

under **STEP 2A** above, as well as the “economic life” test under **STEP 2B** in the first instance.

Nevertheless, for the mere purpose of discussion, it may be interesting to observe the surrounding waters and activities on and around Okinotorishima as below.

Surrounding waters

Based on information, “there are no fisheries, oil and gas or other mineral with commercial development value in the territorial sea of Okinotorishima.”¹⁶⁸⁷ However, it was reported in 2016 that Okinotorishima “sits amid rich natural resources including rare metal.”¹⁶⁸⁸

In this regard, information provides that in December 2009, Japan intended to build a quay on Okinotorishima, and that a survey of resources will be conducted to secure undersea resources¹⁶⁸⁹ with a national strategy that followed in April 2010 and expected to be approved by the Japanese Cabinet.¹⁶⁹⁰

The point to note however is that marine life or resources found should not be considered as natural resources for purposes of Article 121(3) if it is within the EEZ area surrounding **Okinotorishima** as claimed by Japan.

Only those within the territorial sea will be considered and even so, this is subject to the island itself first proving the existence of natural resources within its land mass, as required by the criteria of this test under the Framework. As such, subject to scientific experts proving the existence of natural resources within the island itself, information may also be required as to whether the territorial sea of the island also has natural resources that is usable to humans leading to economic life activities as well as the sufficiency and continuity of such resources including minimal external aid as required by **Stage 3** and **Stage 4** of this **STEP 2B** respectively.

¹⁶⁸⁷ Song, *supra* n 70, p. 693.

¹⁶⁸⁸ The Japantimes News, *supra* n 1685.

¹⁶⁸⁹ Song, *supra* n 70, p. 673.

¹⁶⁹⁰ *Ibid.*

Activities

It may also be prudent to observe if there are any ongoing activities carried out by humans that could perhaps show that there exists some economic life within the scope of this **STEP 2B** test. For this purpose, it is observed that there are indeed reported activities **on or surrounding Okinotorishima**.

In 1939, activities on Okinotorishima were mainly the construction of a lighthouse by the Japanese Government, although attempts to do so were disrupted due to the beginning of the war in the Pacific before World War II (WWII).¹⁶⁹¹ Commencing from the end of WWII until 1968, Okinotorishima was administered by the US as part of the Ogasawara Village, which management was subsequently returned to the Japanese Government.¹⁶⁹² Activities from thereon concerned ‘surveys related to communication, foundations for lighthouses, and the fishing industry’ on an ongoing basis.¹⁶⁹³ Surveys were carried out by the Japanese Coast Guard survey vessel in 1970; and in 1978, plans for the construction of weather and oceanic observation bases were proposed by the Japanese Science and Technology Agency.¹⁶⁹⁴ By 1982, six observation points were installed by the Japanese Coast Guard survey vessel, and in 1987, the first meeting of the “Special Reviewing Committee of Urgency and Defense Strategies for Okinotorishima” was convened.¹⁶⁹⁵ In the same year in 1987, the Center of Land and Technological Development sent a survey vessel to Okinotorishima to construct survey work, and by 1988, construction began around the embankment of both the Northern and Eastern Islets of Okinotorishima’s lagoon to strengthen the latter with concrete, encased with titanium nets which work was completed in 1989.¹⁶⁹⁶ A marine observation station was also constructed and its foundation was completed in 1993, as well as a weather monitoring station that is unmanned was built on the old foundation of the lighthouse that was abandoned during WWII.¹⁶⁹⁷ These manmade facilities were however built in Okinotorishima’s lagoon,

¹⁶⁹¹ Song, *supra* n 97, p. 158.

¹⁶⁹² *Ibid.*

¹⁶⁹³ *Ibid.*

¹⁶⁹⁴ *Ibid.*

¹⁶⁹⁵ *Ibid.*

¹⁶⁹⁶ *Ibid.*

¹⁶⁹⁷ *Ibid.*

rather than on the only two naturally formed areas of land of Okinotorishima which is the Northern Islet and the Eastern Islet.¹⁶⁹⁸

Japan had also passed the “*Law on the Exercise of Sovereign Rights related to Fisheries within the Exclusive Economic Zone*” to prevent foreign fishermen in Japanese waters in which violation of the law would lead to actions by Japan under the law.¹⁶⁹⁹

In about 2005, the Fishermen’s Association of Ogasawara Island chartered fishing vessels to conduct fishing activities in Okinotorishima’s surrounding waters.¹⁷⁰⁰ In the same year, ‘122 Japanese were registered as being domiciled at Okinotorishima’ and the Tokyo Governor himself inspected the conservation and management efforts including snorkelling in the surrounding waters, releasing Japanese horse mackerel fry and waving the national flag of Japan.¹⁷⁰¹ Later the same year too, Japan’s Coast Guard decided to build a lighthouse on the maritime feature, and Japan’s Fisheries Agency requested the Japanese government for funds to conduct research on coral reefs in the surrounding waters.¹⁷⁰²

Foreign fishing vessels in Japan’s claimed EEZ were also expelled by Japan.¹⁷⁰³ This included a Taiwanese registered fishing boat, fishing in the claimed EEZ of Okinotorishima, that was detained by a Japanese Coast Guard patrol boat on 8 October 2005, and a few days later released after the fishers deposited financial securities into a designated account in Japan.¹⁷⁰⁴ Similar incidents were reported to have occurred, a fairly recent one in April 2016 concerning fishing rights in waters surrounding Okinotorishima between Taiwan and Japan, wherein a Taiwan-registered fishing vessel was seized by the Japanese Coast Guard in the EEZ claimed area of the Okinotorishima.¹⁷⁰⁵

¹⁶⁹⁸ *Ibid.*, p. 175.

¹⁶⁹⁹ Song, *supra* n 70, pp. 668-669 i.e. ‘Law. No. 76, 1996, amended by Law No. 91, 29 June 2001.’ Zone (Law. No. 76, 1996, amended by Law No. 91, 29 June 2001).

¹⁷⁰⁰ Song, *supra* n 97, p. 160 - Financial support was provided by the Tokyo metropolitan government; see also Song, *supra* n 70, p. 673.

¹⁷⁰¹ Song, *supra* n 97, p. 160 – referring to “44 Japanese Registered Disputed Islands as Domicile of Origin”, Japan Economic Newswire (Japan) May 17, 2005; see also Song, *supra* n 70, p. 673.

¹⁷⁰² *Ibid.*, pp. 160-161; see also Song, *supra* n 70, p. 673.

¹⁷⁰³ Song, *supra* n 97, p. 161.

¹⁷⁰⁴ *Ibid.*, p. 146; see also Song, *supra* n 70, p. 673.

¹⁷⁰⁵ Asia Maritime Transparency Initiative, “*Okinotori: A New Beginning For Taiwan-Japan Maritime Dialogue*” (17 June 2016) <<https://amti.csis.org/okinotori-new-beginning-taiwan-japan-maritime-dialogue/>> [accessed 14 November 2017] i.e. Vessel *Dongshengji No. 16*.

Japan had also sent its Maritime Self-Defense Force (MSDF) destroyers to observe the blue-water exercises conducted by the Chinese fleet in April 2010.¹⁷⁰⁶

Despite these activities, a number of points need to be highlighted. **Firstly**, the activities are of such nature that hardly involves anything related to economic life activities for purposes of Article 121(3) which would have failed **Stage 2** of the **STEP 2B** test even if it reaches this stage in the first place. The activities involved on the island are clearly that of the intended construction of a lighthouse, the building of a marine observation station as well as a weather monitoring station all of which are hardly related to economic life activities under the test. Indeed it has been established that these activities have not utilized any such existing natural resources that must first exist for the benefit of humans. If constructions such as lighthouses, marine observation stations and weather stations are accepted as satisfying the test of “economic life” under Article 121(3), any “rock” in the entire world may defeat Article 121(3) by the mere act of such construction. In addition, activities in the surrounding waters of Okinotorishima such as the enactment of such legislation by the Japanese Government concerning the monitoring of foreign fishing vessels is also clearly not an ‘economic life’ activity, as well as the fact that the legislation concerns the claimed EEZ surrounding Okinotorishima.¹⁷⁰⁷ It may be reiterated that if it concerns the EEZ of the island instead of its territorial sea, this would not satisfy the test under this **Stage 1** of **STEP 2B**.

Secondly, such activities in fact only shows the need to observe marine life or weather as well as the ‘arresting’ of foreign fishing vessels that enter the claimed EEZ of Okinotorishima.

Due to these facts, and subject to the verification of relevant scientific experts, **Stage 4** that requires the economic activity to be independent from outside assistance would indeed be hardly applicable. The fact remains that these are not even activities within the scope of the ‘economic life’ category of Article 121(3) under **STEP 2B**; hence questioning whether such activities have received outside assistance is not even an issue in such scenario.

¹⁷⁰⁶ Song, *supra* n 70, p. 673 - the Chinese fleet comprise ten warships exercising in international waters between Okinawa Island and Miyakojima and also around the Japan-claimed EEZ of Okinotorishima.

¹⁷⁰⁷ See text at *supra* n 1699.

