

Editorial

Climate Compatible Development: Generating Co-Benefits from Climate Change Planning

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Greenhouse gas emissions continue to rise, our climate continues to change, and people continue to adapt to new environments [1]. The world now faces unprecedented threats from increased climate variability and change, the impact of which is compounded by chronic poverty, inequality, and rapid urbanization [2]. This combination of climatic and socio-economic pressures is expected to exert pressure on the ability of individual nations to achieve: (i) the objectives of the United National Framework Convention on Climate Change (UNFCCC) (1994) Article 2; (ii) the Sustainable Development Goals (SDGs); and (iii) the priority actions in the United Nations Office for Disaster Risk Reduction UNDRR (2015) Sendai Framework for Disaster Risk Reduction. Governments at all scales are increasingly under pressure to balance their budgets, while delivering higher quality services. Demand exists for guidance on how to deliver integrated policy approaches to climate adaptation and mitigation whilst also supporting sustainable development.

Climate compatible development (CCD), also referred to as ‘triple wins’ or climate resilient development, is a relatively new policy concept [3] that offers the opportunity to deliver joint action on climate change adaptation, mitigation, and socio-economic development through a single initiative popularised through the Climate and Development Knowledge Network in 2010 [4]. CCD has gained the attention of policy makers, and is shaping policy choices in the developing world. For example, a climate compatible development plan was launched by the President of the Dominican Republic in 2011 [5]. The plan presented an emission reduction strategy for the energy, transport, forestry, tourism, cement and waste sectors that also focused on well-being and awareness raising around climate change. Similarly, the Cook Islands’ Government launched the Kaveinga TaPaPa Climate and Disaster Compatible Development Policy 2013–2016 that aimed to manage climate and disaster risks and reduce emissions in the context of sustainable development [6]. The growing interest in CCD can also be seen in recent international climate agreements. The Global Stocktake, required under the 2015 Paris Agreement [7], points towards CCD in two articles. First, it explicitly acknowledges the role of adaptation/mitigation co-benefits in Article 4.7: “Mitigation co-benefits resulting from Parties’ adaptation actions and/or economic diversification plans can contribute to mitigation outcomes under this Article” (*ibid*: 4). Second, it identifies CCD as a core objective in Article 2.1 (c): “making finance flows consistent with a pathway towards low greenhouse gas emissions and climate-resilient development” (*ibid*: 2).

Early work on co-benefits from the investment in adaptation and mitigation focussed on the theoretical relationship between adaptation and mitigation, with theorists suggesting that a space exists to generate co-benefits in specific sectors linked to mitigation (e.g., forestry) [8]. However, the analysis of co-benefits has been hampered by a lack of careful monitoring, evaluation, and reporting, and has resulted in a lack of empirical evidence of CCD [9]. Most studies documenting CCD simply identify examples of CCD rather than systematically sampling and evaluating evidence [10,11]. As with any

new policy concept, a critical consideration of CCD requires us to ask: where is the evidence that CCD is actually occurring? How prevalent is CCD? Where is CCD occurring? What does CCD look like in practice? What are the costs and benefits of CCD? and, are we able to ascertain the distributional effects of CCD (i.e., who wins, and who loses?) These questions have been asked, but not answered for the last decade [12]. Efforts have been made to address these research gaps, and to identify the prevalence of CCD in international adaptation and mitigation projects. For example, an analyses of 201 project design documents funded through the CDM, the Adaptation Fund, the Special Climate Change Fund, and the LDC Fund found that only 37% reported evidence of CCD [13]. Of those, only 17% of the documents substantiated the claims of co-benefits. It has become increasingly clear that despite the emergence of CCD policy, little empirical evidence exists of the contexts in which 'triple wins' occur, or the distributional consequences of CCD [14,15].

