

Integrated Natural Resources and Environmental Management (INREM)

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Asian Development Bank
South East Asia Department

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Forest Investments
Asian Institute of Management
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ADB

Agenda

- Watershed Management in Priority River Basins/Critical Watersheds: Context and Imperatives
- Institutional and Policy Challenges
- Strategic Investment Options
- ADB Assistance Program – INREMP

Watersheds in the Upper River Basins

- 54% of the land in the Philippines in mountainous areas
- 16.3 million hectares (ha) - has over 18% slope (termed "upland")
 - 68% of this upland area – 5.2 million ha - has over 30% slope, making the land base vulnerable to accelerated soil erosion.
- located within 19 major river basins, which cover a total land area of about 11 million ha
 - 51% Luzon – 8 river basins
 - 5% Visayas – 3 river basins
 - 41% Mindanao – 8 river basins
- 90% of the watershed area within the river basins is currently degraded

Consequences of Deforestation and Watershed Degradation

- Accelerated soil erosion - estimated soil loss of between 74 and 81 million tons/yr
- Reduced reservoir storage capacity and life-spans
 - upto 30% reduction in the served area of irrigation systems during dry season
- High costs on downstream infrastructure
 - roads, bridges, agricultural production, settlements, water supply
- Positive impacts on GHG emissions

Consequences of Deforestation and Watershed Degradation (cont)

- Adverse impacts on economic productivity in uplands, leading to increased poverty
- 20 million upland farmers comprise the poorest of the poor in the Philippines
- Deforestation has had profound impacts for the viability of marine and faunal biodiversity in the Philippines
- Reduced integrity of near shore coastal areas due to declining watershed integrity and increasing pollution

Sector analysis

- Natural resources and environmental management sector analysis, with specific reference to the upper river basins (URBs) has been prepared, taking into account:
 - Sector issues
 - Government policies and institutions
 - Past experience and lessons learned
 - Consistency with the agriculture, environment and natural resources roadmap and ADB Strategy 2020

Institutional Challenges

- Insufficient capacity of concerned agencies to place critical watershed and forest reservations under sustainable management
- Inadequate ground demarcation of forest land boundaries making forest protection and management difficult
- Ineffective implementation of forest laws and regulations
- Fragmented institutional linkages and roles/ responsibilities of different agencies with respect to particular watersheds

Key policy issues

- Absent effective enforcement over critical watersheds
 - a de facto open access situation prevails
- Marginalization of IPs and local communities
- LGU counterpart funding constraints
- *Enabling policy frameworks/capacity building required at national and local levels to*
 - institute payments for environmental services (PES)
 - Provide institutional mechanisms to collect payments, reinvest in conservation, and monitor impacts on LGUs

What is missing?

- A systematic and pragmatic assessment of sustainable financing requirements (including PES)
- Incentives and assurances for private investments in industrial production forestry, community based forestry and agroforestry, conservation upland farming, hydropower generation, et al.

Strategic Investment Options

- Investments dictated by intrinsic characteristics of each river basin
- Options for investments determined through science-based assessment of land capability and production/conservation potentials
- Appropriate environmental protection and mitigation integral to the design of such investment
- Ensure stability of watersheds in the upper river basins

ADB Assistance

- Ongoing preparation of an INREM Strategy and Investment Program (S&IP) for sustainable river basin management in consultation with GOP and development partners
- Designed to cover at least a 10-year period, beginning 2010-2011
- To coincide with the preparation of the MTPDP and ADBs Country Partnership Strategy
- Programmatic linkages with 2009 PPTA for Agusan River Basin; potential interventions in the Rio Grande River Basin

Implementation Process

- Design of INREM SP and the Development of a STRATEGY AND INVESTMENT PROGRAM
- Feasibility study to identify subprojects
- Sample of 4 watersheds – one each in Luzon (Chico) and Visayas, and 2 in Mindanao

PROJECT AREA
SUBWATERSHEDS

CHICO
RIVER BASIN

WAHIG-INABANGA
RIVER BASIN

LAKE LANAO
RIVER BASIN

UPPER BUKIDNON
RIVER BASIN

Investment in URBs

- Conservation and protection (including biodiversity and forest carbon reserves) – 550,000 ha's.
- Production forestry
 - Commercial forest plantations - 75,000 ha's.
 - Sustainable forest management of production natural forests – 80,000 ha's.
- Agroforestry -60,000 ha's.