Preliminary Conclusion for STEP 2B

Based on the above information, there is no clear evidence or information on the existence of natural resources that may be utilized for the benefit of humans that are generated by Okinotorishima itself. The description of Okinotorishima as elaborated which included having a geological make up of only two natural rocks which are hardly visible and above water at high tide, as well as the construction of concrete, encased with titanium nets at Okinotorishima raises the question of whether natural resources for the purpose of the economic life criterion could even exist. Such description suggests the high probability that natural resources useful to humans would not exist.

Although there may be marine life in the territorial sea of Okinotorishima, the test is such that the natural resources must also first exist on the island itself. Reliance on merely the natural resources of the territorial sea would defeat the purpose of Article 121(3) since as elaborated, any maritime feature in the whole world could thus escape Article 121(3) since the high chances are, the sea would always have marine life that may be used for purposes of proving the economic life criterion.

The activities that have been carried out in relation to this island also do not prove that there exist any such natural resources on the island. All such activities as discussed above clearly relate to the surrounding waters of the island and particularly the EEZ claimed by Japan for Okinotorishima. It may be reiterated that only such activities that may prove the existence of natural resources to the maximum of the territorial sea are allowed for the consideration of the Article 121(3) test and even so, this is subject to first proving the existence of natural resources from the island itself. Total reliance on the territorial sea is insufficient as explained above.

In view of these lack of natural resources useful to mankind on the island itself, and given the geographical and geological characteristics including the landscape of Okinotorishima, the chances of proving the existence of such natural resources is most unlikely.

Nevertheless, in view of the fact that this exercise is largely based only on accessible data, experts and scientists in the relevant fields should be called to verify the aforementioned assumption. Hence, subject to the verification and findings of these experts, it would

appear that Okinotorishima would have failed the **Stage 1** test for **STEP 2B** even at the first instance.

The failure to prove the existence of natural resources even at **Stage 1** clearly shows the failure of the island to prove the ability to have an economic life. Given this fact, it is impossible to proceed to **Stage 2** that requires for the natural resources to be utilized for economic purposes, and that there is economic value in such utilization. It is impossible to proceed to **Stage 2** when there are no natural resources even at the first instance.

Nevertheless as is the case for the human habitation test as discussed in **STEP 2A**, taking into consideration **Principle 3** (also in line with the evaluation for **Stage 3** of **STEP 2B** concerning the 'ability' of the island to provide such natural resources, scientific experts in this field may be called to prove such ability to do so, including the sufficiency and continuity of the economic life activity from such resources towards permanency. This would also be subjected to **Principle 4** (also in line with the evaluation for **Stage 4** of **STEP 2B** which clearly requires that Okinotorishima must have a certain degree of independence from outside assistance. Hence, such ability to produce natural resources in this scenario would mean that outside resources cannot be imported for the purpose of proving the ability to do so. The natural resources would first have to come from Okinotorishima itself. The only aid allowed from outside would be for instance, limited to man's physical involvement such as for example, utilizing some basic tools or machinery to enable the natural resources to be utilised for economic life to be produced from the Okinotorishima itself. In addition, such natural resources must be shown to be utilized or at least capable of being utilized towards showing some sort of profit and benefit as opposed to their unused and dormant state.

As is also the case for the human habitation test, all **4 Stages** under **STEP 2B** would also have to be satisfied to result in the island escaping Article 121(3) consequences.

Hence, subject to the verification of experts and scientists of the relevant fields, current information only proves that Okinotorishima has also failed the test concerning the economic life criterion.

CONCLUSION

Having gone through the evaluation steps under the Framework, it is found that Okinotorishima has failed the tests for both the 'human habitation' and the 'economic life' criteria. Although **Principle 2** provides that only one criterion needs to be proven, the island has failed to overcome either of the criterion in order to escape Article 121(3).

In conclusion, subject to verification by experts and scientists in the relevant fields concerning the information obtained and the requirement for further relevant information, the current situation shows that Okinotorishima is caught by Article 121(3). This island is therefore not entitled to an EEZ or a CS as claimed by the Japanese Government.

(d) Clipperton Island

As highlighted in **Chapters 1 and 4**, by a Decree in 1978, France had claimed for a 200 nm EEZ for Clipperton Island which was strongly objected by Mexico.¹⁷⁰⁸ France deposited a list of geographical coordinates defining the outer limits of the EEZ of Clipperton Island in 2010.¹⁷⁰⁹

Briefly, this maritime feature is an isolated, uninhabited coral atoll, 1120 km southwest of Mexico in the Pacific Ocean with a mere area of 6 km² and 'one volcanic rock rising at one end', has little vegetation and the only economic activity is tuna fishing in its adjacent waters.¹⁷¹⁰ Comparatively, it is about '12 times the size of The Mall in Washington, DC'.¹⁷¹¹

It is the only atoll in the eastern Pacific, located at the edge of the Eastern Pacific Barrier which is 'the world's largest deepwater barrier to the dispersal of marine shore organisms

¹⁷⁰⁸ See texts at *supra* nn 87, 449; see also CIA, *supra* n 89 - It is an overseas minor territory of France under direct authority of the Minister of Overseas France.

¹⁷⁰⁹ See text at *supra* n 88.

¹⁷¹⁰ See texts at *supra* nn 89-92, 514; see also CIA, *supra* n 89.

¹⁷¹¹ *Ibid.*

to the dispersal of marine shore organisms¹⁷¹² It is circular, completely enclosing a lagoon, and considered as one of the less disturbed islands in the Pacific.¹⁷¹³

Clipperton Island is low-lying¹⁷¹⁴ with an average of only 2 metres above water for most of its land area¹⁷¹⁵ but with the volcanic rock at one end jutting out at its highest point at 29 metres.¹⁷¹⁶ It has a coastline of 11.1 km,¹⁷¹⁷ having a width of about 100-150 m, a length of 400 m in the west and narrows to 45 m in the north-east.¹⁷¹⁸

*The "atoll reef is approximately 12 km (7.5 mi) in circumference; an attempt to colonize the atoll in the early 20th century ended in disaster and was abandoned in 1917."*¹⁷¹⁹

Other reports informed that Clipperton Island completely encloses its lagoon and is approximately 8km in circumference.¹⁷²⁰ There are no ports or terminals on Clipperton Island and only offshore anchorage is done.¹⁷²¹

Guano miners, would-be settlers or military personnel mainly from Mexico did occupy it at various times before France was awarded sovereignty over it in 1931.¹⁷²² The island remained without population and with no administration until 1887.¹⁷²³ There was however a concession for exploitation of guano beds approved by His Majesty the Emperor Napoleon III of France on 8 April 1858 although its exploitation had not been undertaken by any French subjects¹⁷²⁴ until 1897 when three persons were found to be residing there and collecting guano using the appearance of a French vessel that however raised the American flag and later the Mexican flag.¹⁷²⁵

¹⁷¹² Leann Trowbridge, *Eastern Pacific Ocean, southeast of Mexico*, World Wildlife (Organization) Funds (WWF), <<https://www.worldwildlife.org/ecoregions/nt0705#>> [accessed 17 December 2017].

¹⁷¹³ *Ibid.*

¹⁷¹⁴ Wikipedia, <https://en.wikipedia.org/wiki/Clipperton_Island> [accessed 15 December 2017].

¹⁷¹⁵ *Ibid.*

¹⁷¹⁶ CIA, *supra* n 89.

¹⁷¹⁷ *Ibid.*

¹⁷¹⁸ Leann Trowbridge, *supra* n 1712; see also Wikipedia, *supra* n 1714.

¹⁷¹⁹ CIA, *supra* n 89.

¹⁷²⁰ Leann Trowbridge, *supra* n 1712.

¹⁷²¹ CIA, *supra* n 89.

¹⁷²² Wikipedia, *supra* n 1714; see *Judicial Decisions Involving Questions of International Law (France-Mexico), Arbitral Award on the Subject of the Difference Relative to the Sovereignty over Clipperton Island*, Decision dated 28 January 1931, (1932) 26 Am. J. Int'l L. 390, at p. 394, <<https://www.ilsa.org/jessup/jessup10/basicmats/clipperton.pdf>> [accessed 15 December 2017].

¹⁷²³ France-Mexico Arbitral Award, *supra* n 1722, p. 391.

¹⁷²⁴ *Ibid.*, pp. 391-392.

¹⁷²⁵ *Ibid.*, p. 392.

Further details concerning Clipperton Island have been highlighted when addressing the relevant questions arising from the key principles and evaluation steps of the proposed framework as elaborated below.

STEP 1

Whether Clipperton Island is an island or a low tide elevation (LTE).

Based on available information, Clipperton Island falls under the category of an island and not an LTE.¹⁷²⁶

Information provides Clipperton Island to be low-lying¹⁷²⁷ with an average of only 2 metres above water for most of its land area¹⁷²⁸ but with a volcanic rock at one end jutting out at its highest point at 29 metres.¹⁷²⁹ Some reports inform of its highest point as up to 21 metres.¹⁷³⁰ Its surrounding reef is only exposed at low tide.¹⁷³¹ It has a coastline of 11.1 km.¹⁷³²

Despite the small area of merely 6 km² in total which is comparatively about only '12 times the size of The Mall in Washington, DC'¹⁷³³ the fact remains that part of it is still above water at high tide.

In addition, the aforesaid rock which is the only visible trace rising at one end is a dark igneous formation of the volcano that the coral atoll grew from.¹⁷³⁴ Such description clearly shows that it is naturally formed and not artificial.

