Project Goals

The objective of the RESTORE+ project is to provide decision makers in the tropical region with lasting capacity, technical recommendations and enhanced datasets to inform the restoration of degraded and marginal areas. This calls for a comprehensive assessment of degradation and restoration, which requires the identification of degraded areas, multi-objective modelling and trade-off analysis. It provides the opportunity to develop a generic methodology that can be applied to other regions in order to maximise the impact of the results. To this end, while focusing on detailed assessment activities in Indonesia and Brazil, the project also covers the Congo Basin, to conduct dissemination and research outreach activities.

Specifically, the project aims to generate information, tools and understanding on:

1. the extent and distribution of degraded land,
2. the socio-economic and environmental (e.g., GHG emissions and biodiversity) implications of varying definitions, and related uses, of degraded land, and
3. the options and trade-offs for ecosystem restoration or sustainable food/energy crop production on degraded lands.

In **Indonesia**, RESTORE+ aims to use the above to inform key national and sub-national policies. Relevant national policies that are targeted to utilize such information include the medium-term economic development plan (or RPJMN[1]), nationally determined contribution (NDC), climate resilience strategy, and national biodiversity strategies and action plan (NBSAP).

In **Brazil**, the project benefits from the successful results of the preceding IKI-funded REDD-PAC[2] project. Other than generating important technical assessments that are used as the basis of Brazil's NDC, REDD-PAC also resulted in the GLOBIOM-Brazil model (G. Câmara et al. 2015) and local modelling capacities that will contribute to the RESTORE+ project. At this stage, RESTORE+ aims to inform official national documents (e.g., ministry regulations, technical guidelines, policy guidelines) that contribute to the implementation or enhancement of Brazil's Forest Code to help achieve objectives such as those in its NDC and NBSAP.

In the **Congo Basin**, activities are dedicated to gaining endorsement from stakeholders of the region (e.g., Ministries of Forest/Environment, COMIFAC, CN-REDD offices, Ministries of Agriculture) on the potential contribution of RESTORE+ project results to policy formulation or relevant activities of the stakeholders. Selected training activities will also be identified and conducted throughout the project which will result in enhanced capacities.

[1] National Medium Term Economic Development Plan is popularly abbreviated as RPJMN from its Indonesian terminology of *Rencana Pembangunan Jangka Menengah Nasional*

[2] See www.redd-pac.org for more information.

Project outputs

1. Indonesia

Tools, platform and participatory mapping campaigns (output I)
Since definitions and spatial assessment of degradation currently contribute uncertainty to the assessment of restoration potential, RESTORE+ will conduct innovative mapping and participatory campaigns that utilizes crowdsourcing measures to address these uncertainties. **Tools (e.g., mobile applications)** and **web-based platforms** will be developed and utilized to facilitate **crowdsourcing campaigns.** These campaigns will:

1. identify key ecological functions that characterise degradation,
2. collect biophysical and/or social information that is required in the assessment of degradation and restoration, and
3. generate detailed maps that are required as input data for multi-objective modelling and scenario analysis of degradation and restoration.

Due to technical and resource limitations, the project will focus on the provinces of South Sumatra and East Kalimantan when conducting detailed crowdsourcing campaigns for mapping degradation. Nevertheless, the developed tools and platform together with generated datasets will be made available to the public to allow application of the approach to other areas in Indonesia and beyond.

Technical assessment of degradation and restoration (output II & III)
A national assessment of degradation and restoration will be conducted to examine:

1. the implications of using different definitions of degraded and marginal land for production, biodiversity and wider land use related issues,
2. national scenarios on general land use impact related to land resource carrying capacity of key economic development activities (e.g., agriculture, transport infrastructure, and industrial development),
3. national scenarios of restoration and sustainable food/energy crop production on degraded areas,
4. scenarios for sustainable bioenergy production in Indonesia with detailed land resource identification and supply chain arrangements/policies.

The assessments will generate **scenario impact maps, datasets of scenario analysis** and **reports** that will inform policy makers and other stakeholders in Indonesia. Extensive stakeholder engagement and joint capacity building are crucial elements throughout the modelling process. Therefore, the project will result in **operational models, accessible decision support tools** as well as **local capacity** that is capable of maintaining and further developing the tools.

Restoration and sustainability certification mechanisms (output IV)
Ultimately, the results of the technical assessment need to be translated into actual implementation of restoration activities. Sustainability certification and standards are important means that can mobilise private funds to this end. Using the results of the technical assessment, RESTORE+ will examine how restoration can be included into these existing demand-side measures. The project aims at generating **recommendations** to policy makers and certification bodies to ensure that other project outputs are delivered in a relevant manner.

2. Brazil

Enhanced maps of degradation (output V)

In Brazil, the RESTORE+ project focuses on tropical forest degradation. The project will utilize big data analysis methods to generate **yearly country map datasets** for the period of 2000-2020. These datasets will be made accessible to the public.

Technical assessment of degradation and restoration (output V & VI)

A national assessment will be conducted to examine:

1. implications of using different definitions of degraded land on production, biodiversity and wider land use in Brazil, and
2. national scenarios of restoration and sustainable food/energy crop production on degraded lands.

The technical assessment will utilize the GLOBIOM-Brazil model to **explore different scenarios, and generate associated maps, datasets and reports** that will inform policy makers and other stakeholders in Brazil. Specifically, the assessment will cover:

1. technical recommendations on the definition of the legal framework that will regulate the environmental reserve quotas market which is foreseen in Brazil's Forest Code;
2. technical recommendations on the formulation of Brazil's national policies for forest protection (including Amazon Region Protected Areas (ARPA)) and forest restoration considering the Forest Code (including Rural Environmental Cadastre) and international REDD+ arrangements to which Brazil has agreed to take part; and
3. identification of the target areas for forest restoration, considering socio-economic costs and benefits, biophysical constraints, and national environmental policies for forest regrowth after deforestation and degradation, to support Brazil's contribution to the Bonn challenge.

Datasets from the technical assessment will be disseminated to the wider public through a **web-based analytical and visualisation tool** which will also be useful for national and local planners in Brazil.

3. Congo Basin

Technical assessment of degradation and restoration (output VII)

Building on land use change projections for the Congo Basin region that were generated by the REDD-PAC project, RESTORE+ will incorporate newly available datasets on degraded areas to continue modelling activities and generate **technical recommendations** to relevant policy makers in the region.

References:

Câmara, G., A. Soterroni, F. Ramos, A. Carvalho, P. Andrade, R. S. Souza, A. Mosnier, et al. 2015. "Modelling Land Use Change in Brazil: 2000–2050." Other. November. http://www.redd-pac.org/index.php.