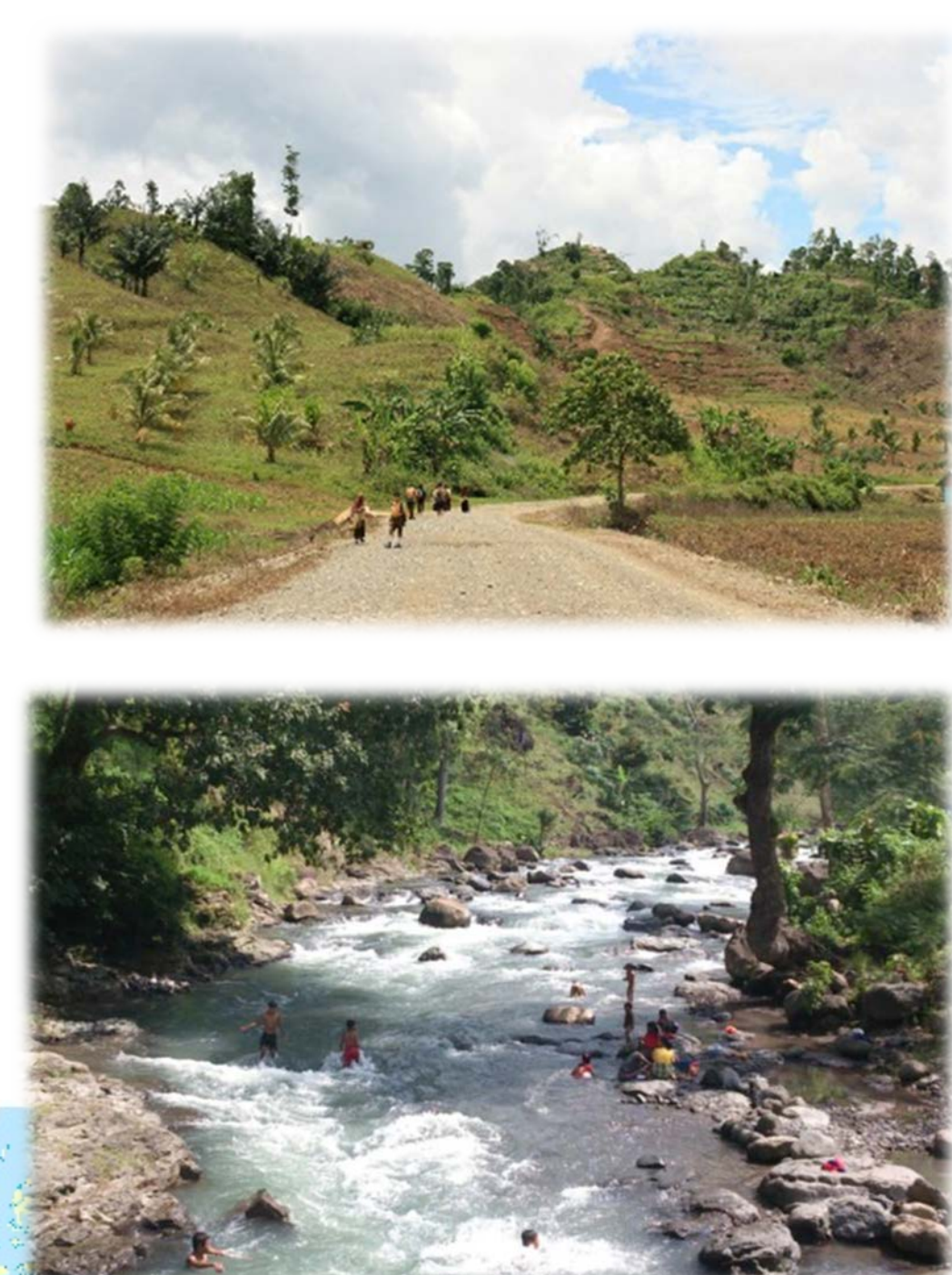