Hence, since Clipperton Island is naturally formed and surrounded by water at high tide, it should come under the category of an island¹⁷³⁵ and not an LTE.¹⁷³⁶

¹⁷²⁶ See Article 121(1) and Article 13 of UNCLOS.

¹⁷²⁷ see text at *supra* n 1714.

¹⁷²⁸ see text at *supra* n 1715.

¹⁷²⁹ see text at *supra* n 1716.

¹⁷³⁰ Leann Trowbridge, *supra* n 1712.

¹⁷³¹ *Ibid.*; see also Wikipedia, *supra* n 1714.

¹⁷³² see text at *supra* n 1717.

¹⁷³³ See texts at *supra* nn 1710-1711.

¹⁷³⁴ Leann Trowbridge, *supra* n 1712; see also texts at *supra* nn 1710 and 1716.

¹⁷³⁵ Article 121(1) of UNCLOS provides as follows: "An island is a naturally formed area of land, surrounded by water, which is above water at high tide."

¹⁷³⁶ Article 13 of UNCLOS.

Preliminary Conclusion

Clipperton Island thus appears to satisfy the criteria of an island and not an LTE. Hence, the next consideration would be **STEP 2** below.

STEP 2**Whether Clipperton Island is also an island under Article 121(3).**

To identify this, the following questions need to be answered:

- A. whether Clipperton Island can sustain human habitation of its own; and
- B. whether Clipperton Island can sustain economic life of its own.

To determine whether an island is also an Article 121(3) island under **STEP 2**, it is necessary to determine whether the island satisfies **STEP 2A** or **STEP 2B**. Either of the steps may be proven in accordance with **Principle 2**. **STEP 2A** does not prevail over **STEP 2B** and vice-versa. If at least one step is proven, the island will not be an Article 121(3) island.

Hence, first addressing **STEP 2A** as below.

STEP 2A

To determine whether **Clipperton Island** can sustain human habitation of its own, it has to be decided whether -

- (i) it is fit for human survival;
- (ii) such human survival has continuity with the view towards permanency; and
- (iii) such human survival is independent from outside assistance.

At the outset, information shows **Clipperton Island** to fall under the category of an island under Article 121 of UNCLOS as discussed in **STEP 1** above. Nevertheless, applying the test in **STEP 2A** in order to determine whether it is also an island caught by Article 121(3), it may be observed as below.

Stage 1

To determine item (i), i.e. it is fit for human survival, all the basic needs for human survival would have to be *in existence* on **Clipperton Island**, or it must at least have the *ability* to ensure the natural existence of all such basic needs. These basic needs are (a) water; (b) food; and (c) shelter. The characteristics that make up these elements must be satisfied as follows:

(a) Water

Water must be natural fresh water.

➤ Observation/Information:

- Information provides that **Clipperton Island** is an atoll in the shape of a ring that encloses a stagnant fresh water lagoon,¹⁷³⁷ having a circumference of approximately 12 km.¹⁷³⁸ The lagoon has some deep basins with depths of 43 and 22 m.¹⁷³⁹
- Nevertheless, information also provides that sea waves occasionally spill over into the lagoon, as well as that a spot in the lagoon 'known as *Trou-Sans-Fond* or "the bottomless hole" having acidic water at its base.'¹⁷⁴⁰ Furthermore, there were reports rating the lagoon water as non-potable.¹⁷⁴¹ In this regard, it was reported that in 1917, R.E. Kerr who found and rescued abandoned Mexican women and children on the island reported that one of the women informed him of their total dependence on rain water for purposes of drinking, collecting them in old boats.¹⁷⁴²

¹⁷³⁷ CIA, *supra* n 89.

¹⁷³⁸ *Ibid.*

¹⁷³⁹ Wikipedia, *supra* n 1714.

¹⁷⁴⁰ *Ibid.*

¹⁷⁴¹ *Ibid.*

¹⁷⁴² The Pacific Science Board, *Atoll News and Comments*, National Academy of Sciences–National Research Council, Washington D.C. December 15, 1962, Atoll Research Bulletin No. 94, p. 9; see also *Ibid.* – referring to the survivors of an ill-fated Mexican military colony

- Despite this, the lagoon’s surface has also been described as fresh, and highly eutrophic.¹⁷⁴³ In this respect, in February to March 1962 when the tuna clipper *M/V Monarch* sank nearby to Clipperton Island, its crew of nine had to spend 23 days on the island and reported amongst other things that the water in the lagoon was drinkable although not tasting good, apart from being muddy and dirty.¹⁷⁴⁴ There was however no report of ill effects.¹⁷⁴⁵
- Apart from rainwater and the lagoon, there is no reported source of freshwater existing on Clipperton Island.
- In short, it may be argued that there is freshwater available on the island although this is limited to the rain and also the lagoon despite sea waves occasionally spilling over into it as well as its water being muddy and dirty.

Water must be sufficient and easy to extract from the island itself. E.g. rain, river, ponds, lakes and ground water.

➤ Observation/Information:

- Despite the fact that there is freshwater as established above, its sufficiency may be questionable.
- Where the rain water is concerned, it was reported that the Mexican women and children who were abandoned on the island in 1917 used to worry about the depletion of its supply when it turns to spring.¹⁷⁴⁶ Indeed report shows that the tropical climate on Clipperton Island is such that the rainy season occurs mainly from May to October.¹⁷⁴⁷ In addition, during the February to March 1962 sinking incident of the *M/V Monarch*, it was reported that although it rained almost all night when the castaways first landed on the island, it was a “typical tropical rain” i.e. trade-wind rain and

¹⁷⁴³ Leann Trowbridge, *supra* n 1712; see also UNEP/IUCN, *Coral Reefs of the World* (1988) Volume 3: Central and Western Pacific. UNEP Regional Seas Directories and Bibliographies, IUCN/UNEP, Gland, Switzerland, Cambridge, UK, and Nairobi, Kenya; see also Wikipedia, *supra* n 1714.

¹⁷⁴⁴ The Pacific Science Board, *supra* n 1742, p. 8.

¹⁷⁴⁵ *Ibid.*

¹⁷⁴⁶ *Ibid*, p. 9; including text at *supra* n 1742.

¹⁷⁴⁷ Wikipedia, *supra* n 1714.

not the heavy rain of a storm type; with approximately only 6 out of 23 nights of rain and none during the day.¹⁷⁴⁸ February on Clipperton Island was a season that had much less rain compared to other places in the tropics.¹⁷⁴⁹ This raises the question of sufficiency of freshwater from the rain source.

- Nevertheless, where the lagoon is concerned, it may be argued that there is abundance of freshwater despite it being muddy and dirty and also acidic at its bottom. This in itself may be argued to be sufficient in freshwater.
- Hence, subject to relevant science experts in the field to verify or prove otherwise such facts, it may be said at this juncture, for the purpose of the exercise under this Framework, that Clipperton Island has sufficient freshwater.

Sea water or desalinated water is not allowed.

➤ *Observation/Information:*

- A further observation would be that saltwater would naturally surround **Clipperton Island**, being located in the middle of the ocean.¹⁷⁵⁰ Unfortunately, according to the test under this Framework, such water is not allowed for human survival for Article 121(3) purposes. Such water cannot be taken into consideration due to reasons elaborated in the *Explanation* for this Stage 1(a)-*Water* test.¹⁷⁵¹

Preliminary Conclusion

Based on the above information, subject to relevant science experts in the field to verify or prove otherwise such facts, it may be argued that Clipperton Island has freshwater that is sufficient and thus has passed the Stage 1(a) –*Water* test. This is however insufficient to

¹⁷⁴⁸ The Pacific Science Board, *supra* n 1742, p. 7.

¹⁷⁴⁹ *Ibid.*

¹⁷⁵⁰ see texts at *supra* nn 1710, 1712-1713.

¹⁷⁵¹ See *Explanation* for STEP 2A, Stage 1(a) in the Framework at Section 42 above.

pass the “human habitation” test under Article 121(3) as the other two tests must also be satisfied, namely the *food* test and the *shelter* test under the Framework. Stage 1(b) – Food test may now be observed below.

(b) Food

Food may be derived from plants and animals.

It may be noted that the Framework provides under this heading that vegetation or plants must be edible and safe for human consumption under the World Health Organization safety standards. Furthermore, animals, birds and insects may be considered as food as long as they conform to the safety standards for human consumption.

➤ Observation/Information:

- At the outset, it was reported that Clipperton Island has an unusual mixed groups of both Indo-Pacific and Panamic flora and fauna.¹⁷⁵²
- **Where flora or plants** on the island is concerned, the island is reported to be largely barren, but has a few clumps of coconut palms and some scattered grasses.¹⁷⁵³ Sometime between 1858 and 1917, its scrub vegetation appears to have disappeared as witnessed also by Snodgrass and Heller who visited the island in 1898 who stated that ‘*no land plant is native to the island...*’¹⁷⁵⁴
- Historical reports in 1711, 1825 and possibly 1839 show the island to have low, grassy and/or suffrutescent (partially woody) vegetation.¹⁷⁵⁵ It was opined that tropical storm may have destroyed the vegetation which was subsequently unable to regenerate due to the existence of land crabs

¹⁷⁵² Leann Trowbridge, *supra* n 1712 – referring to Allen, G. R. and D. R. Robertson, *An annotated checklist of the fishes of Clipperton Atoll, tropical eastern Pacific*, 1996.

