

OVERVIEW OF THE MAPS TO BE PRODUCED DURING THE WORKING SESSION

Xavier de Lamo, UNEP-WCMC

Ulaanbaatar, Mongolia

March 2016



Consultation workshops on prioritization of multiple benefits

- Participatory **consultation workshops** in Murun (Khövsgöl) and Zuunmod (Töv)
- Around 35 participants, representing a wide range of organizations
- **Objective:** understand and set priorities for future analysis on the multiple benefits for forests at the aimag level.
 - What are the main benefits provided by forests?
 - Which of them are of high priority?
 - What areas in the aimag are important for providing them?



Workshop results

Khövsgöl

Benefit	Priority
Carbon storage and oxygen supply	1
Water regulation/supply	2
Timber	3
Fuelwood	4
Springs/rest areas	4
NTFPs (berries, nuts, mushrooms, medicinal plants, etc)	5
Seeds and seedlings	6
Historical/archaeological sites	7
Tourism	7
Woodchip/bark	8
Wildlife	8
Desertification control, Permafrost protection	9

Workshop results

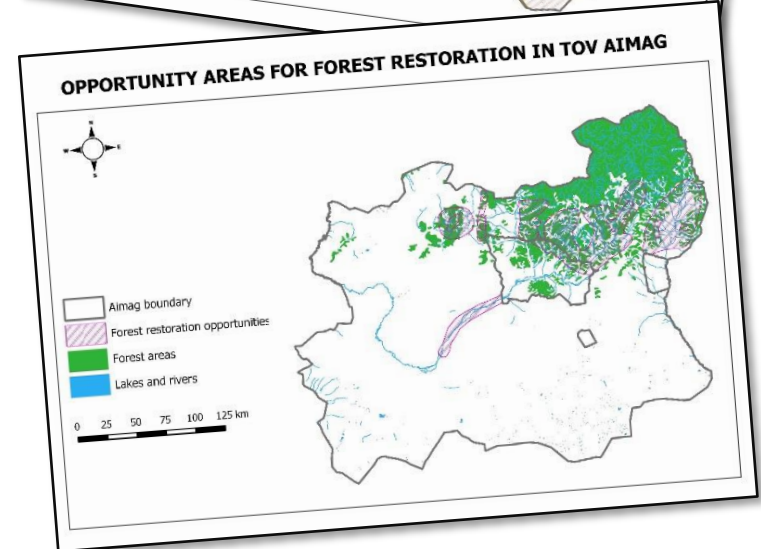
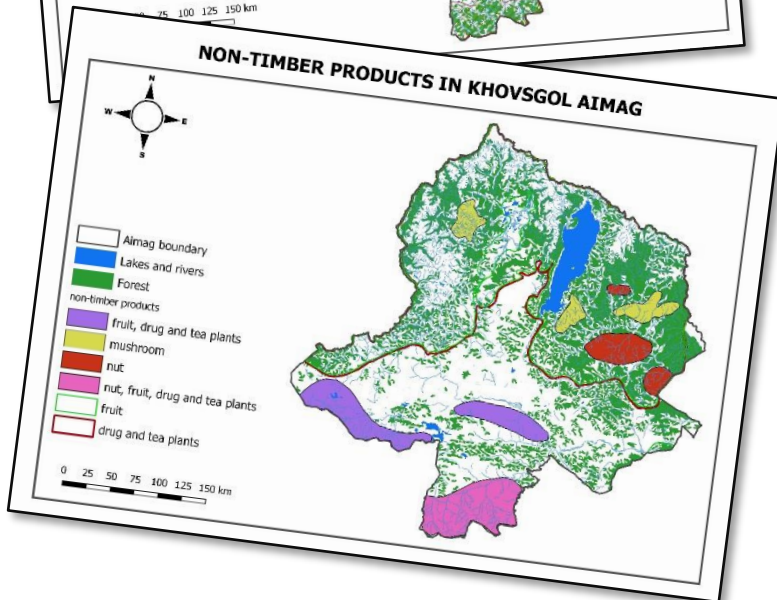
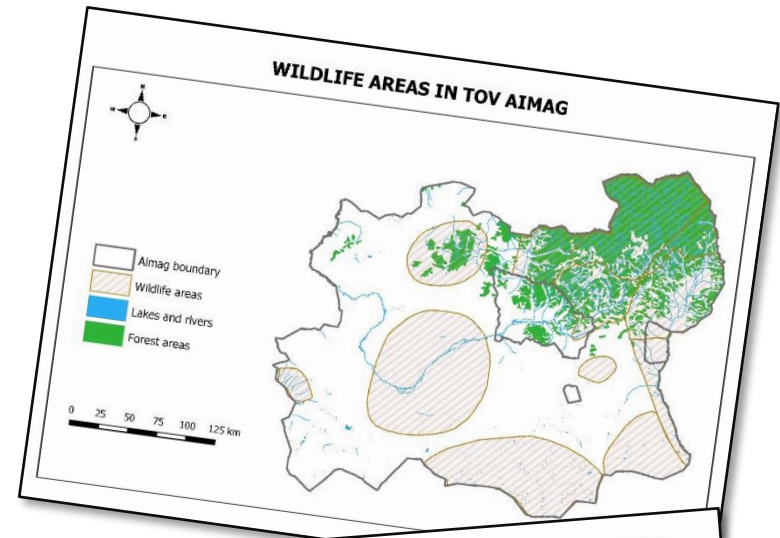
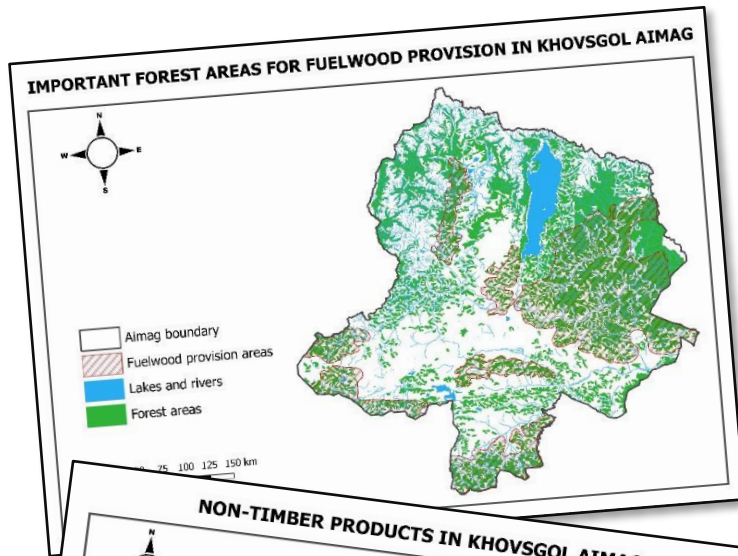
Töv