Land management regimes

- Protection and rehabilitation – 270,000 ha's.
 - Reforestation
 - Assisted natural regeneration
 - Enrichment planting
- Irrigated agriculture – 4,420 ha's.
- Conservation farming

The Components of INREM-SP, could also include:

1. Access to micro-finance, micro- and small enterprise development
2. Sustainable Infrastructure development for enhancing production, marketability, and poverty reduction
3. Sustainable financing mechanisms for watersheds and biodiversity conservation
4. Supporting policy and institutional strengthening measures
5. Climate change adaptation investments

National Project Coordination Office (NPCO)
National Project Coordinator (Dir., PPSO)
Deputy NPC and
Seconded staff from various DENR
offices

NPCO Executive Coord. Group

DENR Bureaus, RBCO

Tech. consultants

DENR M&E Unit

DENR Support Units: Admin & Finance, BAC, etc.

Policy Adjustment

Capacity Building

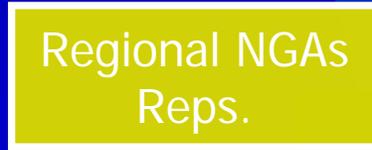
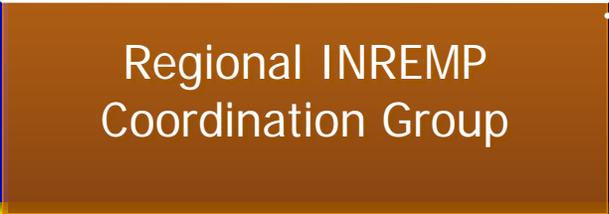
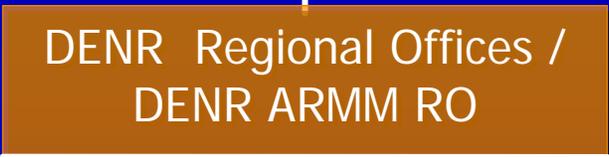
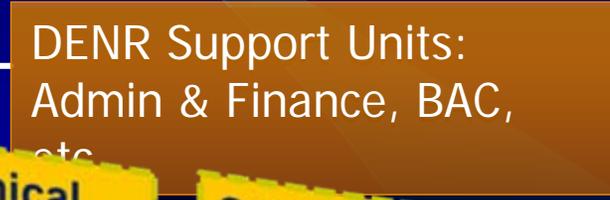
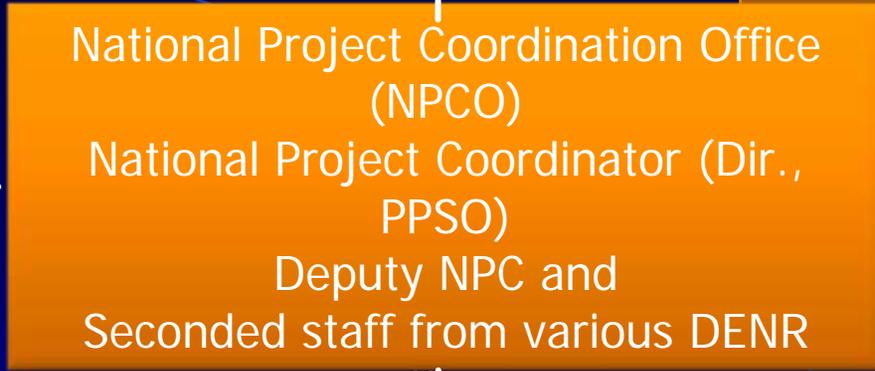
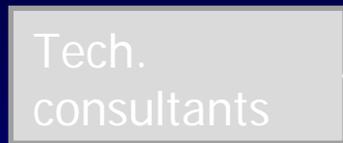
Technical Extension Materials Developme

Subprojects Feasibility Studies

DENR Regional Offices / DENR ARMM RO

Regional INREMP Coordination Group

Regional NGAs Reps.



DENR Regional Offices /
DENR ARMM RO

Regional NGAs
Reps.