¹⁷⁵³ *Ibid.*; see also Wikipedia, *supra* n 1714.

¹⁷⁵⁴ Leann Trowbridge, *supra* n 1712 - referring to Snodgrass, R. E. and E. Heller, *The birds of Clipperton and Cocos Islands*, (1902), Papers from the Hopkins Stanford Galapagos expedition 1898-1899, The Academy, Washington, DC.

¹⁷⁵⁵ *Ibid.* – referring to Sachet, M. H., *Flora and vegetation of Clipperton Island*, (1962) Proceedings of the California Academy of Sciences, 4th ser., v.31, no. 10. The Academy, San Francisco; see also Robert L. Pitman, Lisa T. Ballance & Charly Bost, *Clipperton Island: Pig Sty, Rat Hole And Booby Prize*, Marine Ornithology 33: 193–194 (2005), p. 193.

which were in abundance¹⁷⁵⁶ but was later able to re-exist due to the introduction of pigs that ate the crabs by guano miners.¹⁷⁵⁷

- In this regard, guano miners settled on the island in 1892 till 1917 changing the island ecology.¹⁷⁵⁸ There was the introduction of alien species such as coconut palms that caused multiplication of the island's flora in the 1890s including the introduction of pigs.¹⁷⁵⁹ In 1958 however, vegetation was merely 'a sparse cover of spiny grass and low thickets, a creeping plant (*Ipomoea*), and stands of coconut palm.'¹⁷⁶⁰
- Other species in existence include the *Cenchrus echinatus*, *Sida rhombifolia*, and *Corchorus aestuans* which are most abundant and are shrubs that cover up to a height of 30 cm, intermixing with *Solanum*, *Eclipta*, and *Phyllanthus* including *Brassica juncea*, a taller plant.¹⁷⁶¹ Possibly due to phosphate mining back then, the plants were arranged in 'dense rows of taller species alternate with lower, more open vegetation.'¹⁷⁶²
- However, there is abundant flora in the lagoon.¹⁷⁶³ Its surface is highly eutrophic and has seaweed beds over approximately 45 percent of its surface.¹⁷⁶⁴ The island was described as 'one of the most outstanding models of biological, biochemical, and geological processes in existence'.¹⁷⁶⁵
- Despite all these, current reports show that there is no agricultural land, no arable land, no permanent crops, and no forest.¹⁷⁶⁶ What is in existence is mainly all of coral.¹⁷⁶⁷

¹⁷⁵⁶ *Ibid.* – referring to Sachet, *supra* n 1755.

¹⁷⁵⁷ *Ibid.*

¹⁷⁵⁸ Pitman *et al*, *supra* n 1755 , p. 193.

¹⁷⁵⁹ Leann Trowbridge, *supra* n 1712 – referring to Sachet, *supra* n 1755; see also Pitman *et al*, *supra* n 1755, p. 193.

¹⁷⁶⁰ Leann Trowbridge, *supra* n 1712 – referring to Sachet, *supra* n 1755.

¹⁷⁶¹ *Ibid.*

¹⁷⁶² *Ibid.*

¹⁷⁶³ *Ibid.*

¹⁷⁶⁴ *Ibid.*; see also text at *supra* n 1743.

¹⁷⁶⁵ Leann Trowbridge, *supra* n 1712.

¹⁷⁶⁶ CIA, *supra* n 89.

¹⁷⁶⁷ *Ibid.*

- **Where fauna or fish** on the island including its lagoon is concerned, it is observed that despite the seaweeds existing at the surface of the lagoon, there is no reported fish in the lagoon.¹⁷⁶⁸ Instead, there are millions of *isopods* in the lagoon reported by swimmers to be able to deliver a painful sting, and hence the avoidance of remaining in the lagoon too long.¹⁷⁶⁹
- However, Clipperton Island has been reported to have millions of land crabs, thousands of seabirds, ducks commonly found in the lagoon, and migratory landbirds that fly south during the winter.¹⁷⁷⁰ In 1958, there was coot, martin, cuckoo, and yellow warbler.¹⁷⁷¹ There is also a large number of the *Emoia cyanura* lizard, and the *Geocarcinus planatus* crab.¹⁷⁷² There is also report of the existence of the *Gehyra insulensis* lizard¹⁷⁷³ including rats which were common by the year 2003, first seen in 2001 probably arriving there via the large fishing boats that wrecked on the island between the years 1999 to 2000.¹⁷⁷⁴ It was reported in 2005 that there was decline in both crab and bird populations due to the rat presence, though this resulted in the increase in both vegetation and coconut palms.¹⁷⁷⁵
- The impoverished invertebrate fauna is reported to be supported by the lagoon.¹⁷⁷⁶
- As earlier mentioned, by the end of the 19th Century, pigs were introduced to the island which consumed the plants, crabs and bird eggs; which hence resulted in the slaughtering of all the 58 existing pigs in 1958 by an

¹⁷⁶⁸ The Pacific Science Board, *supra* n 1742, p. 8; see also Wikipedia, *supra* n 1714.

¹⁷⁶⁹ Michael Goode, *1992 Clipperton Island Dxpedition*, <<http://www.qsl.net/clipperton2000/previous/n9ns-1992.html>> [accessed on 17 December 2017] - isopods are related to common "pill bugs".

¹⁷⁷⁰ Leann Trowbridge, *supra* n 1712 – referring to Sachet, *supra* n 1755 - E.g. of breeding seabirds are the white terns (*Gygis alba*), masked booby (*Sula dactylatra*), sooty tern (*Sterna fuscata*), brown booby (*Sula leucogaster*), brown noddy (*Anous stolidus*), black noddy (*Anous minutus*), and greater frigate (*Fregata minor*).

¹⁷⁷¹ *Ibid.*

¹⁷⁷² *Ibid.* – referring to UNEP/IUCN, *supra* n 1743.

¹⁷⁷³ Zug, George R., *Reptiles and Amphibians of the Pacific Islands: A Comprehensive Guide* (2013, University of California Press), p. 45.

¹⁷⁷⁴ Pitman *et al*, *supra* n 1755, p. 193.

¹⁷⁷⁵ *Ibid*, p. 193. – i.e. Report by the National Oceanic and Atmospheric Administration (NOAA)'s Southwest Fisheries Science Center in La Jolla, California, USA.

¹⁷⁷⁶ Leann Trowbridge, *supra* n 1712 – referring to UNEP/IUCN, *supra* n 1743.

ornithologist, due to the decline in population of nesting birds.¹⁷⁷⁷

Unfortunately, most of the vegetation disappeared due to the return of millions of the *Johngarthia planata* land crabs¹⁷⁷⁸ resulting in virtually a sandy desert with merely 674 palms in 2001.¹⁷⁷⁹

- Nevertheless, Clipperton Island is still regarded as one of the least disturbed systems in the Pacific, despite the significant damage to the island's native flora and fauna in the short period of human habitation.¹⁷⁸⁰
- **Based on all the above, it may be summarized** that there is vegetation on Clipperton Island although, apart from coconuts from the existing palm trees that are clearly consumable, the extent of edibility of other vegetation would have to be verified by scientific experts. It is difficult at this juncture to conclude that the rest of the sparse vegetation, that are grasses and shrubs including the seaweed beds found in the lagoon are edible to humans. Relevant experts in the field would have to be called to ascertain this fact. As of now, it is reiterated that current reports show that there is no agricultural land, no arable land, no permanent crops, and no forest.¹⁷⁸¹ Hence, subject to the verification by relevant experts, it seems that the only edible plants in existence are the coconuts from the coconut palm trees. In addition, where fauna is concerned, the edibility of the existence of such animals or birds would again have to be confirmed by the relevant experts. The point to note is such that, there are no longer pigs existing on the island. The once existing landbirds and land crabs have also been reported to have declined in population due to the presence of the

¹⁷⁷⁷ *Ibid.* – referring to Sachet, *supra* n 1755; see also Pitman *et al*, *supra* n 1755, p. 193.

¹⁷⁷⁸ Wikipedia, *supra* n 1714 - referring to Davie, P., Bieler R, Bouchet P, Gofas S, Marshall B, Rosenberg G, La Perna R, Neubauer TA, Sartori AF, Schneider S, Vos C, ter Poorten JJ, Taylor J, Dijkstra H, Finn J, Bank R, Neubert E, Moretzsohn F, Faber M, Houart R, Picton B, Garcia-Alvarez O, (eds), *Johngarthiaplanata (Stimpson 1860) MolluscaBase* (2015, World Register of Marine Species).

¹⁷⁷⁹ Wikipedia, *supra* n 1714; see also UMR 241, *Pacific Island Ecosystems, Analysis of the Interactions of Man and his Environment*, <https://wwz.ifremer.fr/umr_eio/Vie-scientifique/Missions/Mission-PASSION-2015> [accessed 17 December 2017] - i.e. PASSION mission leader, geographer Christian Jost, counted the palm trees in 2001 in his study of the geomorphological and ecosystem evolution of the Passion-Clipperton Atoll for more than fifteen years.

¹⁷⁸⁰ Leann Trowbridge, *supra* n 1712 – referring to UNEP/IUCN, *supra* n 1743.