Benefit	Priority
Natural regeneration	1
Overall natural balance/functioning	2
Fuelwood	3
Water regulation/supply	4
Clean air	5
Wildlife habitat	5
Tourism	5
Oxygen supply	6
Seeds and cones, pine nuts	6
Soil services - desertification control, permafrost protection, soil erosion control	7
Aesthetic value, leaves/forage/fodder	8
Timber, medicinal plants, plant diversity, disease control, springs/rest areas	9

PARTICIPATORY MAPPING OF MULTIPLE BENEFITS

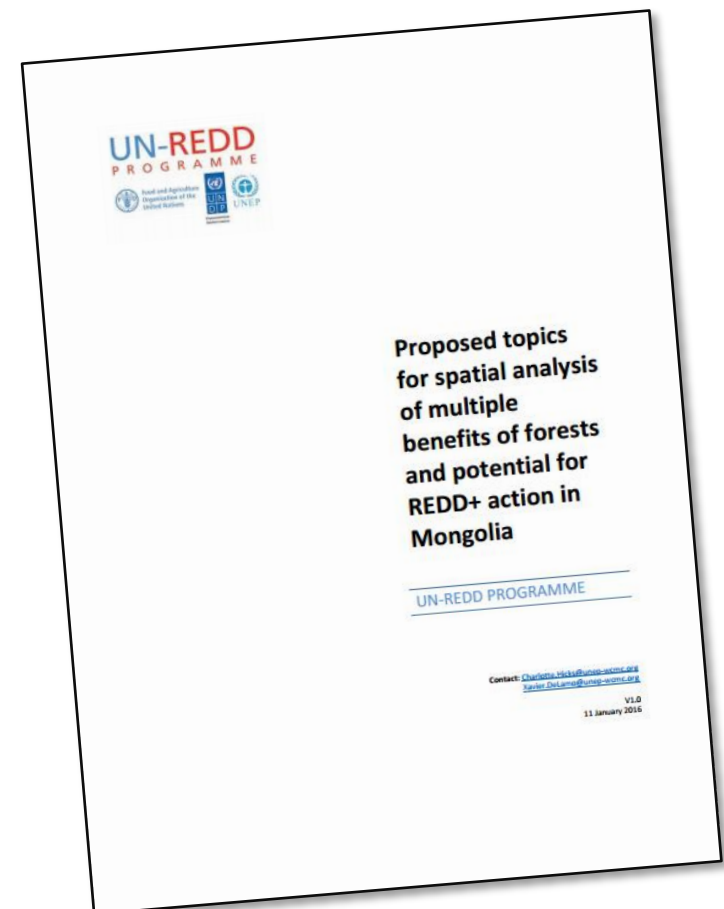


PARTICIPATORY MAPPING OF MULTIPLE BENEFITS



TOPICS FOR SPATIAL ANALYSIS OF MULTIPLE BENEFITS

- Prioritization of multiple benefits of forests in Khövsgöl and Töv
- Two scales of maps:
 - All forested aimags
 - Töv and Khövsgöl aimags
- These maps are expected to contribute to a planning of REDD+ that takes into account the conservation of natural forest, biodiversity and the multiple functions of forest



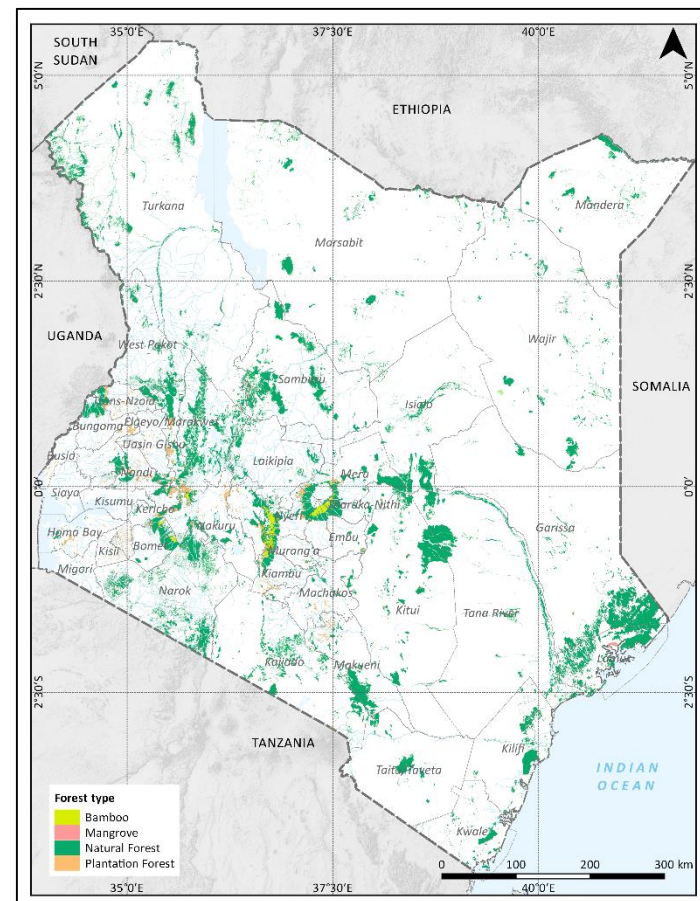
MAPS TO BE PRODUCED

Forest cover and state

Forest cover maps will be created for all forested aimags, as well as for Töv and Khövsgöl to show where the main areas of forest are, the distribution of forest types type and its state.