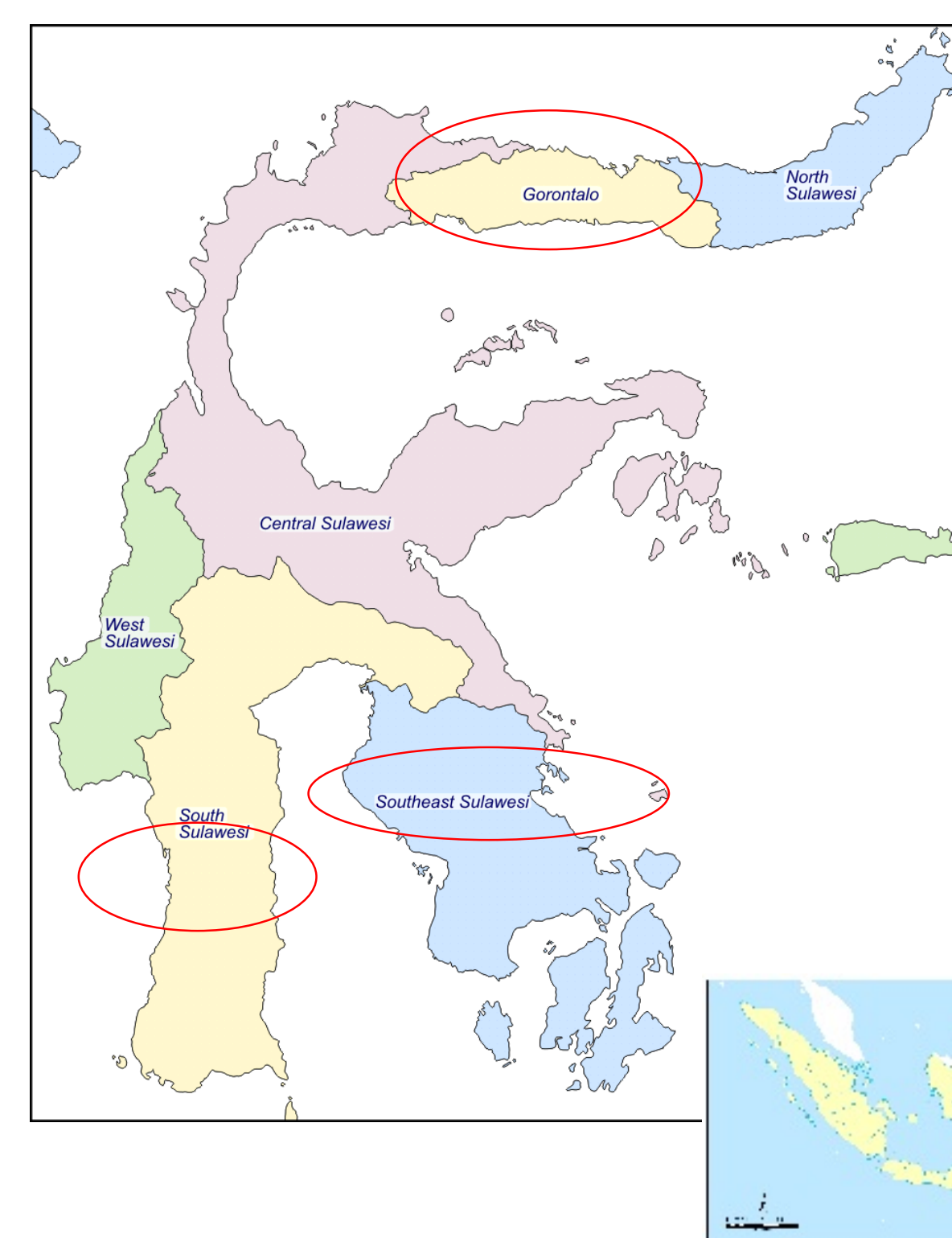