¹⁷⁸¹ See text at *supra* n 1766.

non-edible rats,¹⁷⁸² if the former are even considered edible. Hence, the only animals left are ducks and lizards and in this respect, although ducks may be considered consumable by humans, verification is required on the extent of its population at this current stage; whilst the lizards would require further findings from the relevant experts on whether such types are edible for human survival. Indeed, as of the year 2001, Clipperton Island appears to be virtually a sandy desert with merely 674 palms.

- Important information shows that the survival of the very small communities that lived on from 1892 to 1917 depended on continuous outside support.¹⁷⁸³ Hence, clearly indicating that such ‘food’ for humans are insufficient or inappropriate for prolonged survival.
- Nevertheless, pending confirmation on the existence of edible plants or animals on the island for human survival, it may perhaps at this juncture be prudent to give Clipperton Island the benefit of the doubt, by assuming its condition with the coconut palm trees, ducks, and even the crabs at the very least, as sufficient to show the existence of food for human consumption. Given this fact, it may now be necessary to see whether such food can continue to last towards permanency; and as such the next question will have to be answered below.

However, for food to exist with continuity there must be resources which include water, soil and sunlight.

➤ Observation/Information:

It has been argued in the Stage 1(a) - *Water* test that there is fresh water. Nevertheless, on whether it is sufficient to enable the existence or growth of “food” for humans, namely, edible vegetation or animals, birds or insects, this need to be verified by the relevant experts in the field.

¹⁷⁸² See text at *supra* n 1775.

¹⁷⁸³ See text at *supra* n 512.

On this note, assuming that the fresh water is sufficient to cater for the survival of the possible identified “food” for humans, namely ducks, coconut palm trees and even the land crabs, the question remains as to how long this will continue to exist. The fact remains that although there may be fresh water, the ducks and coconut palm trees would still need to “feed” for their survival; and these include the appropriate soil for the growth of the coconut palm trees and other vegetation or living things for the ducks’ consumption. It has been reported that during the 1962 sinking of the tuna clipper incident¹⁷⁸⁴ there was only a meagre supply of coconuts and hence the struggle to find other means of food including birds eggs which tasted rancid and a small blackbird that has too litte meat.¹⁷⁸⁵

On the other hand, the clear presence of rats raises the question as to how long will there be sufficient ducks for consumption. The rats have been known to plunder chicks and eggs of large seabirds,¹⁷⁸⁶ and this may arguably include duck eggs which could lead to the decline of the duck population.

At this juncture, and subject to the veification by relevant experts that the ducks, land crabs and possibly other existing living things there are consumable by humans in the long run, these other elements for the consumption of these identified “human food” must also be in existence. Such elements as identified in the Framework would be, in addition to the existing fresh water from the lagoon, the appropriate soil for the coconut palm trees, and other living creatures such as worms or insects for the ducks, as well as other ‘food’ for the land crab.

Information however provides that Clipperton is mainly all of coral.¹⁷⁸⁷ Hence, it is questionable whether the appropriate soil can even exist for edible vegetation which in turn is edible for the identified fauna for humans. It may however be assumed that the type of ‘soil’ or ‘land matter’ is appropriate for the current existing flora and fauna or the latter would not have existed in the first place.

¹⁷⁸⁴ See text at *supra* n 1744.

¹⁷⁸⁵ Wikipedia, *supra* n 1714.

¹⁷⁸⁶ Pitman *et al*, *supra* n 1755, p. 193.

¹⁷⁸⁷ See text at *supra* n 1767.

The appropriate amount of sunlight may also be of consideration for the survival of these ‘food’ for humans, and this will again require the relevant experts to identify the extent required for these living creatures and vegetation.

Under the Framework, despite the existence of these current flora and fauna as possible human food, continuity of such existence is a necessity.

Consequently, continuity of the necessary resources for these ducks, land crabs, lizards and coconut palm trees to in turn continue to exist or reproduce as human food, even if identified as edible for humans, is crucial. Without such continued resources, these possibly identified creatures and coconut palm trees may not be able to last long for humans. It has been reported that Clipperton Island has been categorized as in a critical and endangered situation.¹⁷⁸⁸ It was also reported that the warm surrounding ocean waters that has a westerly current which flows directly from the mainland is the cause of the existence of the naturally occurring limited flora and fauna on Clipperton Island.¹⁷⁸⁹ Hence, whether the current existence of such flora and fauna can continue to exist need to be verified by experts.

Since it is not possible at this point to confirm such existence and continuity of resources for the continued survival of these possibly identified human food, for purposes of the exercise under this Framework, the benefit of the doubt may be given to Clipperton Island that these necessities are in place.

Hence, assuming that ducks, land crabs, lizards and other fauna are edible, and assuming that there are the appropriate resources existing for these creatures and plant, including the continuity towards permanency of such resources, Clipperton Island could be said to have passed the food test. Consideration may also be given to the possibility of other future “human food” to exist on Clipperton Island in line with **Principle 3** of the Framework and **Stage 2 of STEP 2A** of the Framework.

¹⁷⁸⁸ Leann Trowbridge, *supra* n 1712.

¹⁷⁸⁹ *Ibid.* – referring to Snodgrass & Heller, *supra* n 1754.

In conclusion, subject to the verification of the relevant experts on these hypothetical findings, the Stage 1(b) – *Food* test may have been satisfied for the case of Clipperton Island, and hence, it will now be necessary to address the Stage 1(c) – *Shelter* test.

(c) Shelter

The landscape and make-up of the island must be suitable for building shelter. There must be determination whether the physical environment and ecosystem properties are safe and secure for sustainable shelter to be built for human habitation. The shelter must be able to adapt to the environment and can sufficiently protect humans from possible predators for a prolonged duration. Although catastrophes and natural hazards may be inevitable in any surrounding, they should not be too frequent so as to destroy such shelter too often and thus causing a devastating degree of damage to the extent of making it a truly unsafe and unsuitable place to live and as permanent residence. If the island is proven to have too frequent devastating disasters, any shelter built on it would not be sustainable, and hence would not be able to satisfy the requirement that such island can sustain human habitation. Resources to construct a shelter need not necessarily come from the island itself.

➤ Observation/Information:

As earlier mentioned, Clipperton Island is a low-lying coral atoll with a landscape that is circular, completely enclosing a lagoon, has one volcanic rock rising at one end that rises to a maximum height of 29 metres whilst the rest of the land are only 2 metres above water on average, and has a mere area of 6 km² which is comparatively about the size of 12 times The Mall in Washington DC.¹⁷⁹⁰

This information raises the question of whether such landscape is suitable for shelter to be built on that can last for prolonged periods towards permanency as opposed to temporary shelter. It may be reiterated that the area largely

¹⁷⁹⁰ See texts at *supra* nn 1710-1711, 1713-1716, 1720.

comprise the lagoon with the 'land' area only those surrounding the lagoon. Even so, these land area are low-lying with an average of a mere 2 metres above water, and a volcanic rock at one end at a mere 29 metres above water which is also considerably very low.

With such landscape description, one wonders if the appropriate shelter may be built towards permanency. There is the question of the rising waters due to climate change and whether these 2 metres above water is at all a safe place for shelter to be built towards permanency. Indeed, one may argue that such shelter could perhaps be constructed on the volcanic rock. Even so, with only 29 metres of maximum height and with such landscape, this appears unlikely. It may be possible that the shelter can last for prolonged durations given the tropical oceanic climate with the average temperatures of 20–32 °C,¹⁷⁹¹ a temperature that appears not too warm or too cold. It is of the Neotropical ecoregion category,¹⁷⁹² but nevertheless, during the rainy season from May to October, the island is subject to tropical storms and hurricanes,¹⁷⁹³ with its surrounding warm ocean waters pushed by equatorial and counter equatorial currents.¹⁷⁹⁴ In this respect, it was reported that the heavy oceanic swell causes difficulty of access to the island.¹⁷⁹⁵ During a trip along the coast of Costa Rica in 1988, a storm caused five Mexican fishermen to be lost at sea and although drifted within sight of Clipperton Island, were unable to reach it.¹⁷⁹⁶

Indeed, Clipperton Island was reported to have a hostile climate, causing the French Ministry of Defence that initially intended to use it as a French nuclear testing site to abandon the idea.¹⁷⁹⁷

With such limited land area that is considerably quite low lying, and the possible tropical storms and hurricanes during the rainy season, the question of whether shelters can survive these natural occurrences, is raised.

¹⁷⁹¹ Wikipedia, *supra* n 1714.

¹⁷⁹² Leann Trowbridge, *supra* n 1712.

¹⁷⁹³ CIA, *supra* n 89; see also *ibid.*

¹⁷⁹⁴ Wikipedia, *supra* n 1714.

¹⁷⁹⁵ Leann Trowbridge, *supra* n 1712 - referring to referring to UNEP/IUCN, *supra* n 1743.

¹⁷⁹⁶ Wikipedia, *supra* n 1714.

¹⁷⁹⁷ *Ibid.*

The geological and ecological make-up of the island only suggests that shelters could not last very long. If indeed hurricanes were to occur during every rainy season, on such secluded island that hardly has forests or the appropriate vegetation cover to withstand any such natural hazards, particularly given the low lying condition of Clipperton Island, including the fact that the land area is basically surrounded by water from both the outer part namely the sea, and the inner part which is the lagoon, there is concern that shelters built on the limited land area may not be able to last long and constant rebuilding may be necessary if at all the rising waters do not overflow the low land area within a reasonably lengthy period of time.

