

# Landscape Management Strategies for Rural Livelihoods and Ecosystem Service Protection in Sulawesi, Indonesia

Authors: Atiek Widayati, Ni'matul Khasanah, Pandam Prasetyo, Jhon R Sirait, Sri Dewi J Biahimo, Chandra I Wijaya, Elissa Dwiyanti, Sonya Dewi and James M Roshetko

## Introduction

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Conflict between conservation objectives and local livelihoods may arise where ulletcommunities living in forest margins engage in extraction and conversion, and where communities cultivate sloping lands in upstream catchment using unsustainable practices. Conservation of the ecosystems is crucial because the human society benefits from the services provided; thus 'ecosystem services' as an entry point and link for interventions Ecosystem services are managed in a landscape context where socio-economic-cultural • conditions of the actors are involved. Where the services are maintained or enhanced by communities, incentive/reward  $\bullet$ mechanism to support livelihoods should be in place • In other instances, complex interactions might be present, for example severely degraded upland areas linked to poverty, forest encroachment and biodiversity loss linked to land conflicts. Locally-relevant solutions should be sought after.

## 3. Community management rights at forest with conservation status

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## **Overall Approach and Method**

- Local knowledge assessments through the CaSAVA framework
- Evidence-based: land use/land cover and drivers of changes, hydrological modelling with GenRiver model
- Participatory SWOT assessments
- Multi-stakeholder facilitation processes to:
  - develop common objectives and use Outcome Mapping
  - rehabilitate land in priority areas
  - strengthen local institutional and regulatory framework

## **1. Rewards for source water provision through** downstream-upstream governance

#### Landscape context

• State forest land with protected status (forest parks), biodiversity protection

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- Encroachment of forest park areas for agriculture (cash crops and annual crops
- Land tenure conflicts and tension between government authority and communities



Nipa-Nipa Forest Park, Southeast Sulawesi

### Highlights

- Agreement for collaborative management between forest authority and communities
- Guidelines for agroforestry practices under collaborative management





#### Landscape context

- Upstream catchment area: state and private lands with agroforestry practices, village forests, source water provision, stable hydrological performance
- Downstream water users: drinking water companies, lack of recognition for upstream actors



Biang Loe sub-catchment, Bantaeng, South Sulawesi

## Highlights

- District Head regulation (PerBup) on rewarding source water provision
- Recognition for upstream catchment management through the development of planning process including assistance for agroforestry market and infrastructure

## **2.** Collaborative land rehabilitation for degraded areas

#### Landscape context

Upstream catchment, sloping lands planted with annual crops and horticulture resulting in landslides, erosion, downstream lake

### Highlights

- Participatory assessments for land rehabilitation priorities
- Capacity strengthening for soil conservation, agroforestry commodities (e.g. bamboo)
- Government-community agreement for land rehabilitation

## Conclusion

The approach produced strategies beneficial for improving community livelihoods, sustainable utilization of natural resources and as the basis for the formulation of government regulations and government-community agreements for collaborative management.

#### From the case studies, it is concluded that:

Issues of ecosystem services vs livelihoods need to be addressed at landscape level since there are interactions in spatial context, across time, across actors

- sedimentation, flooding
- Mostly private lands

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- Forest land Land degradation Land cover data Cluster villages designation data egenda Titik survei Priorita Batas Klaster Tibawa Denso Lembolo Development of Calon lokasi penanama land typology (overlay) Discussion with APL, Apak Knths, Aproton APL, Agak Ritis, Hutar community on their APL, Agak Kriss, Monole perceptions of criteria APL, Agak Kittis, Sawah and priorities for APL, Agak Kritis, Permuk APL, Kritis, Aprolores potential planting site APL, Kittis, Monokultur APL, Kitts, Pannakim III: Sangal Knis, Apolon Land typology data Daerah Tangkapan Air (DTA) DTA - Limbot Local perceptions o potential planting criteria and prioritie sites (criteria for potential planting sites otential planting Preliminary Field survey field survey Tibawa sub-catchment, Gorontalo, Gorontalo Selecting the Results of field planting sites discussion with survey
- Multi-stakeholder participation needs to be incorporated as early as possible
- The biggest challenge, thus priority to be addressed, is the social capital followed by human and financial capital