

Developing multiple benefits maps to inform REDD+ planning and safeguards policies in Tz

Morogoro, 5 Feb 2013

UNEP-WCMC





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**UNEP's specialist arm in biodiversity
assessment and policy implementation**



Overview

- Background on multiple benefits, the Cancun safeguards and national approaches to REDD+ safeguards
- Objectives of the project
- Objectives of this workshop



Background



What is REDD+?

REDD+

= Reducing Emissions from Deforestation
and forest Degradation

+

Conservation of forest carbon stocks
Sustainable management of forest
Enhancement of forest carbon stocks

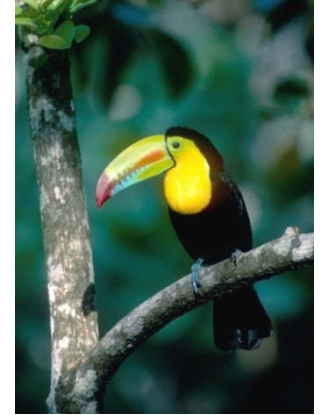


REDD+ activities as defined by Cancun

- Encourages developing country Parties to **contribute to mitigation** actions in the forest sector by undertaking the following activities, **as deemed appropriate by each Party and in accordance with their respective capabilities and national circumstances**:
 1. Reducing emissions from deforestation;
 2. Reducing emissions from forest degradation;
 3. Conservation of forest carbon stocks;
 4. Sustainable management of forests;
 5. Enhancement of forest carbon stocks;

Beyond Carbon

- **Multiple benefits = all benefits from REDD+, including carbon. Not only monetary!**
- **Environmental, e.g.**
 - Contributing to biodiversity conservation
 - Securing ecosystem services
 - Traditional medicine
 - Climate regulation
 - Hydrological services (water quantity and quality)
 - Soil conservation and sedimentation control
 - Provision of timber and NTFPs
- **Social, e.g.**
 - Improved livelihoods
 - Clarified rights to resources



Examples of potential measures per activity



- **Reducing emissions from deforestation**
 - Increasing productivity on existing agricultural land
 - Enhance the long term sustainability of farming techniques
 - Forest protection incentives
 - Enforcement of land-use regulations
- **Reducing emissions from forest degradation**
 - Improvement of governance and enforcement for timber extraction
 - Reduced impact logging
 - Regulated/certified logging
 - Better management of fire in agriculture
- **Conservation of forest carbon stocks**
 - Increased number and/or enhanced management of protected areas
 - Community reserves
 - Forest reserves
 - Supporting community based natural resource management
- **Sustainable management of forests**
 - Reduced-impact logging
 - Eco-forestry
 - Enhanced regulation of logging
 - Application of certification standards
- **Enhancement of forest carbon stocks**
 - Forest restoration in degraded areas
 - ...

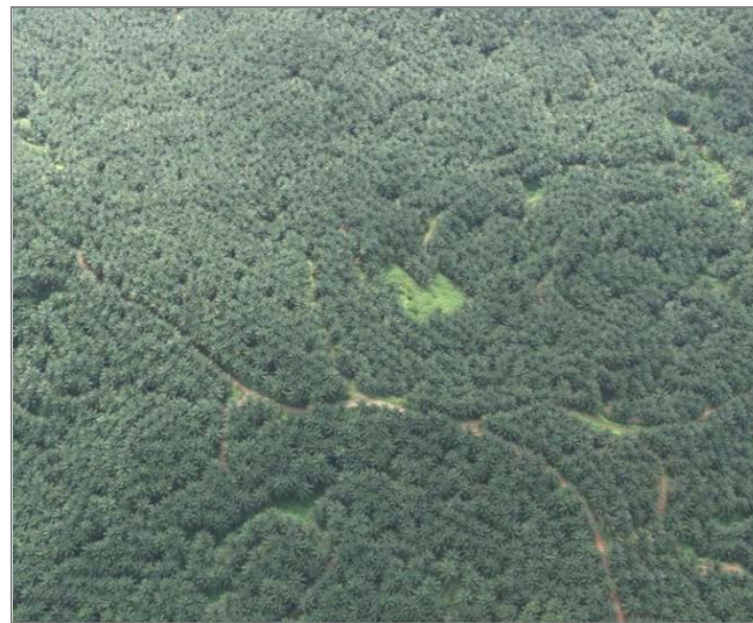
REDD+ also has risks

- **Environmental**

- Replacement of natural forest with plantation
- Displacement of pressures to areas important for biodiversity or ecosystem services