Required datasets

- Landsat-derived forest cover maps
- National Forest Inventory data
- Forest taxation inventory data of Töv and Khövsgöl



Forest cover type in Kenya

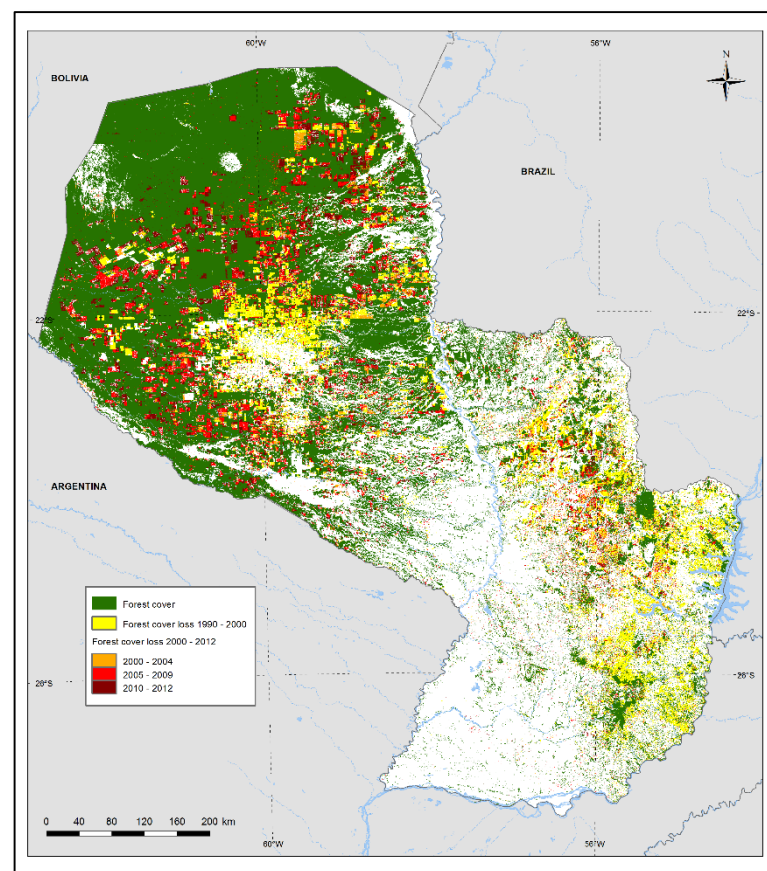
MAPS TO BE PRODUCED

Forest cover change and its relationship with key land designations

Forest cover maps from different years will be combined to show forest cover change in all forested aimags in Mongolia in relationship with key land designations types, such as protected areas and mining concessions.

Required datasets

- Landsat-derived forest cover maps from different time periods
- Hansen deforestation data
- Distribution of protected areas
- Distribution of Mining areas



