# Mapping to support land-use planning for REDD+ in Kenya

## Taking account of safeguards and multiple benefits

**Summary**

Kenya’s Forests Act (2005) requires all forests to be under sustainable forest management, regardless of ownership. Kenya’s REDD+ Readiness Preparation Proposal (R-PP) outlines a set of actions to implement this and other policies, stating that all activities will be designed with a focus on co-benefits, such as improving biodiversity and livelihoods of forest dependent people. This project will support REDD+ implementation in Kenya by providing support in defining and conducting relevant spatial data analyses and developing maps to inform decision-making on REDD+.

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### Objectives and outcomes

This proposal has two main objectives. It will:

1. Assist REDD+ planning in Kenya through the development of targeted maps that explore different implementation possibilities for REDD+.
2. Build technical capacity of key GIS staff on spatial data analysis and mapping for policy land-use planning support using open-source GIS software[[1]](#footnote-1).

The outcomes of the project will be:

1. Collection of relevant spatial data in a data registry, and production of maps for the purpose of informing REDD+ decision making, notably land-use planning, design of REDD+ actions (interventions) and prioritization of zones for different actions.
2. Enhance capacity of GIS staff in constructing maps relevant to REDD+ policy, and conducting spatial analysis using open source software. Topics of relevance include co-benefits and environmental safeguards for REDD+.

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Context and justification

REDD+ actions have the potential not only to maintain or enhance carbon stocks, but also to deliver additional social and environmental benefits. Some of the potential benefits from REDD+, such as biodiversity and ecosystem services conservation, can be enhanced by identifying areas where REDD+ actions might be particularly helpful in achieving these.

It is estimated that 12 000 hectares of forest are lost in Kenya each year through deforestation, with the remaining forested areas being vulnerable to degradation due to intensive, unsustainable use (such as illegal logging, uncontrolled grazing or charcoal exploitation).

Kenya’s national climate change strategy was launched in 2009 during COP 15 and to reduce further deforestation and degradation in the remaining forests, the Kenyan government is currently in the process of implementing REDD+ strategies that can identify the underlying causes of deforestation and forest degradation and promote a sustainable forest management, while improving the livelihoods of the local communities.

However, the Government of Kenya has identified a need for better access to comprehensive spatial data and maps on natural vegetation and land use, the biodiversity in relevant ecosystems, the ecosystems services provided, and the geographical patterns of deforestation, forest degradation and their drivers. This data can inform spatial planning and design of REDD+ actions.

This project will facilitate REDD+ implementation in Kenya by supporting GIS staff in defining and conducting relevant spatial data analyses and developing maps to inform decision making on REDD+. The topics of these maps will be defined collaboratively to address key questions for Kenya on land-use planning and design of REDD+ actions for achieving multiple benefits. For example, maps can be developed to identify priority areas for implementation of different REDD+ actions, such as forest restoration potential, and approaches to reduce pressure on non-forest ecosystems. A collaborative working session will be held to conduct the spatial analyses, using open-source GIS software, and to also build GIS capacity.

Of great importance to Kenya are its five water catchment forest areas: Mt Kenya, Aberdare Ranges, Mau Complex, Cherangani Hills and Mount Elgon. These montane catchment forests serve as water catchments for several rivers draining into the major water bodies in Kenya and the East African Region, and also have great biodiversity and other ecosystem service values.

As one of the water towers of Kenya, Mount Elgon can form a sub-national case study, illustrating also transboundary strategies discussed with Uganda.

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Activities and outputs

The proposed project will undertake the following activities:

1. An initiation workshop in Kenya to
   1. 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
   2. evaluate what spatial data is available and what the key data sources are
2. Existing datasets, maps and information will be collected and assessed in collaboration with partners in Kenya, and preparatory context review conducted. This will include investigating how this work can draw upon the outputs from related analytical work that has been conducted: the montane forest valuation study, the forest resource account and the T-21 scenario model.
3. A two week working session will be held in Kenya with GIS staff and other focal points, when the majority of the mapping work will be conducted. This working session will discuss the policy-relevant questions, decide in detail how to create the maps; what data to use, what analyses to conduct and how to present the information on the final 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
* Biodiversity
* Ecosystem services
* Land management units and development plans, including emerging infrastructure plans
* Drivers of deforestation and forest degradation, including for example fire and charcoal use areas

1. Write a report, or other form of output, presenting the maps and accompanying policy analysis to Kenyan policy makers

The project will produce the following outputs:

1. Initiation workshop report
2. Presentations and input material for working sessions
3. Soft copy maps based on the analysis of spatial data
4. A final report

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|  | **2014** | | | | | | **2015** | | |
|  | **July** | **Aug** | **Sept** | **Oct** | **Nov** | **Dec** | **Jan** | **Feb** | **Mar** |
| **Activity** |  |  |  |  |  |  |  |  |  |
| 1. Initiation workshop |  |  |  |  |  |  |  |  |  |
| 2. Data collection and preparation |  |  |  |  |  |  |  |  |  |
| 3. Working session |  |  |  |  |  |  |  |  |  |
| 4. Finalizing maps and writing final report, disseminating results |  |  |  |  |  |  |  |  |  |

Budget

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The total cost of the project is estimated at USD 130 000.

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| Budget breakdown | | | | |
| **Activity** |  |  | **Total (USD)** | |
| 1. Initial discussions with Kenya focal points, context review, data collection, preparing materials for initiation workshop |  |  |  | 20 000 |
| 2. Initiation workshop in Kenya, agreement with focal points/advisory group on scope of work |  |  |  | 16 000 |
| 3. Collect, prepare and analyze additional data, prepare materials for mapping working session |  |  |  | 25 000 |
| 4. 14 day working session and QGIS training in Kenya, doing the majority of the spatial analysis |  |  |  | 33 000 |
| 5. Quality checking of maps, policy analysis, write up final report, dissemination of results |  |  |  | 36 000 |
| **TOTAL** |  |  |  | **130 000** |

Assumptions and risks

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The main assumption of this project is that sufficient data and maps will be available for achieving the desired purpose identified by Kenyan focal points. The Kenyan collaborators in this project will take part in the data collection process and take responsibility to provide access to national datasets. UNEP-WCMC will locate and obtain the best available international data.

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Collaborators

This work will involve close cooperation between the United Nations Environment Programme World Conservation Monitoring Centre (UNEP-WCMC) and Kenya’s Forest Working Group.

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Contacts

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1. The use of open-source GIS software removes the dependency on costly licenses and updates from commercial software, and therefore removes a barrier that institutions and individuals may have to be able to do GIS work and maintain their GIS systems. For more information, please see: [http://www.unredd.net/index.php?option=com\_docman&task  
   =doc\_download&gid=12140&Itemid=53](http://www.unredd.net/index.php?option=com_docman&task=doc_download&gid=12140&Itemid=53) [↑](#footnote-ref-1)