PROJECT CONCEPT NOTE

Spatial analysis to support land-use planning for REDD+ in Papua New Guinea

Taking account of risks and benefits

Summary   Papua New Guinea (PNG) aims to reduce projected greenhouse gas emissions by 2030 and become carbon neutral by 2050, as described in its National Climate-Compatible Development Strategy, National Climate-Compatible Management Policy and 2015 Climate Change (Management) Act. Most of this abatement is to come from reducing emissions caused by land use, land-use change and forestry, which currently account for over 95 percent of emissions. PNG's REDD+ Readiness Preparation Proposal (R-PP) outlines a set of actions to implement this strategy and other policies, stating that all activities will be designed with a focus on co-benefits, such as maximizing biodiversity conservation and improvement of forest-dependent people's livelihoods. This proposed project, focused on spatial analysis to support land-use planning for REDD+, will support the development of PNG's capacity to take into account risks and benefits of implementing REDD+, and incorporate multiple benefits and safeguards into the design and implementation of its REDD+ planning through spatial analysis and mapping, and other approaches.

1   Objective

The main objective of the project is to contribute to the development of PNG's capacity to integrate multiple benefits and safeguards into its national REDD+ strategy and planning processes. The project is intended to raise awareness of the importance of taking into account multiple benefits and safeguards in the design of PNG's REDD+ strategy. An integral component of the project is enhancing the capacity of key technical staff on the use of spatial planning and mapping using GIS software to support decision-making in REDD+ planning for multiple benefits and safeguards.

2   Context and justification

REDD+ actions have the potential not only to maintain or enhance forest carbon stocks, but also to deliver additional social and environmental benefits, such as conservation of biodiversity and ecosystem services and/or promoting local livelihoods. However, there are risks associated with REDD+ as well, which need to be avoided or minimized. For example, related to the conversion of natural forests to forest plantations or spatial displacement of emissions.

REDD+ implementation can be enhanced by identifying appropriate locations where REDD+ actions might be particularly helpful in achieving these benefits at low risk; as the potential benefits of implementing REDD+ actions are influenced by a range of location-specific factors, including biophysical, socio-economic and cultural characteristics.

PNG's Climate-Compatible Development Strategy was launched in 2010 to prioritize reduced emissions from deforestation and degradation initiatives. The PNG government currently have a national Climate-Compatible Development Management Policy (CCDMP) and a Climate Change (Management) Act. It is in the process of developing a REDD+ strategy that, based on a deep understanding of the underlying causes of deforestation and forest degradation, can promote sustainable forest management, while improving the livelihoods of local communities that directly depend on forest resources.

In support of the strategy, access to and use of comprehensive spatial data and maps on natural vegetation and land use, the biodiversity in relevant ecosystems, ecosystem services provided, spatial patterns of deforestation and degradation, demographic factors and infrastructure development, among others; can usefully inform spatial planning and design of various REDD+ actions that enhance the multiple benefits of forests.

This project will therefore support technical staff from relevant ministries and agencies in defining and conducting spatial data analyses and developing maps to inform decision making on the integration of multiple benefits and safeguards in REDD+ planning, all through the REDD+ Technical Working Group (TWG).

UNEP, through its UNEP-WCMC team, has considerable experience in supporting countries in this type of work. A set of maps was produced for the Central Sulawesi Province in Indonesia as a part of a decision-support toolkit for REDD+ planning (Blyth et al. 2012). The toolkit combined spatial data layers of land cover, carbon stocks, important areas for biodiversity and anthropogenic pressure to assess the potential for additional social and environmental benefits with REDD+. Similar activities have been carried out in Peru (Epple et al. 2014), Tanzania (Runsten et al. 2013), Viet Nam (Mant et al. 2013) and the Democratic Republic of Congo (Musampa Kamungandu et al. 2012). Others are currently being carried out in Mongolia and Cambodia. These options would help to scale-up REDD+ implementation from sub-national to national scales.

The types of spatial analyses will be defined collaboratively to address key questions for PNG on land-use planning and design of REDD+ actions for achieving additional social and environmental benefits and reducing risks. Along with consultation to identify priority risks and benefits for analysis, collaborative

working sessions will be held to conduct the spatial analyses, using open-source GIS software, and to also build GIS capacity of REDD+ TWG members.

3   Activities and outputs

The detailed activities and outputs for the project remain to be defined in consultation with PNG, and could be discussed during a first planning meeting. It is proposed that the project activities be delivered in two phases; a first phase under PNG's UN-REDD National Programme, whose main objective will be to raise awareness on the importance of incorporating benefits and risks, and safeguards and build the technical capacity to do so; and a second phase, in which the main products and outputs will be delivered. The first-phase activities could include:

1.   A launch workshop in PNG to:
    a. increase the awareness of the importance of integrating multiple benefits and safeguards in REDD+ planning, decide the scope of the work, including what questions the spatial analyses should be designed to answer, key values of the forest, pressures or actions that should be highlighted; and
    b. evaluate what spatial data is available and what the key data sources are.

2.   In collaboration with partners in PNG, collection and assessment of existing datasets, maps and information on the policy context, and initial outline of the analysis to be conducted.

3.   A two-week working session (that could be either held in PNG or Cambridge depending on the decisions taken during the first workshop) with technicians of relevant ministries and/or agencies, when the majority of the mapping work will be conducted. Analysis could potentially be conducted at the national or the sub-national level, e.g. for selected provinces. This working session will discuss the policy-relevant questions (based on guidance from the launch workshop), decide how to create the maps; what data to use, what analyses to conduct and how the information could be presented on the maps. The group will conduct the analyses, in the process learning to use open-source GIS software, and also discuss what policy analysis should accompany the maps. Spatial layers of relevance may include, depending on the focus, selected aspects of:

    • Carbon stocks
    • Forest harvesting concession maps
    • Concession maps for the production of agricultural commodities, such as oil palm
    • Biodiversity
    • Ecosystem services
    • Social and economic factors

- Land management units and development plans, including emerging infrastructure plans
- Drivers of deforestation and forest degradation, including for example scale logging operations and subsistence and commercial agriculture

4. Write a report, or other form of output describing the work carried out in the workshops, including the training material used during the sessions

The project will produce the following outputs:

1. Launch workshop report
2. A report of the working sessions, including the presentations and input material used during the sessions
3. Tutorials for the application of the GIS methodologies applied during the sessions
4. Spatial data layers resulting from the sessions, which could be uploaded to the national REDD+ web portal currently under development at the OCCD Satellite Land Monitoring System laboratory.

Subsequent work in the second phase could include development of a full-scale colour report that supports decision-making in land-use planning and identifies potential actions for achieving multiple benefits from REDD+, an interactive tool; and continued liaison with the national REDD+ team to ensure that the results are useful and informative for REDD+ planning and strategy development.

4   Assumptions and risks

The main assumption of this project is that sufficient data and maps will be available for achieving the desired purpose identified by PNG focal points. The PNG collaborators in this project will take part in the secondary data collection process (i.e., identifying and obtaining existing data) and take responsibility to provide access to national datasets for project purposes. This work will take advantage of the spatial data-sharing initiative of the UN-REDD Programme GIS/RIS team. Where no appropriate/national level data is available, the project will identify and obtain the best available international data.

5   Collaborators

This work will involve close cooperation between the United Nations Environment Programme World Conservation Monitoring Centre (UNEP-WCMC), the PNG Forest Authority (PNGFA) and the Office of Climate Change and Development (OCCD) and the REDD+ TWG members.

6   Contacts

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