Forest cover loss in Paraguay from 1990 to 2012

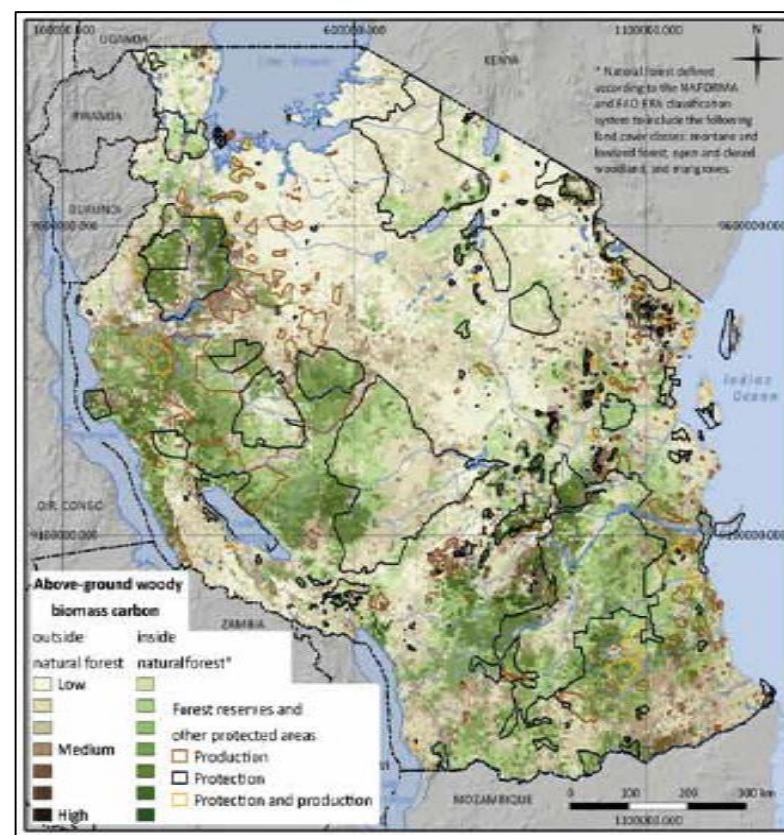
MAPS TO BE PRODUCED

Carbon density and its relationship with land designations at different scales

Carbon density maps will be produced and combined with other land cover and land designations datasets to show how it is distributed among different land cover/land designations types.

Required datasets

- Above and belowground carbon stocks from NFI
- Remotely-sensed vegetation index map
- Forest cover from the latest NFI
- Forest taxation data from Töv and Khövsgöl
- Protected areas and mining concessions distribution



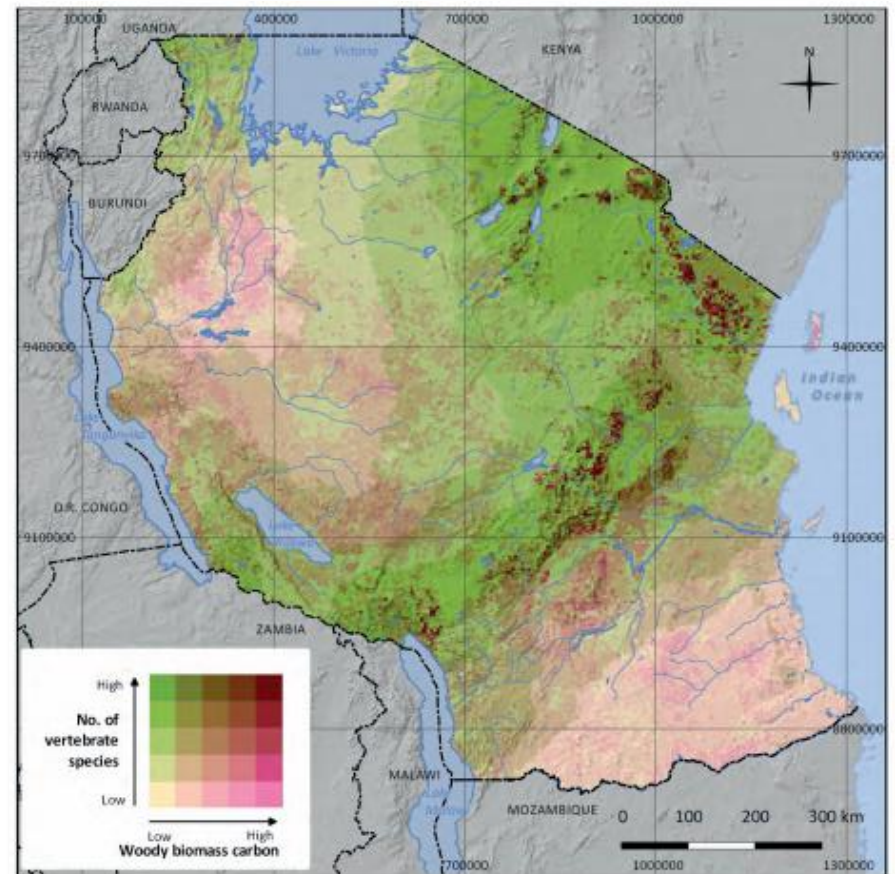
Aboveground biomass, natural forest and protected areas in Tanzania

Threatened species richness in all forested *aimags* in relation to biomass carbon

A matrix style map will be produced by combining species range data with above and belowground biomass carbon data to highlight areas that are important for both carbon and biodiversity