- **Social**

- Reduced access to resources
- Limited participation
- Poor governance
- Loss of forest land by communities



Cancun Safeguards address benefits & risks of REDD+

- Countries have agreed to promote and support them
- Formulation is (necessarily) general – countries need to decide how to apply them
- The safeguards address both benefits and risks - designing REDD+ to deliver multiple benefits, helps to fulfil the Cancun commitments





Cancun safeguards (2010)

Including:

“[REDD+] Actions are consistent with the **conservation of natural forests and biological diversity**, ensuring that actions referred to in paragraph 70 of this decision are **not used for the conversion of natural forests**, but are instead used to **incentivize the protection and conservation of natural forests and their ecosystem services**, and to **enhance other social and environmental benefits**”

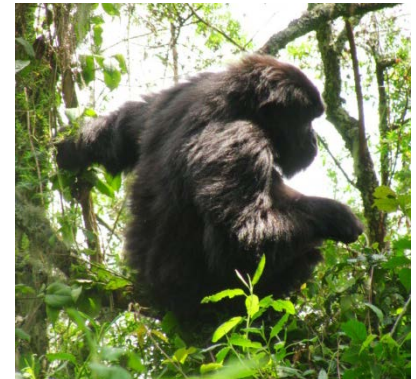
Cancun Agreements:
FCCC/CP/2010/7/Add.1 Appendix I

UN-REDD
PROGRAMME



Why map multiple benefits?

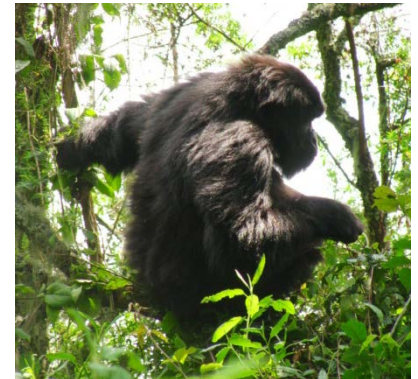
- Can be adapted to specific **national priorities** and needs for information
- A rapid, cost-effective and easily communicated tool that can inform **REDD+ planning in a participatory manner**
- Overlay maps of carbon and multiple benefit indicators can help identify areas of both high **opportunity** (e.g. strong positive correlation in carbon and biodiversity values) and **risk** (e.g. low in carbon but high in biodiversity) in the REDD+ planning process.





Why map multiple benefits?

