# Wallacea region – understanding biodiversity and evolutionary responses to environmental change

We aim to explore the biodiversity of Indonesia’s Wallacea region to better understand tensions in land use and the adaptation of biodiversity in response to environmental change. This programme seeks solutions to support the management, restoration, rehabilitation and exploitation of the region.

The aim of this programme is to explore the biodiversity of the Wallacea region and, through this, understand tensions in land use and the adaptation of biodiversity in response to environmental change. It will provide solutions to support effective management, restoration, rehabilitation and exploitation of the region and its biodiversity.

This programme aligns with Indonesia’s strategic focus on the sustainable management of biodiversity, balancing the need for conservation and economic development through natural resource management. It also aligns to the National Medium Term Development Plan 2015 to 2019, which seeks to increase support of science and technology for sustainability and use of natural resources.

The programme will deliver new basic science data leading to greater knowledge and wider approaches to inform effective management, restoration, rehabilitation and exploitation of the area’s biodiversity and ecosystems, balancing the need for conservation with economic development, and supporting the social and economic stability of the region.

Research challenges the programme could address include:

* developing knowledge of Wallacea region biodiversity and ecosystem responses to change
* using this knowledge to understand biodiversity connectivity across the region exploring resilience, trade-offs and informing restoration and management
* exploring the economic, environmental and social benefits attached to the region’s natural capital assets (via the benefits and services derived) and therefore providing an informed approach to innovation and business activity.

This programme is supported by the UK through the Newton Fund, which forms part of the UK government’s official development assistance commitment.

Indonesia is the largest archipelagic country in the world, stretching from Borneo and Java east to New Guinea, over 17,500 islands. 49% of the country is forested, accounting for 10% of the world’s tropical forests. The Wallacea biogeographical island region is defined as a group of mainly Indonesian islands separated by deep water straits from the Asian and Australian continental shelves. Wallacea includes Sulawesi, the largest island in the group, as well as Lombok, Sumbawa, Flores, Sumba, Timor, Halmahera, Buru, Seram, and many smaller islands.

Sitting at the intersection between the Oriental and Australasian biogeographic regions, it is one of the world’s biodiversity hotspots, with a high level of endemism due to the deep water straits. The Indonesian government has initiated the programme of activities focused around Alfred Russell Wallace to strengthen the ties between Indonesia and the UK at scientific, social and cultural levels. This Wallacea research programme is complemented by early career fellowships, undergraduate expeditions, public lectures, and media engagement through other funding.

Within the past century, Indonesia has undergone significant development as its population has nearly quadrupled. Various activities have put pressure on the long-term sustainability of the forests, such as clearances for agricultural programmes, industrial timber plantations and for land settlement schemes. This has greatly reduced the amount of forest habitat, particularly in the lowlands, and has caused dramatic and severe declines in the populations of many forest species.