Required datasets

- Carbon density map
- IUCN threatened species richness map



Animal species richness vs aboveground carbon biomass in Tanzania

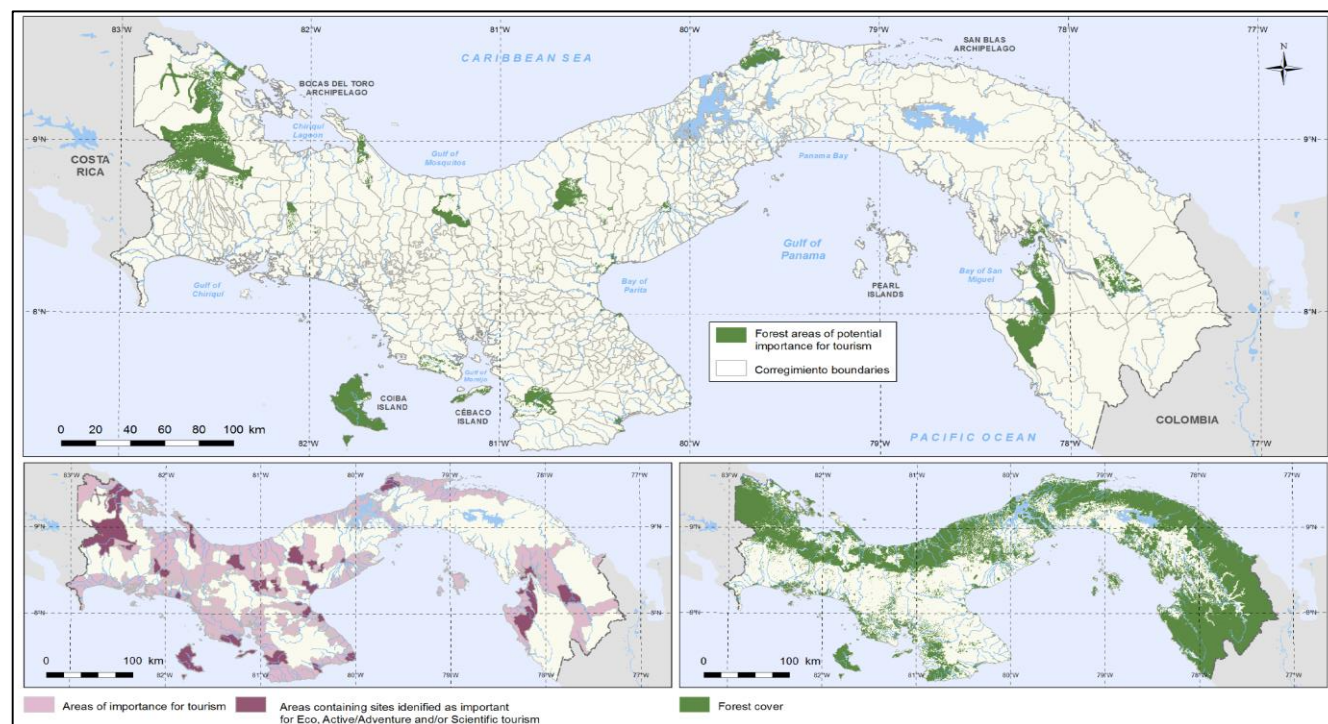
MAPS TO BE PRODUCED

Importance of forest for eco-tourism and recreation

Different types of tourism data will be combined with forest data to produce a map showing areas of forest of importance for tourism and recreation (including spa areas) in the aimags of Töv and Khövsgöl

Required datasets

- Location of relevant tourist attraction sites
- Forest cover map
- Tourism statistics at soum level
- Participatory mapping results