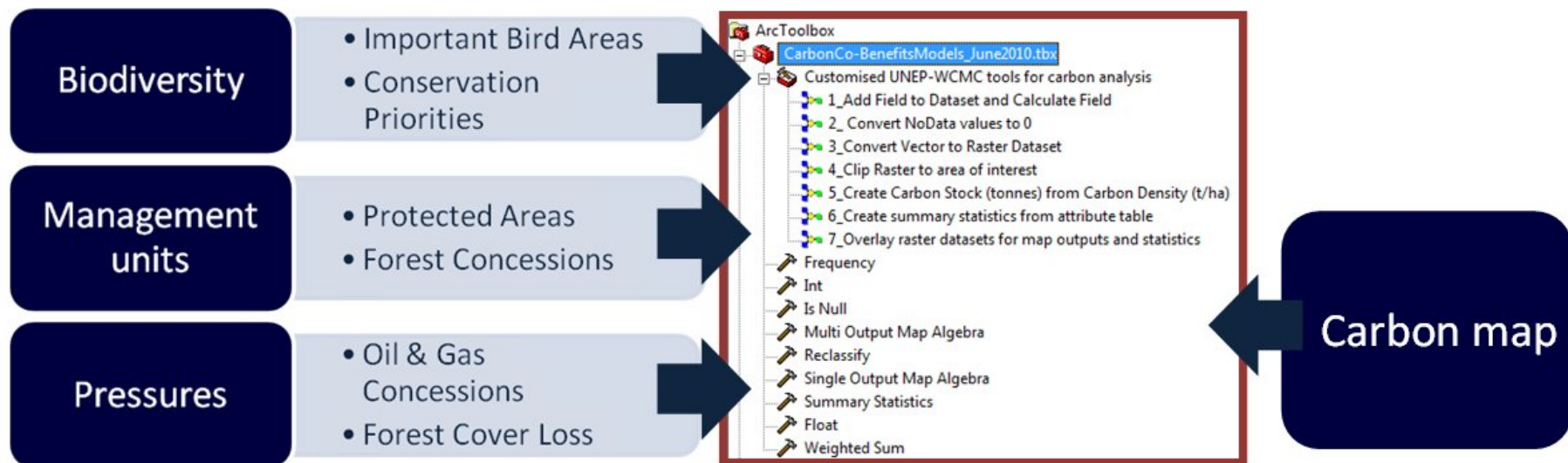
- Assist countries in identifying what **spatial distribution of REDD+ activities** will help to promote and support the Cancun safeguards
- **Raise awareness** and be presented in a variety of formats to explain otherwise complicated concepts