It may also be observed that there are no ports or terminals on Clipperton Island and only offshore anchorage is done.¹⁷⁹⁸ One wonders whether this is a matter of choice or whether it is not practical and probably impossible to construct such, given the landscape of the island. Although there was once a proposal for a port to be constructed at the lagoon, the proposal was not carried out.¹⁷⁹⁹

Regardless, in a 1994 expedition, many abandoned boat anchors were encountered together with other debris directly from offshore, including several sailing yachts and a tuna boat that was line-fishing for reef fish were reportedly offshore.¹⁸⁰⁰

There is also information that *“an attempt to colonize the atoll in the early 20th century ended in disaster and was abandoned in 1917.”*¹⁸⁰¹ More facts are required but this raises the question of whether the island is indeed a suitable place to live on. Notably, the survivors of a shipwreck in 1962¹⁸⁰² constructed a basic shelter, although such was from cement bags and tin left there by the American military 20 years earlier. Regardless, the issue concerning shelter under this Framework is with regard to the safety of the landscape as a whole

¹⁷⁹⁸ see text at *supra* n 1721.

¹⁷⁹⁹ Leann Trowbridge, *supra* n 1712 - referring to UNEP/IUCN, *supra* n 1743.

¹⁸⁰⁰ *Ibid.* - referring to Allen and Robertson, *supra* n 1752.

¹⁸⁰¹ See text at *supra* n 1716.

¹⁸⁰² See text at *supra* n 1744.

and thus the suitability of Clipperton Island as a place to build shelter rather than whether there exists suitable materials to build a shelter.

It is however not possible to conclude on this matter at this juncture with limited information that requires all such findings to be verified by the relevant environmental science experts.

Nevertheless, for the purpose of the exercise of this Framework, it appears that the possibility of a prolonged shelter to continue to exist safely to shelter humans may be unlikely, and thus, subject to the verification by these science experts, it may be concluded that Clipperton Island may not be able to satisfy the Stage 1(c) – *Shelter* test. This means that the whole human habitation test fails since all the elements in Stage 1 must be satisfied i.e. Stage 1(a) - *Water* test, Stage 1(b) – *Food* test, and Stage 1(c) – *Shelter* test. If one fails, the entire Stage 1 fails and consequently, the human habitation test fails, and it is unnecessary to even look at **Stage 2** and **Stage 3** of **STEP 2A**.

Nevertheless, for the sake of argument, **Stage 2** and **Stage 3 of STEP 2A** for all the **Stage 1** elements i.e. water, food and shelter, may be briefly mentioned. This would satisfy further the findings that the ‘human habitation’ test had failed. Hence, Stage 2 is first observed as below.

Stage 2

The Framework provides under Stage 2 that human survival must have continuity with the view towards permanency. Stage 2 also provides that any scientific method for the evaluation of such capability to continue may be used. Under this Stage, the Framework stresses that **Principle 3** applies, which provides that a mere temporary basis is insufficient although it is sufficient if the island’s *ability* to do so, rather than having to be in actual existence, could be proven.

➤ Observation/Information

If it may be recalled from the discussions for the elements under the Stage 1 test, for the water test, that water from the lagoon could be argued to be sufficient with continuity towards permanency. It is also easily reachable. The

water appears sufficient although once again, the relevant scientific experts may be required to confirm such findings.

Where the food test is concerned, it may also be recalled that the current state of Clipperton Island shows merely ducks, land crabs, lizards and coconut palm trees as food for humans, if all these are even edible subject to verification by the relevant experts. It has also been argued that assuming that there are appropriate and sufficient resources to act as food for these ducks, land crabs, lizards and coconut palm trees, it may be argued that these 'food' can continue to in turn, exist for humans. Consequently, the **Stage 2** test concerning the 'continuity towards permanency' criterion may be satisfied.

Finally, where the shelter test is concerned, it has already been established that it will most probably fail even at the Stage 1 level, given the landscape as discussed. Even if the shelter test does indeed proceed to the Stage 2 test, the test becomes harder as continuity towards permanency becomes even more unlikely particularly due to its low –lying geological make up of merely 2 metres above average coupled with such weather that leads to tropical storms and hurricanes, and more importantly, the rising water due to climate change.

As a matter of interest, the **Stage 3** test may also be looked at for purposes of all three elements particularly the water and food test that appear to possibly pass the **Stage 1** and **Stage 2** tests.

Stage 3

The Framework provides that it is necessary for such human survival to be independent from outside assistance and in line with **Principle 4**. Briefly, the island must have a certain degree of independence from external aid and the 'ingredients' that make up the 'human habitation' criterion must be obtained from the island itself. The only exception would be the building of human shelter, and the use of very minimal external resources but solely in combination with major internal resources to enable the materialization of an economic life. Man's physical involvement is nevertheless allowed to ensure that the

criterion can actually take effect. These requirements include the ability to do so as explained in **Principle 3**.

➤ Observation/Information

For the Water test, with reference to the lagoon as its main source, despite it being muddy and dirty, the necessary minimal technology may be applied in order to cleanse it as allowed under this Framework. It is also easily reachable. However, the relevant scientific experts may be required to confirm such findings. Fresh water from outside cannot be brought in to defeat the test.

With regard to the Food test, the resources should be limited to the ducks, land crabs, lizards and coconut palm trees as food for humans, including the possibility of future food growth which can occur depending on the resources that can enable this. This means that if the appropriate and fertile soil and other resources are in existence for the survival of other flora and fauna that are edible for humans, this is acceptable. Scientific experts may thus be called to evaluate this. Food from outside cannot be brought in to defeat the test.

Despite the above, information provides that the survival of the very small communities that lived on from 1892 to 1917 depended on continuous outside support.¹⁸⁰³ Hence, indicating that such 'food' for humans including even such fresh water from the lagoon are insufficient or inappropriate for prolonged survival. It is unclear whether this is a matter of choice by the communities back then or whether it is indeed a fact that both water and food, are truly insufficient or inappropriate. Even shelter may have been a problem to these communities. In short, verification is required from the relevant experts to confirm this.

As provided in the **Deduction** under the Framework, all 3 stages would have to be satisfied for **STEP 2A** to be satisfied and hence resulting in the island to escape Article 121(3) consequences. Unfortunately, subject to verification by the relevant experts for all scenarios, the *Water* element can be argued to have passed all the Stages i.e. Stage 1,

¹⁸⁰³ See text at *supra* n 512.

Stage 2 and Stage 3; the *Food* element may be seen to have passed the Stage 1 test, although questionable in the Stage 2 and Stage 3 tests which is where scientific experts are required to address this; and finally, the *Shelter* element is argued to have failed all the Stages as discussed above.

Since all 3 stages would have to be satisfied for **STEP 2A** to be satisfied, it may be argued that Clipperton Island has failed thye human habitation test.

Preliminary Conclusion/Summary

Based on the available information, it has been established that there is freshwater from the lagoon that is arguably essential for human survival although it is muddy and dirty. Rainwater is sometimes depended upon during the rainy season but this is insufficient as evidenced from the Mexicans who were abandoned as mentioned above. Apart from the lagoon, there is no pond, lake, river or similar natural catchments of water existing on **Clipperton Island**. Since there is freshwater, albeit from the muddy and dirty lagoon, and supplemented by rainwater only during the rainy season, it may be argued that **Clipperton Island** has passed the Stage 1(a)-*Water* test.

Nevertheless, taking into consideration **Principle 3**¹⁸⁰⁴ that allows evidence of the ‘ability’ of the island to provide such natural fresh water, relevant scientific experts may be called to prove such ability to do so, including the sufficiency and continuity of the existence of such water towards permanency for human habitation. This would also be subjected to **Principle 4**¹⁸⁰⁵ which provides that the island must have a certain degree of independence from external aid. Such ability to produce natural fresh water means that natural fresh water cannot be imported from ‘outside’ for the purpose of proving such ability to do so. Natural fresh water would have to come from **Clipperton Island** itself. External aid is only allowed to the extent of man’s physical involvement such as employing basic tools to cleanse the fresh water in the lagoon or to find other possibilities of fresh water existence from the island itself, such as digging wells for ground water. This must however be reasonably easy to extract. Given the geological evidence from the information obtained,

¹⁸⁰⁴ i.e. also in accordance with the evaluation for Stage 3 of STEP 2A of this Framework, and STEP 3 of the Flowchart in **Figure 1**.

¹⁸⁰⁵ i.e. also in accordance with the evaluation for Stage 4 of STEP 2A of this Framework, and STEP 4 of the Flowchart in **Figure 1**.

particularly that **Clipperton Island** is of coral, and of volcanic rock at one end, the high chances are that there are no further extractable natural fresh water. In addition, sea water does not fall under the category of allowable water for human survival for Article 121(3) purposes as explained in the Framework.

Nevertheless, since evidence shows that the lagoon is drinkable despite being muddy and dirty, and subject to confirmation on the findings that the island itself is able to continue to provide such natural fresh water towards permanency, it may be concluded that **Clipperton Island** has passed the Stage 1(a)-*Water* test.