Forest areas of importance for tourism in Panama

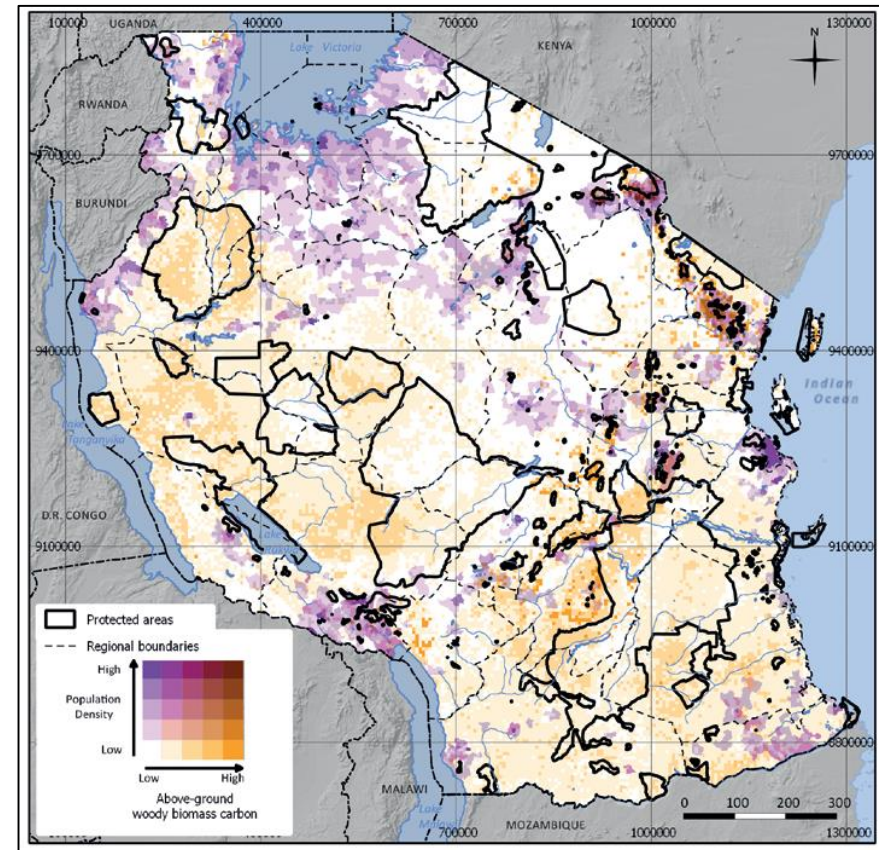
MAPS TO BE PRODUCED

Importance of forest for timber and firewood provision

Statistical and proxy data will be used to map the relative importance of forest for both timber and firewood provision in Khövsgöl and solely firewood in Töv

Required datasets

- Road network
- Firewood extraction/demand statistics at soum level
- Location of cities and towns
- Population density
- Participatory mapping results



Population and woody biomass carbon density

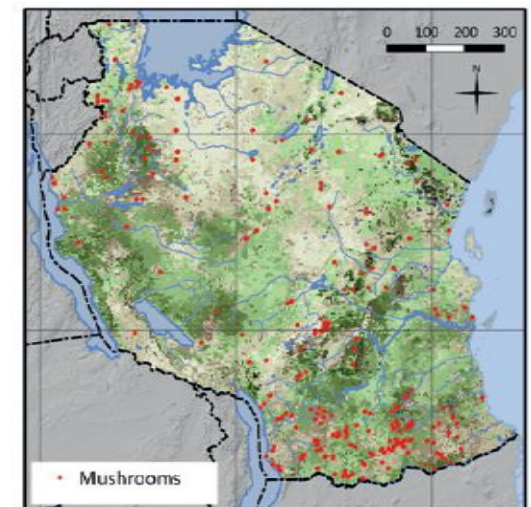
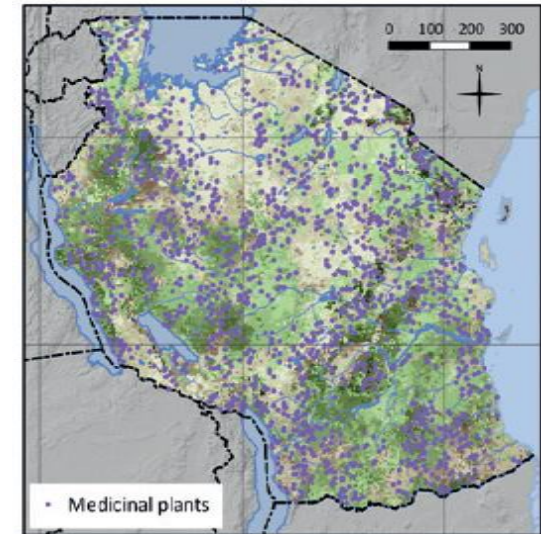
MAPS TO BE PRODUCED