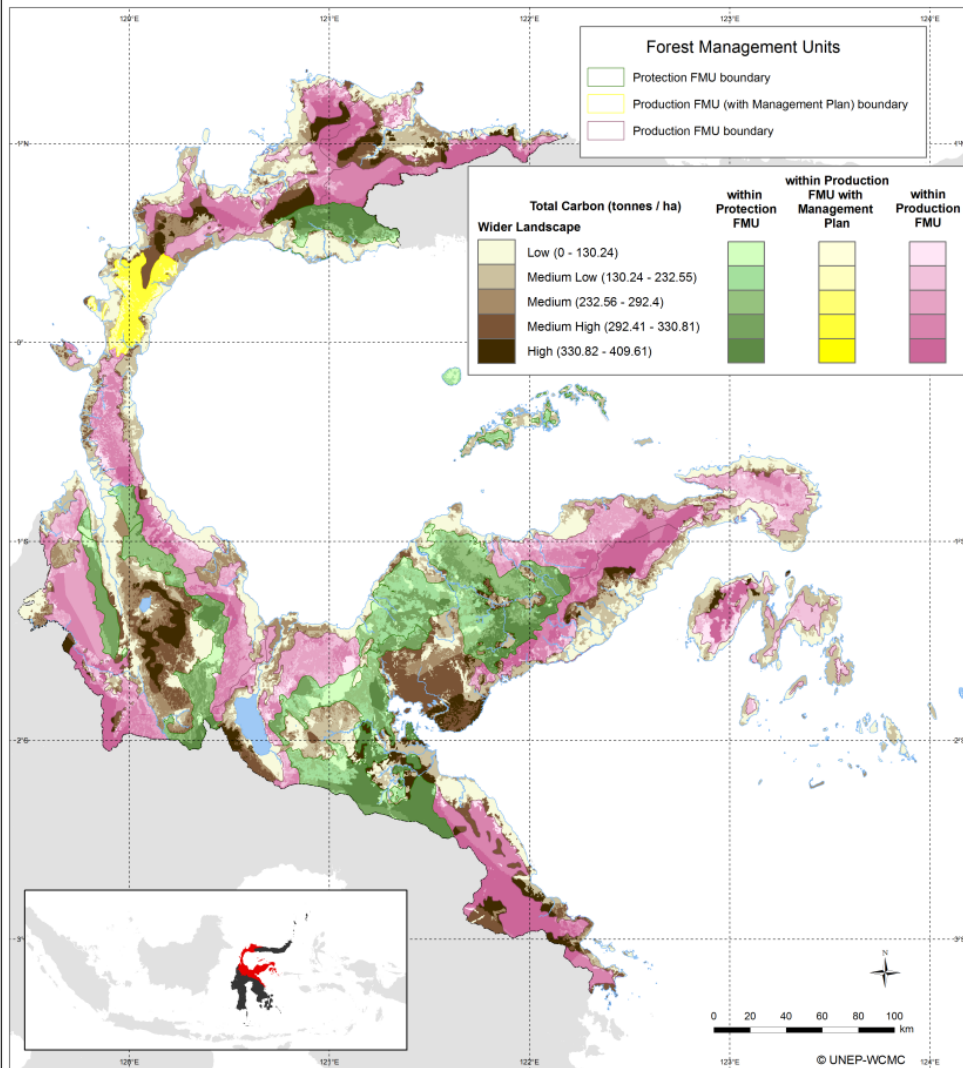


The Exploring Multiple Benefits GIS tool

- GIS – mapping toolbox (for ArcGIS software) – freely available
- Results can contribute to REDD+ planning
- Working collaboratively with national partners
- Data and outputs depend on national priorities and availability



Central Sulawesi Province - Forest Management Units



This draft map was produced for the UN-REDD programme in Indonesia in collaboration between UNEP-WCMC and the Ministry of Forestry of Indonesia, DG Forest Planning (Jakarta Office and Office for Forest Planning Region XVI), the Regional Forest Service Central Sulawesi and Tadulako University.

Method and Data Sources:

Biomass Carbon
 Method: Base map: Land cover map for 2009 produced by the Ministry of Forestry; carbon values for each land cover category assigned based on a literature search of published biomass values; land cover category 'secondary forest' was further stratified into areas of lower to higher disturbance using data from the ALL-REDDI land cover dataset for 2005.
 Source: Ministry of Forestry, DG Forest Planning (in prep.). Land cover dataset for Central Sulawesi interpreted from Landsat ETM 7+ Images from 2008+2009.
 Land cover dataset for 2005 produced by ICRAF in cooperation with the Ministry of Forestry, Forestry Planning Agency, under the ALL-REDDI project (see: Ekadinata, A., Widayati, A., Dewi, S., Rahman, S., van Noordwijk, M. (2011). Indonesia's land-use and land-cover changes and their trajectories (1990, 2000 and 2005). ALL-REDDI Brief 01. Bogor, Indonesia: World Agroforestry Centre - ICRAF, SEA Regional Office.
 Soil Carbon
 Method: Data for Central Sulawesi was extracted from the Global Soil Carbon Map.
 Source: Schimelmann, J.P.W., Hiederer, R., Kapos, V. (in prep.). Global map of terrestrial soil organic carbon stocks. UNEP-WCMC & EU-JRC, Cambridge, UK.

Combined biomass and soil carbon
 The biomass and soil carbon values were added to obtain an approximation of total ecosystem carbon.

Forest Management Units
 Method: Existing datasets were overlaid. The map shows both protection and production forest management units as well as areas which already have a management plan.
 Source: Ministry of Forestry DG Forest Planning, DG Forest Planning Region XVI Palu (2008). Data on Forest Management Units.

Logos to be agreed

Example from Central Sulawesi

Overlay of carbon density data with Forest Management Units (FMU) and forest functions.

Can help to answer questions like:

- How much of the ecosystem carbon is in FMUs?
- What share is outside these areas?
- Which of the five REDD+ activities are compatible with these functions, and which partners might implement them?