Similarly, for the Food test, if it can be confirmed by scientific experts that the identified flora and fauna are edible to humans namely the ducks, lizards, land crabs and coconut palm trees, and that there exists the appropriate and sufficient resources for the continued survival towards permanency of these flora and fauna, Clipperton Island could be argued to have passed the food test. Consideration may also be given to the possibility of other future “human food” to exist on Clipperton Island in line with **Principle 3** of the Framework and **Stage 2** of **STEP 2A** of the Framework.

For the Shelter test, it has been discussed that the landscape of Clipperton Island including the effects of the weather such as the hurricanes and tropical storms on such geological make-up that is low-lying and considerably small in size, could possibly render the island an unsafe or unsuitable place to live on for humans. There is the possibility of the submergence of this low-lying coral island with only the volcanic rock left jutting out if indeed it has also not submerged due to the climate change. If evidence had not provided that this island is subject to such storms and hurricanes, Clipperton Island could be argued to be safe for habitation despite its small size, although its low-lying condition may still raise the question whether such shelter can last.

Consequentially, since all the criteria for all the identified human basic needs (i.e. water, food and shelter) must be satisfied in order to pass the human habitation test, this would mean that **Clipperton Island** has failed to prove its ability to sustain human habitation.

Although it could be argued that Clipperton Island has passed the Water test, and possibly also satisfy the Food test, the Shelter test remains uncertain. On this note all

elements must pass the test which includes all 3 Stages of **STEP 2A** in order to escape Article 121(3) consequences.¹⁸⁰⁶

Hence, subject to verification by scientific experts, it may be summarized from the current available facts that **Clipperton Island** has failed to show that it is fit for human survival.

Due to this fact, and taking into consideration **Principle 2** that provides that only one criterion needs to be proven i.e. either “human habitation” criterion or the “economic life” criterion, it is therefore necessary to proceed directly to **STEP 2B**.

STEP 2B

To determine whether an island can sustain an economic life of its own, it has to be decided whether-

- (i) The island has natural resources that are useful and beneficial for humans;
- (ii) Such resources are being utilized for economic purposes and not remaining dormant;
- (iii) The activities involving the utilization of such resources for economic purposes have continuity with the view towards permanency; and
- (iv) The economic activity is independent from outside assistance.

Stage 1

For item (i) there must exist natural resources on the island itself to the maximum extent of its territorial sea that are useful and beneficial for humans. This can be any resources.

➤ **Observation/Information:**

At the outset, it may be reiterated that the analysis concerning **Clipperton Island** is based on obtainable information. Hence the observations hereunder are again subject to verification which may include evidence from scientific experts from the relevant fields, when the actual test is being carried out for **Clipperton Island**.

¹⁸⁰⁶ See Framework at Section 42.

Despite the constraints in obtaining full and accurate information, in order to arrive to some conclusions for the purpose of testing the steps in this framework, some observations may be made from such available information.

The island

Where it concerns the island itself, current information shows hardly any natural resources from **Clipperton Island** itself, particularly with regard to those that may be utilised for economic purposes.

Information provides that Clipperton Island serves as 'the sole nesting site for seabirds within several thousand square kilometres.'¹⁸⁰⁷ Whilst this information triggers the high possibility that there will consequently be guano from the seabirds, and hence the mining of phosphate as a result of this guano, unfortunately, Clipperton Island's guano have depleted early in the 20th Century.¹⁸⁰⁸ Briefly, it has been reported that Clipperton Island's phosphate was mined until 1917.¹⁸⁰⁹ Although there was a concession for exploitation of guano beds approved by His Majesty the Emperor Napoleon III of France on 8 April 1858, its exploitation had not been undertaken by any French subjects¹⁸¹⁰ and hence, the island remained without population and with no administration until the end of 1887.¹⁸¹¹ Subsequent thereto, guano miners mainly from Mexico occupied the island various times before France was awarded sovereignty over it in 1931.¹⁸¹² In 1897, three persons were found to be residing there and collecting guano.¹⁸¹³ Due to the valuable phosphate content in the bird excrement, processed into fertilisers, the British Pacific Island Company together with the Mexican government decided to exploit this natural resource in 1906, and hence a settlement was built.¹⁸¹⁴ One hundred people lived on the island by 1914 although they depended on a supply ship from Acapulco every other month for

¹⁸⁰⁷ Leann Trowbridge, *supra* n 1712.

¹⁸⁰⁸ Wikipedia, *supra* n 1714.

¹⁸⁰⁹ Leann Trowbridge, *supra* n 1712.

¹⁸¹⁰ France-Mexico Arbitral Award, *supra* n 1722, pp. 391-392.

¹⁸¹¹ *Ibid.*, p. 391.

¹⁸¹² *Ibid.*, p. 394.

¹⁸¹³ *Ibid.*, p. 392.

¹⁸¹⁴ Leann Trowbridge, *supra* n 1712.

survival.¹⁸¹⁵ The beginning of the Mexican civil war which caused the end of the supply ship to Clipperton Island, both of which resulted in only three surviving women left on the island by 1917, and who were rescued by an American ship.¹⁸¹⁶ The U.S Military subsequently occupied the island for the WWII operations and today, abandoned military supplies and the ruins of a lighthouse remain there.¹⁸¹⁷ Currently, there are no natural resources and the once existing guano deposits have depleted.¹⁸¹⁸

Despite these information, scientific experts may be called to verify whether indeed there are no other natural resources on the island itself that can benefit humans within the definition of 'economic life' under Article 121(3). In addition, if such natural resources are even identified by relevant experts, the latter must verify on the realistic usability of the former, for the benefit of humans. The bulk of such natural resources must also be taken into account to assess the possible duration period leading to continuity towards permanency of its use for the benefit of humans as required under **Stage 3** of **STEP 2B**.

If such natural resources even if identified, are found to be not useful for humans, the whole test for the economic life criterion fails under the entire **STEP 2B** of the Framework. It may be reiterated, without any usable natural resources beneficial to humans, it is impossible to proceed to address the remaining questions under this **STEP 2B** of the Framework, particularly, concerning the need to exploit the resources and not left dormant, having the continuity element towards permanency, and not depending on outside resources within the scope discussed (i.e. **Stage 2**, **Stage 3** and **Stage 4** respectively) as echoed below.

In this respect, if such natural resources are verified useful and beneficial to humans by the relevant experts, the next step will be to proceed to **Stage 2** of **STEP 2B** which is to identify whether such resources are or will be exploited for economic purposes and not remaining dormant. At this point, if it can be shown that such natural resources are or will be utilized for economic purposes, **Stage 3** must subsequent thereto, be the next consideration. There must be such resources that exist or can

¹⁸¹⁵ *Ibid.*

¹⁸¹⁶ *Ibid.*

¹⁸¹⁷ *Ibid.*

¹⁸¹⁸ CIA, *supra* n 89.

exist continuously towards permanency as necessitated also by **Principle 3**. Consequently, the final stage i.e. **Stage 4** must also be fulfilled. In line with **Principle 4**, such economic activity utilizing such resources must be independent from external aid with the exception of a certain level of human involvement. This may include very minimal external resources that are solely combined with the original natural resources of the island in order to ensure the materialization of the economic life element.

For now, information shows no natural resources that may be used for economic life purposes, from **Clipperton Island** itself. As such, subject to the confirmation of relevant scientific experts on the existence of such usable natural resources, **Clipperton Island** should fail the economic life test at the first instance given the requirement that there must first exist such natural resources on the island itself before considering its surrounding waters. This would lead to Okinotorishima failing the Article 121(3) test under this Framework since it has now failed both criteria i.e. the “human habitation” test under **STEP 2A** above, as well as the “economic life” test under **STEP 2B** in the first instance.

Nevertheless, for the mere purpose of discussion, it may be interesting to observe the surrounding waters and activities on and around **Clipperton Island** as below.

Surrounding waters

Based on reported information, there are 115 fish species in Clipperton Island’s territorial waters.¹⁸¹⁹ However, tuna fishing is the only activity argued as its economic activity with fish being considered as its natural resources.¹⁸²⁰

Despite this, marine life or resources found in the territorial sea may only be considered as natural resources for purposes of Article 121(3) subject to first proving that the island itself has natural resources within its land mass, as required by the criteria for this test under the Framework.

As such, subject to scientific experts proving the existence of natural resources within the island itself, the fact that the territorial sea of Clipperton Island has tuna fish that

¹⁸¹⁹ *ibid.*

¹⁸²⁰ *ibid.*

could possibly allow for economic activity, should not be considered. Currently, there are no longer any natural resources on the island. The guano has long depleted. If in the event that other natural resources are verified to exist on the island itself by relevant scientific experts, then both the natural resources on the island and in the territorial waters can be considered. These natural resources must then be proven to be usable and used by humans as an economic life activity as required under **Stage 2** as well as the sufficiency and continuity of such resources including minimal external aid as required by **Stage 3** and **Stage 4** of this **STEP 2B** respectively.

Activities

It may also be prudent to observe if there are any ongoing activities carried out by humans that could perhaps show that there exists some economic life within the scope of this **STEP 2B** test. For this purpose, it is observed that there are indeed reported activities on or surrounding **Clipperton Island**.