Landscape Management Strategies for Rural Livelihoods and Ecosystem Service Protection in Sulawesi, Indonesia

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

Introduction

- Reconciliation between community livelihoods and sustainable natural resource utilization is urgent; neither should be neglected.
- Examples of conflicting management between conservation objectives and local livelihoods: communities living in forest margins and engaged in forest extraction and conversion, communities cultivating sloping lands in upstream catchment using unsustainable practices.
- Conservation of the ecosystems is crucial because human society benefits from the services provided; thus 'ecosystem services' as 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 mechanism to support livelihoods should be in place
- In other instances, complex interactions might be present, e.g: severely degraded upland areas linked to poverty, forest encroachment and biodiversity loss linked to land conflicts; locally-relevant solutions should be sought after.



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
- Multistakeholder facilitation processes for:
 - Develop common objectives and use Outcome Mapping
 - Land rehabilitation of priority areas
 - Local institutional strengthening and regulatory framework

2. Collaborative land rehabilitation for degraded areas

Landscape context

- Upstream catchment, sloping lands planted with annual crops, horticulture; resulting in landslides, erosion, downstream lake sedimentation, flooding
- Mostly private lands

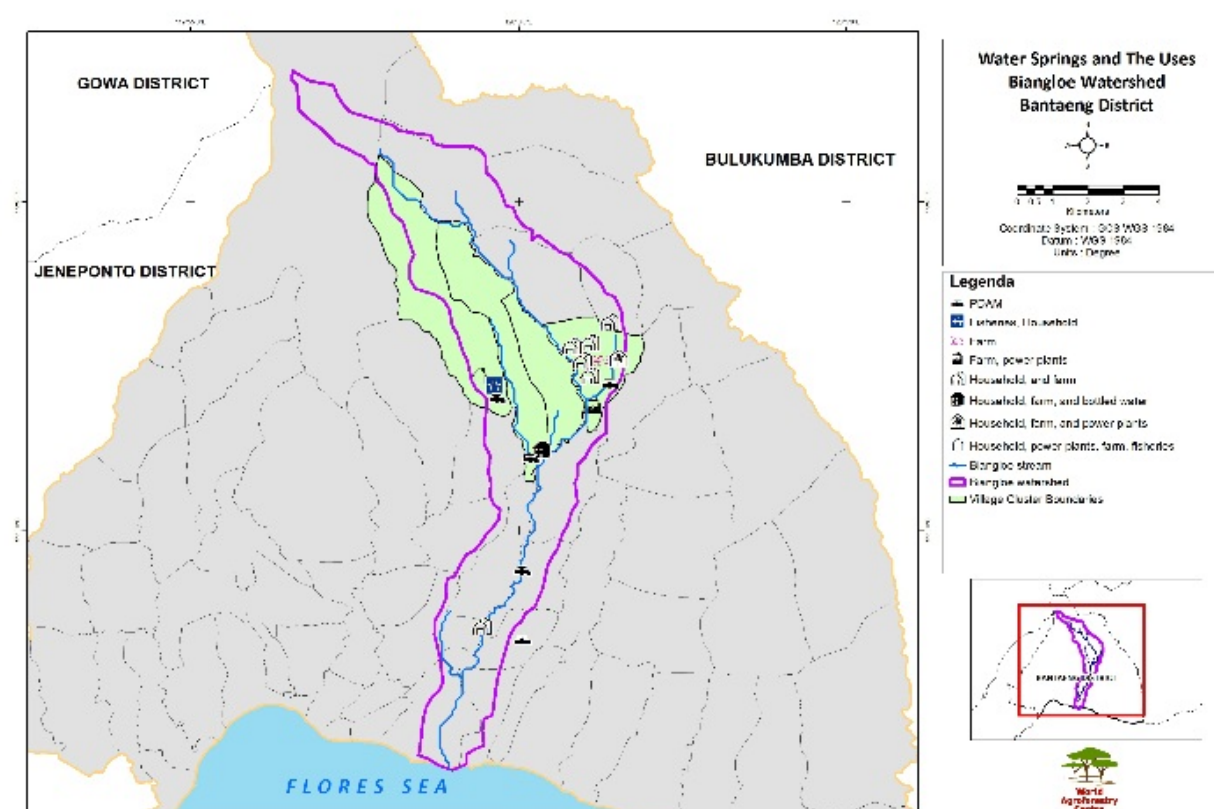
Highlights

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

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

Landscape context

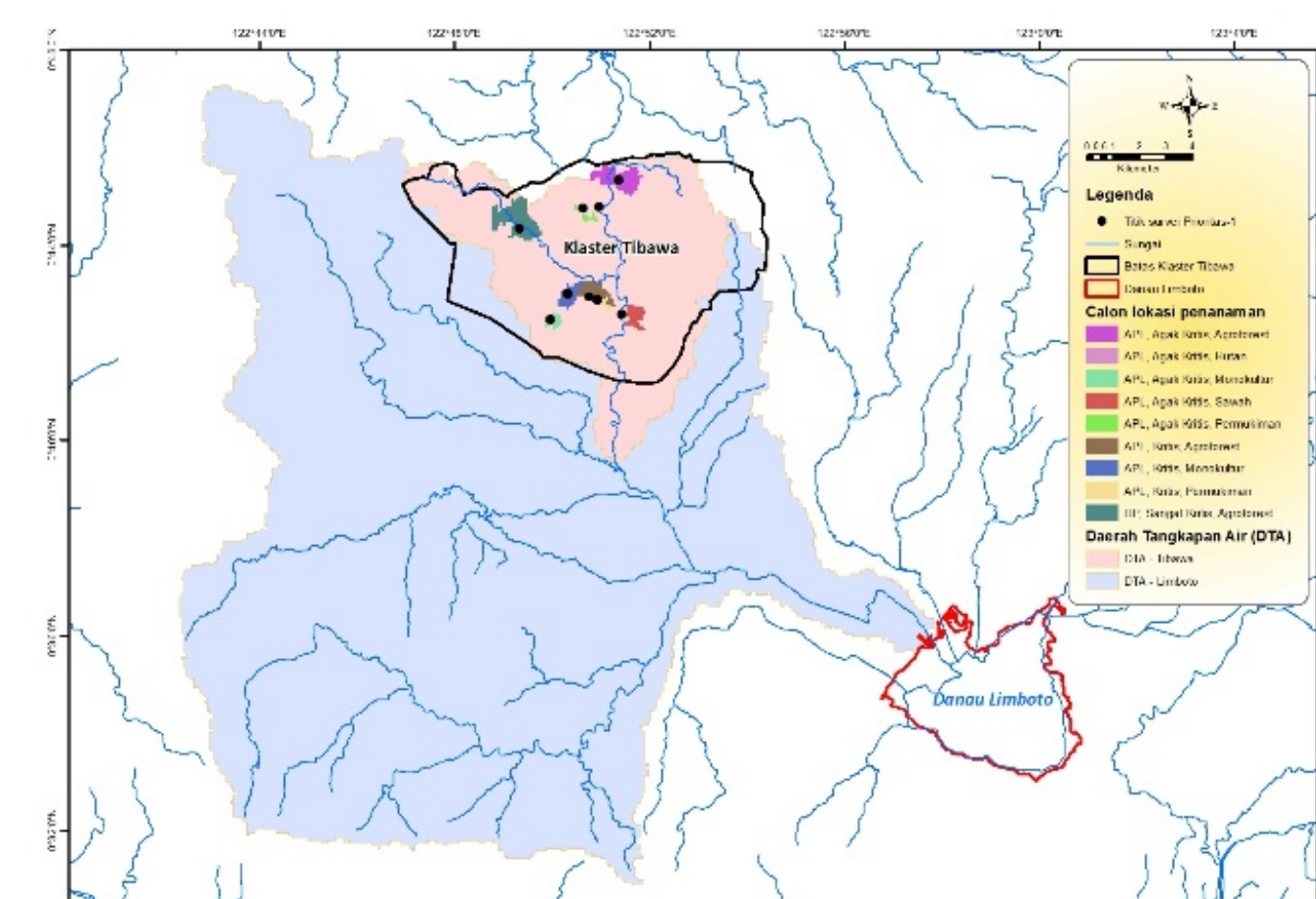
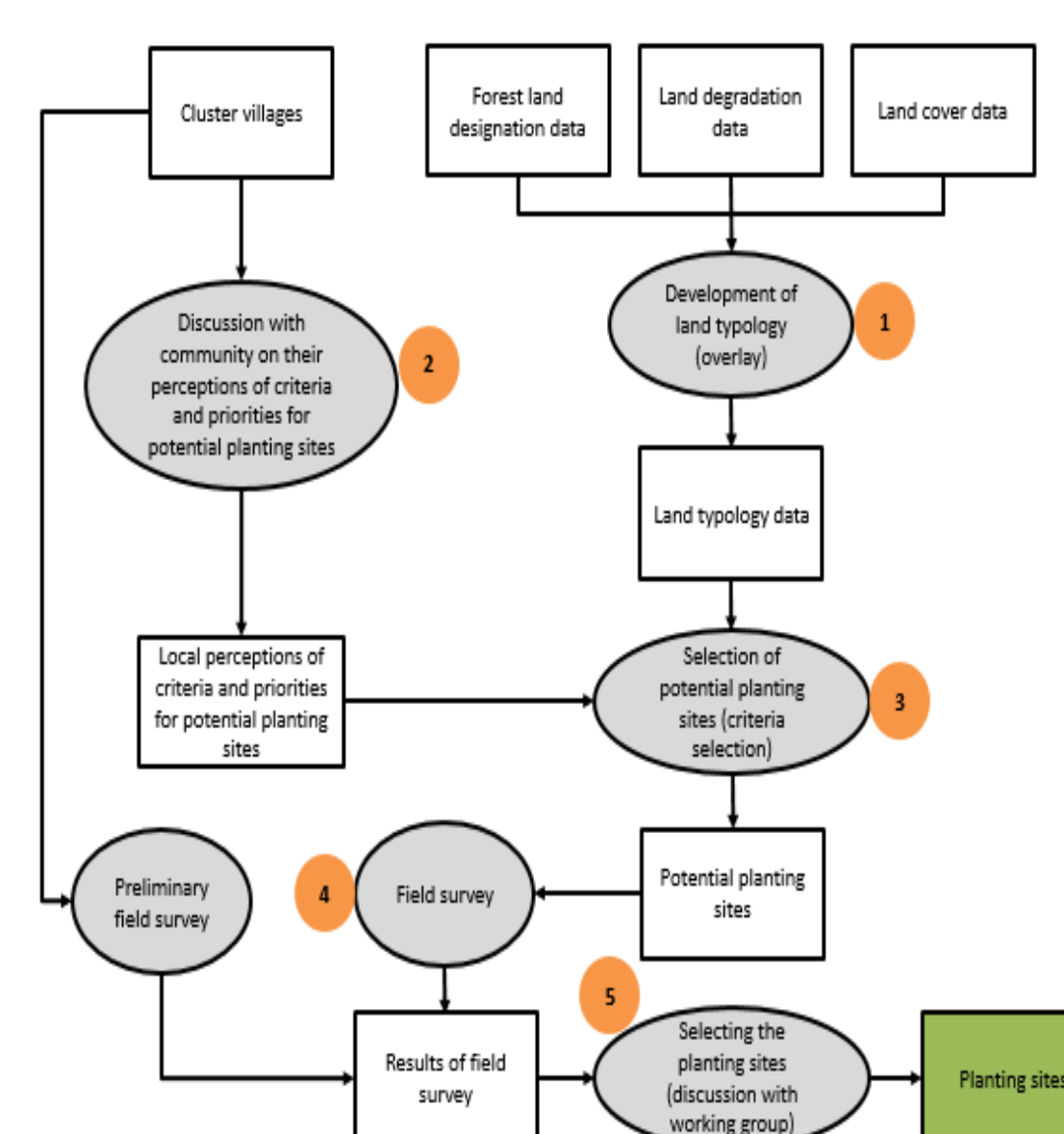
- Upstream catchment area; state and private lands with agroforestry practices, village forest; source water provision; stable hydrological performance
- Downstream water users: drinking water companies; lack of recognition for upstream actors