Mapping multiple benefits in Tanzania

- Tz REDD+ Strategy: *“A properly designed implementation mechanism is expected to contribute to multiple benefits, depending on the location and type of REDD+ activity. These benefits include poverty alleviation, maintenance of forest dependent communities’ rights, improved community livelihoods, technology transfer, sustainable use of forest resources and biodiversity conservation.”*
- Tz UN-REDD National Programme: *“develop national maps to inform the delivery of the REDD+ framework”* (Output 2.4)



Mapping multiple benefits in Tanzania

- Tanzania has already done significant work to develop spatial datasets of many relevant factors
- Tanzania puts biodiversity at the centre of its vision for REDD+
 - **maps can help to translate this vision into actionable plans**
 - Contribute to land use planning and prioritization of REDD+ intervention zones
 - Help inform the design of a national approach to safeguards, and a Safeguards Information System
 - Provide a baseline for monitoring impacts of REDD+ on biodiversity and ecosystem services



Project:

*Support Tanzania in the development of
multiple benefits maps to inform
REDD+ safeguards policies*

Jan – June 2013



Aims of the project

1. Development of *enhanced national scale spatial datasets, statistics and maps on biodiversity and ecosystem services* for Tanzania for the purpose of informing REDD+ policies and measures, notably land use planning and prioritization of REDD+ intervention zones.
2. *Build capacity within Tanzania on spatial analysis of datasets* of relevance to multiple benefits and environmental safeguards for REDD+ and approaches to developing information systems for safeguards.



Objectives for map outputs

1. **NAFORMA focus topics** – explore the potential of the NAFORMA dataset to support REDD+ planning and a safeguards information system (SIS) with data on environmental multiple benefits and safeguards
2. **Informing REDD+ safeguards implementation** – create key map products for Tanzania to progress on environmental safeguards
3. **REDD+ planning (at local scale?)** – create key map products that can be used as input on multiple benefits



Project process

1. Identify the questions that are to be addressed by the analysis – **this workshop!**
 - What environmental benefits and related risks are of importance for the country, taking the Cancun safeguards into account?
 - What are the priority areas for different activities to deliver multiple benefits?
 - What are key risks and pressures to such areas?



Project process

2. Identify parameters of importance for answering the questions, e.g.:

- Carbon stocks
- Land use/land cover (forest cover and state, forest restoration potential)
- Natural forest (explicitly stated in C safeguards)
- Key biodiversity components (e.g. tree diversity, endemic species, macro vertebrates/predators, species richness)
- Key ecosystem services of importance for local people, and society at large (species of economical importance, pollination, soil erosion, NTFPs)
- Existing land designations, e.g. protected areas
- Important pressures/threat distribution for species and ecosystem services



Project process

3. Locate and process existing datasets

- Prepare maps from existing datasets
- Compare visually (expert opinion) and with statistics to identify the best dataset for the AOI

4. In two working and training sessions of 2.5 weeks each in Tanzania, together with TFS GIS team, produce overlays that answer the key questions



Project process

5. Analyze and present the results

Key outputs:

- Training material for working sessions
- Methodological brief on spatial analyses
- Report on multiple benefits and safeguards, discussing the maps and their relevance, and highlighting the potential contribution of NAFORMA to the implementation of Tanzania's REDD+ strategy;
- Material for training and awareness raising on environmental safeguards at local level.



Timeline of project

- **February:** workshop in Tz to clarify objectives and outputs. Prepare for upcoming working sessions, especially the use of QGIS (open source software).
- **March:** first working session with GIS team in Tz, start making maps, especially those relevant to the NAFORMA final report
- **April:** working session in Rome, assessing preliminary results. Second working session in Tz, finalize analyses.
- **May:** produce draft final report, validation workshop in Tz, how the work relates to Tz' approach to safeguards
- **June:** finalize all outputs



Agenda of this workshop

- **Today morning:** presentation to give a background to the work. Discussions to produce a list of relevant questions/indicators/maps to inform the implementation of REDD+ environmental safeguards
- **Today afternoon:** prioritize among the list that has been compiled in the morning – rank the outputs by importance
- **Tomorrow morning:** discuss what data is needed to answer the questions listed the day before, and identify relevant datasets and contact persons for obtaining them
- **Tomorrow afternoon:** planning of upcoming work