Its location is popular for ham radio operators.¹⁸²¹ In addition, visitors to the island are mainly the French navy, with occasional visits from US tuna fishermen and scientific expeditions.¹⁸²² Apart from it being a prospective site for a satellite observation post, meteorological stations have operated on the island.¹⁸²³

These aforementioned activities included the completion of an automatic weather installation on 7 April 1980; and recommendation for the island to have its own economic infrastructure with an airstrip and fishing port in 1981, and plans for a permanent base for fishing in 1986, all of which did not materialize and remained as preliminary studies having considered the economic constraints, distance from markets and size of the atoll.¹⁸²⁴

The scientific expeditions included the Mexican and French Oceanographic expedition who made in depth studies in 1997, which studies was extended by a French Geographer in 2001 through his French “Passion 2001” elaborating on the evolution of the ecosystem; a National Geographic Society expedition of 41 days by

¹⁸²¹ see text at *supra* n 511.

¹⁸²² Leann Trowbridge, *supra* n 1712 - referring to Allen and Robertson, *supra* n 1752.

¹⁸²³ *Ibid.*

¹⁸²⁴ Wikipedia, *supra* n 1714.

Lance Milbrand in 2003; a four months extensive study of the ecosystem by a scientific mission organized by Jean-Louis Étienne in 2005; a study on climate change involving the collecting of sediment cores from the lagoon by an expedition from University of Washington's School of Oceanography in 2008; and a recreational scuba diving expedition in 2007 exploring Clipperton's surrounding reefs.

There were also incidences which included a Maltese chemical tanker which ran aground in February 2010 whilst on its way from the Panama Canal to South Korea, and the existence of widespread refuse as evidenced by The Clipperton Project crew in 2012 found at certain parts of the island such as debris, plastic bottles and containers potentially harmful to the flora and fauna, including other remnants caused by the American occupation in 1944-45, the French in 1966-69 and the 2008 scientific expedition.¹⁸²⁵

Other activities include the offshore sailing yachts and tuna fishing boats as well as many abandoned boat anchors with other debris directly from offshore.¹⁸²⁶ These activities are considered disturbances, resulting in the recommendation that the island be protected and treated merely as a scientific research site.¹⁸²⁷ Unfortunately, there has yet to exist any legal protection for the island.¹⁸²⁸

Radio expeditions included major DX-expeditions such as FO0XB in 1978, FO0XX in 1985, FO0CI in 1992, FO0AAA in 2000 and TX5C in 2008, including fairly recent ones such as TX5K in 2013 and TX5P in 2015.

Despite these activities, it may be argued that **firstly**, these activities hardly involves anything related to economic life activities for purposes of Article 121(3). It is obvious that the activities are mainly those relating to scientific research or expeditions as well as radio expeditions that cannot be tied to the economic life criterion as discussed for Article 121(3). If constructions such as lighthouses, scientific or radio expeditions and weather stations are accepted as satisfying the test of "economic life" under Article 121(3), any "rock" in the entire world may defeat Article 121(3) by the mere act of such construction.

¹⁸²⁵ *Ibid.*

¹⁸²⁶ See texts at *supra* nn 1800.

¹⁸²⁷ Leann Trowbridge, *supra* n 1712 - referring to Allen and Robertson, *supra* n 1752.

¹⁸²⁸ *Ibid.*

Secondly, even though there are such plans to have a permanent base for fishing in 1986, such was clearly abandoned due to the unfeasibility of the matter. Regardless, such attempts are clearly related to fishing which under the Framework, should not be taken into consideration unless natural resources that conforms to the economic life test is proven to first exist on the island itself. Furthermore, any such natural resources relating to fishing that is accepted as natural resources after having proven that there are first other natural resources on the island itself, would have to be those confined to the territorial waters of Clipperton Island and not beyond that.

Due to these facts, and subject to the verification of relevant scientific experts, **Stage 3** concerning the continuity towards permanency of the existence of such economic life would be inapplicable unless it could be proven that there is the possibility or 'ability' of the island to have passed both **Stage 1** and **Stage 2** of the **STEP 2B** test. **Stage 4** that requires the economic activity to be independent from outside assistance would indeed be hardly applicable. The fact remains that these are not even activities within the scope of the 'economic life' category of Article 121(3) under **STEP 2B**; hence questioning whether such activities have received outside assistance is not even an issue in such scenario.

Preliminary Conclusion for STEP 2B

Based on the above information, there is no clear evidence or information on the existence of natural resources that may be utilized for the benefit of humans that are generated by **Clipperton Island** itself.

In this regard, although there may be fish species or fishing activities in the territorial sea of Clipperton Island and even if this has indeed materialized as an economic life activity, such cannot be considered as having passed the economic life test. The test is such that the natural resources must also first exist on the island itself. Reliance on merely the natural resources of the territorial sea would defeat the purpose of Article 121(3) since as elaborated, any maritime feature in the whole world could thus escape Article 121(3) since the highly likely chances are, the sea would always have some marine life that may be used for purposes of proving the economic life criterion.

The activities that have been carried out in relation to this island also do not prove that there exist any such natural resources on the island.

All such activities as discussed above mainly relate to scientific research or expeditions or ham radio operations and similar operations which are hardly within the economic life understanding as established in this thesis and provided for in the Framework.

It may also be reiterated that although fishing activities could be proven to have economic value, and that the existence of natural resources to the maximum of the territorial sea are allowed for the consideration of the Article 121(3) test, this is subject to first proving the existence of natural resources from the island itself. Total reliance on the territorial sea alone is insufficient as explained above. In view of these lack of natural resources useful to mankind on the island itself, and given the geographical and geological characteristics including the landscape of Clipperton Island, the chances of proving the existence of such natural resources is most unlikely.

Nevertheless, in view of the fact that this exercise is largely based only on accessible data, experts in the relevant fields should verify the aforementioned assumptions. Therefore, subject to the verification and findings of these experts, it would appear that **Clipperton Island** would have failed the **Stage 1** test for **STEP 2B** even at the first instance.

The failure to prove the existence of natural resources even at **Stage 1** clearly shows the failure of the island to prove the ability to have an economic life. Given this fact, it is impossible to proceed to **Stage 2** that requires for the natural resources to be utilized for economic purposes, and that there is economic value in such utilization. It is impossible to proceed to **Stage 2** when there are no natural resources on the island itself even at the first instance.

Nevertheless as is the case for the human habitation test as discussed in **STEP 2A**, taking into consideration **Principle 3** (also in line with the evaluation for **Stage 3** of **STEP 2B** concerning the 'ability' of the island to provide such natural resources, scientific experts in this field may be called to prove such ability to do so, including the sufficiency and continuity of the economic life activity from such resources towards permanency. This would also be subjected to **Principle 4** (also in line with the evaluation for **Stage 4** of **STEP 2B**) which clearly requires for **Clipperton Island** to have a certain degree of independence from outside assistance. Hence, such ability to produce natural resources in this scenario would mean that outside natural resources cannot be imported for the purpose of

proving the ability to do so. The natural resources would first have to come from **Clipperton Island** itself. The only aid allowed from outside would be for instance, limited to man's physical involvement such as utilizing some basic machinery to enable the natural resources to be utilized for economic life to be produced from Clipperton Island itself. In addition, such natural resources must be shown to be utilized or at least capable of being utilized towards showing some sort of profit and benefit as opposed to their unused and dormant state.

As is also the case for the human habitation test, all **4 Stages** under **STEP 2B** must be satisfied in order for the island to escape Article 121(3) consequences.

Hence, subject to the verification of experts and scientists in the relevant fields, current information only proves that **Clipperton Island** has also failed the test concerning the economic life criterion.

CONCLUSION

Having gone through the evaluation steps under the Framework, it is found that **Clipperton Island** has failed the tests for both the 'human habitation' and the 'economic life' criteria. Although **Principle 2** provides that only one criterion needs to be proven, the island has failed to overcome either of the criterion in order to escape Article 121(3).

In conclusion, subject to the verification of experts and scientists in the relevant fields concerning the information obtained and the requirement for further relevant information, the current situation shows that **Clipperton Island** is caught by Article 121(3). This island is therefore not entitled to an EEZ or a CS.

43.1 Summary

The above exercise applying the Framework elaborates on the step by step approach that may be undertaken when ascertaining as to whether a maritime feature is an Article 121(3) island.

It will be observed that the Framework simplifies the efforts to be undertaken by States in order to arrive at some basic conclusions, proceeding towards obtaining further details

only where it concerns the need for relevant scientific experts to play a role to verify or determine certain facts.

In this respect the Framework is intended to provide a systematic approach following steps in an orderly manner. If a particular step fails, there is no necessity to proceed further, depending on which step has failed the test. This aids in minimizing the time utilized to ascertain whether a maritime feature is indeed an Article 121(3) island or otherwise. For instance, if an island has been proven to have no fresh water nor the ability to have such water in the near future, the human habitation test fails instantly and there is no need to further explore the island on all other aspects under the ‘human habitation’ test. As established in the discussions throughout this thesis, particularly **Chapter 9** on environmental science, water is a basic necessity for humans, and as such, the non-existence of it would mean that the island has failed the human habitation test. This will automatically shift the focus to the “economic life” test, with similar steps in the approach, to expedite in ascertaining the island’s status.

As may be seen for Okinotorishima for instance, there was no necessity to observe further on other stages in the human habitation test having proven that no fresh water exists or is ‘able’ to exist on the island. The economic life test was thus immediately focused upon after such finding.

In short, the Framework acts as an aid to facilitate the ascertaining of a maritime feature vis-à-vis Article 121(3) in a neutral and unbiased manner.

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