Importance of forest for NTFPs provision

Different proxies related to non timber forest products (NTFP) will be combined to map the relative importance of forests for the provision of NTFP in Khövsgöl

Required datasets

- Forest taxation inventory
- Statistics of production/demand of the most important NTFP at soum level
- Participatory mapping results



MAPS TO BE PRODUCED

Importance of forests for water supply in Töv and Khövsgöl

The potential hydrological consequences of land use changes will be modelled to produce maps showing importance of forests for hydrological services in the rivers of Khövsgöl and Töv

Required datasets

- Forest cover in Khövsgöl and Töv
- Average precipitation, evapotranspiration and several related datasets available in WaterWorld

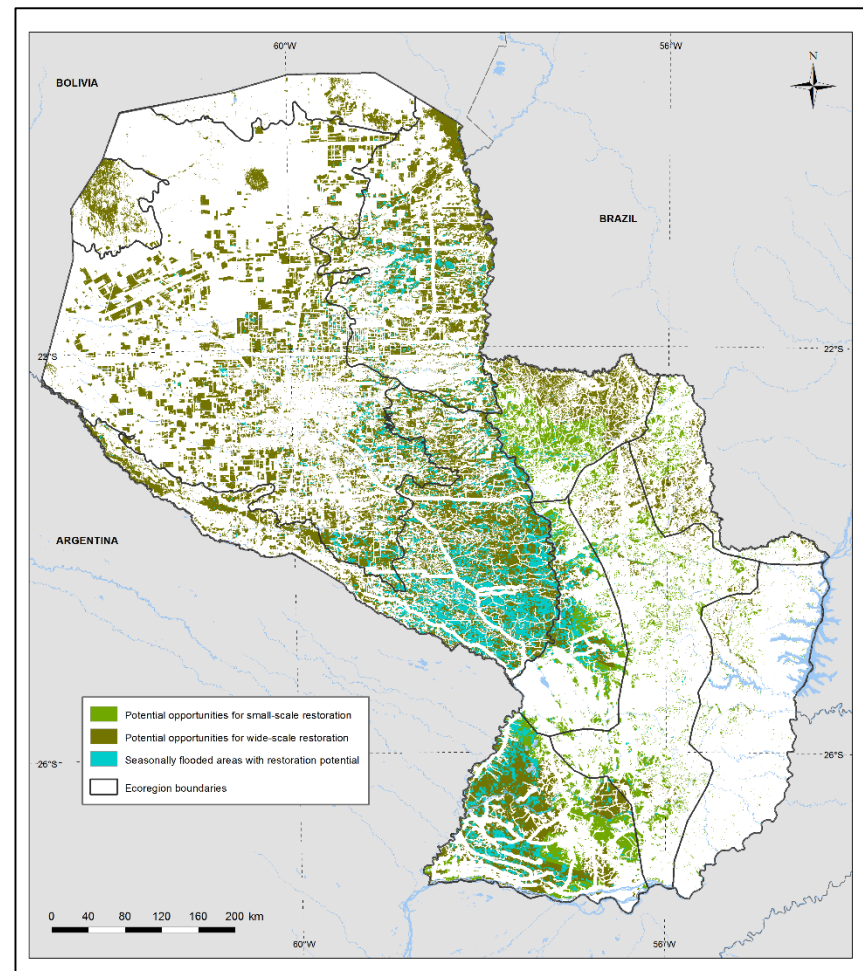


Opportunity areas for forest restoration in Töv

A wide range of datasets will be combined to highlight opportunity areas for forest restoration in Töv. The spatial logic applied to combine the datasets will be participatively decided by workshop participants.

Required datasets

- Participatory mapping results
- Previous forest cover
- Population and livestock density
- Multiple benefits expected to be obtained from forest restoration action



Opportunity areas for forest restoration in Paraguay

Thank you!

Xavier.DeLamo@unep-wcmc.org



UNEP



WCMC