The aim of this Special Issue is, therefore, to reflect upon and critique the notion of joint action on climate adaptation, mitigation, and development. We return to some theoretical questions that remain unanswered: conceptually, what is CCD? Can triple wins be found? How are they generated? Who benefits, and at what cost? Additionally, how do we evaluate triple wins? To this end, this Special Issue documents triple wins across scales, for the most part providing evidence from individual case studies. All of the papers submitted to this Special Issue feature CCD that started at the policy level, albeit at different scales. Antwi-Agyei et al. (2018) examine how Ghana's agriculture, energy, water, forest, and wildlife sector policies are aligned with climate adaptation, mitigation, and development. Barbier and Burgess (2018) discuss the policies needed to support climate risk management in investment decisions in climate science, technology, and innovation (STI) expansion. Both Carrapatoso and Geck (2018), and Reinecke and Blum (2018) discuss policies to deliver sustainable land use management through forest landscape restoration (FLR), a conservation concept supported by the International Union for Conservation of Nature (IUCN). Favretto et al. (2018) also consider the potential for ecological restoration projects to deliver CCD. Kalafatis (2018) discusses the extent to which policies within North American cities are associated with CCD. Pilato et al. (2018) examine how CCD is integrated in local development planning from the village to district level in Tanzania. Finally, Wood et al. (2018) develop an evaluation approach to CCD, focussing on a case study of the clean development mechanism.

Two key themes run through the papers in this Special Issue, both of which have significant implications for CCD policy effectiveness. First, monitoring and evaluation of 'triple win' policies remain haphazard and often lack in core elements such as community perceptions of winners and losers. Second, if 'triple wins' are required in policy initiatives, they need to be built into policy design and implementation at the project outset.

The first theme points to a knowledge and research gap. Specifically, there is an urgent need for more effective monitoring, evaluation, and reporting of CCD policies and programmes. Evidence needs to be collected on who benefits and who loses from CCD schemes. For example, are men more likely to benefit than women? Furthermore, how are other intersectional vulnerabilities and intergenerational equity issues addressed by CCD policy? At the national scale, where CCD policy is emerging, it is important to note that there is some limited evidence that CCD does not always create the desired benefits [10]. Klein et al. (2005, p. 582) [12] note: "*there appear to be good reasons not to focus on creating (limited and sometimes far-fetched) synergies between mitigation and adaptation, as this could lead to projects that are difficult to implement and administer, are cost-ineffective and, when taken together, produce insufficient mitigation and adaptation benefits*". The papers in this Special Issue provide insights into how to approach monitoring CCD, focussing on the importance of obtaining a range of stakeholders' perspectives, and ensuring that effective reporting systems are established from the outset of CCD policy development.

In response to the second theme, assuming that CCD is proven to be beneficial in certain contexts, we currently lack insight into how we can build inherently cross-departmental CCD into government policies [14]. We identified two challenges. One relates to the functional structure of governments. Most government departments, agencies, and public bodies are organised around specific topics

(e.g., energy, forestry, land use, disaster risk management, communities, and housing). Government departments often operate in sectoral silos specifically to allow expertise to organise around themes and issues of relevance to the government. Complex challenges such as climate change rarely fit neatly within one government department. Antwi-Agyei et al. (2018) reinforce this point, noting that in Ghana, there is a lack of coherence in policy making between relevant sectors. A second challenge to the effective design of CCD policies is the lack of resources available to support and encourage policy development that seeks to deliver co-benefits, or triple wins. Pilato et al. (2018) point to this finding in Tanzania, noting issues of under-resourcing, unreliable information, and a lack of guidelines as hindering the development of CCD. Together, these two elements point to the importance of guidance on the potential costs and benefits of coherent cross-departmental CCD policy making.

We are still a long way from the point where we can give clarity on the benefits of CCD policies, or to evaluate the costs and benefits of CCD policies. Before we are able to understand the impacts of CCD policy, we must first document examples. The Global Stocktake offers an opportunity to do this, however, all CCD documentation, monitoring, and reporting needs to reflect on and substantiate the spatial and temporal impacts of the CCD policy on adaptation, mitigation, and development. Without this, we remain in a speculative environment where we can only theorise about the benefits from CCD.

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