Regional INREMP
Coordination Group

DENR M&E Unit

DENR Support Units:
Admin & Finance, BAC,

Land Use Assessment and URB
Management Planning (clustered
provinces by river basin)

Provincial Project Coordination
Office (clustered by basin)
with seconded staff from DENR
and provincial offices of
relevant NGAs

Prov'l. INREM
Councils

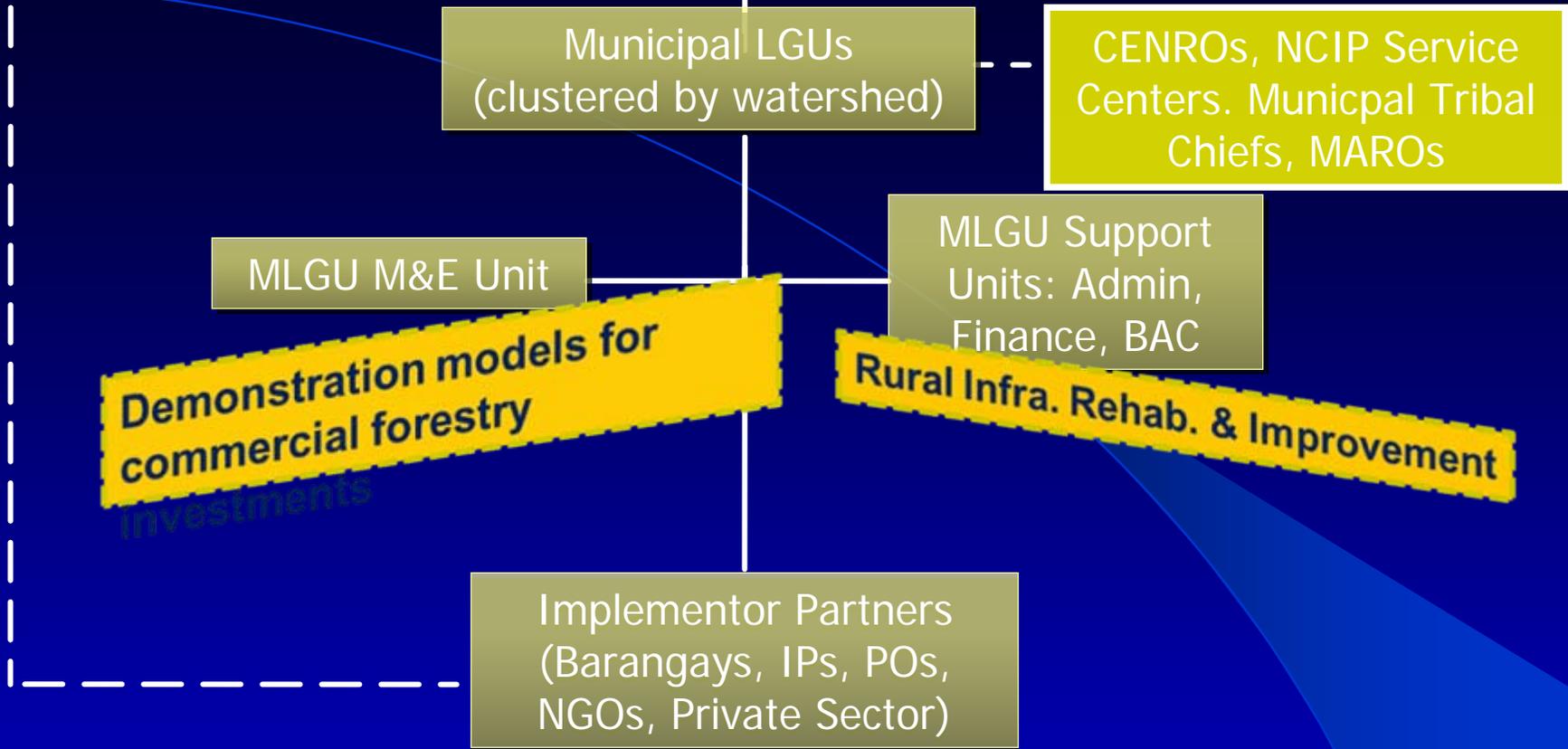
PLGU M&E Unit

PLGU Support Units:
Admin & Finance, BAC,

URB forest conservation,
rehabilitation & protection

Technical extension & IEC
execution

ADB



_____ Line execution
 _____ Staff support

- - - - - Technical Assistance, Advisory, Facilitation



INREMP Financing Plan (Tentative)

- ADB loan – \$ 100m
- GEF Grant - \$2.5
- ADB Climate Change Funds (grant) – \$1.25
- GOP and LGU counterpart funds - tbc

THANK YOU!

ADB