Biang Loe sub-catchment, Bantaeng, South Sulawesi

Highlights

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

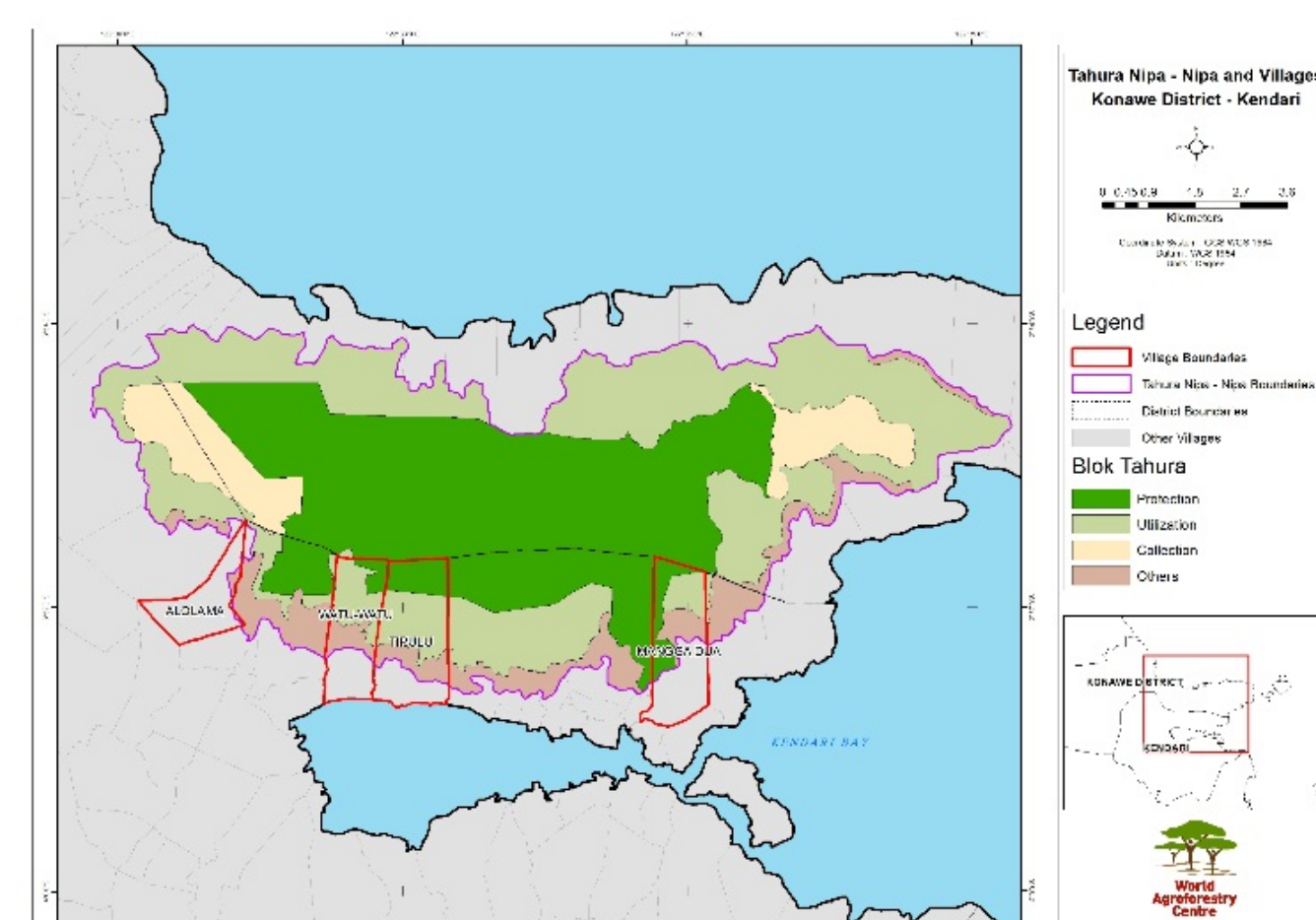


Tibawa sub-catchment, Gorontalo, Gorontalo

3. Community management rights at forest with conservation status

Landscape context

- State forest land with protected status (Forest Parks), biodiversity protection
- Encroachment of forest park areas for agriculture (cash crops & 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

Conclusion

The approach produced livelihood and conservation 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
- Multistakeholder 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 capitals