Accounting for Integrated Ecosystem Management (IEM)

Planning and Training Workshop on Wealth Accounting and Valuation of Ecosystem Services

September 6, 2013

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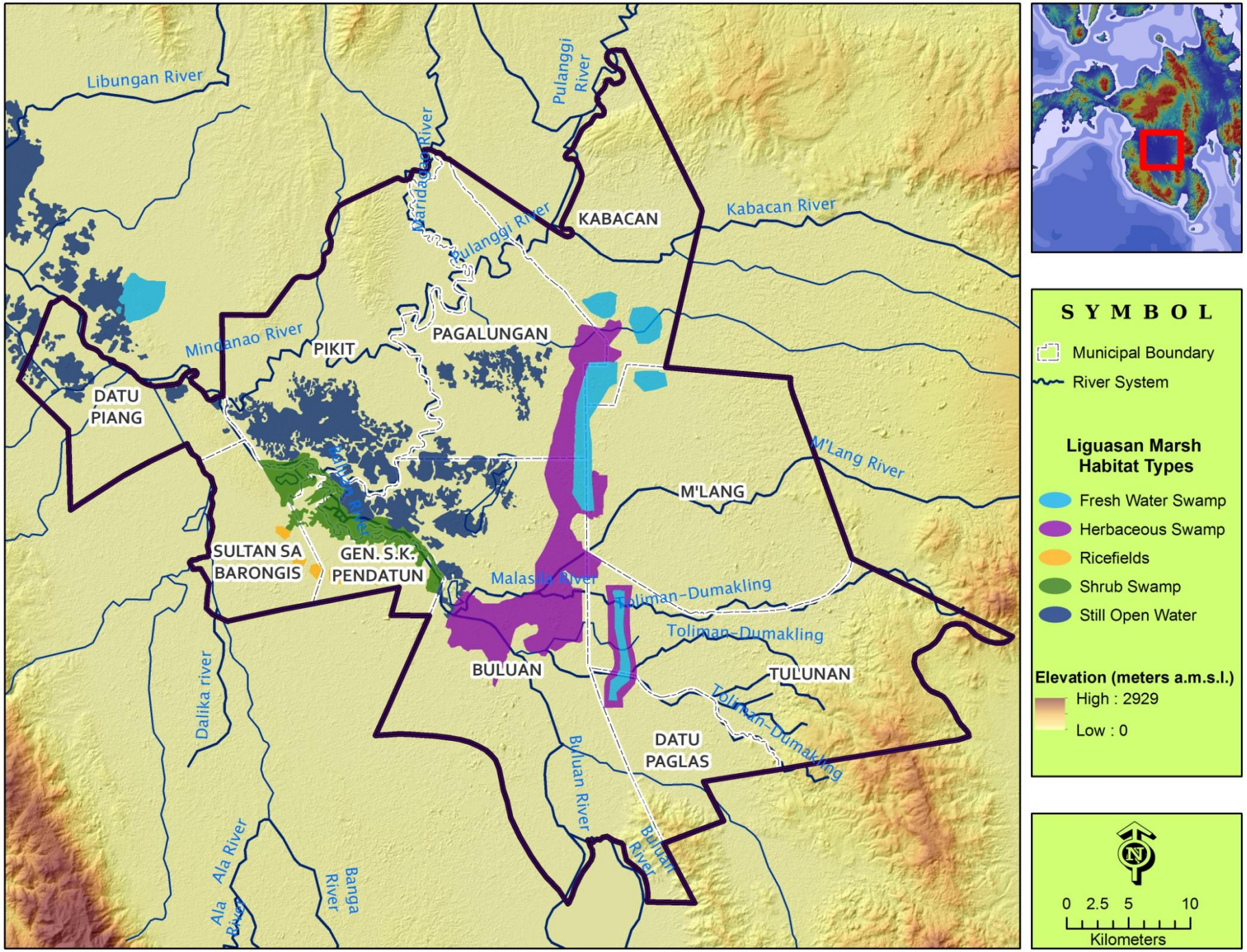
LLDA Achieved Goals by 2020

The lake basin serves the region for:

- drinking water
- food and fisheries
- renewable energy
- transport
- flood control
- beneficial land development, including tourism and housing projects


Libungan River
Pulanggi River
Maridagao River
Pulanggi River
KABACAN
Kabacan River
Mindanao River
PIKIT
PAGALUNGAN
DATU PIANG
M'Lang River
M'LANG
SULTAN SA BARONGIS
GEN. S.K. PENDATUN
Malasila River
Toliman-Dumakling
Toliman-Dumakling
BULUAN
TULUNAN
Toliman-Dumakling
Dalika river
DATU PAGLAS
Buluan River
Buluan River
Ala River
Ala River
Banga River
SYMBOL
Municipal Boundary
River System
Liguasan Marsh Habitat Types
Fresh Water Swamp
Herbaceous Swamp
Ricefields
Shrub Swamp
Still Open Water
Elevation (meters a.m.s.l.)
High : 2929
Low : 0
N
0 2.5 5 10
Kilometers

Content

- Issues and Concerns in WAVES
- Why Accounting for Integrated Ecosystem Management
- Processes for IEM Accounting
- Case of Laguna Lake Development Authority
- Recommendations
- Ways Forward

Issues and Concerns

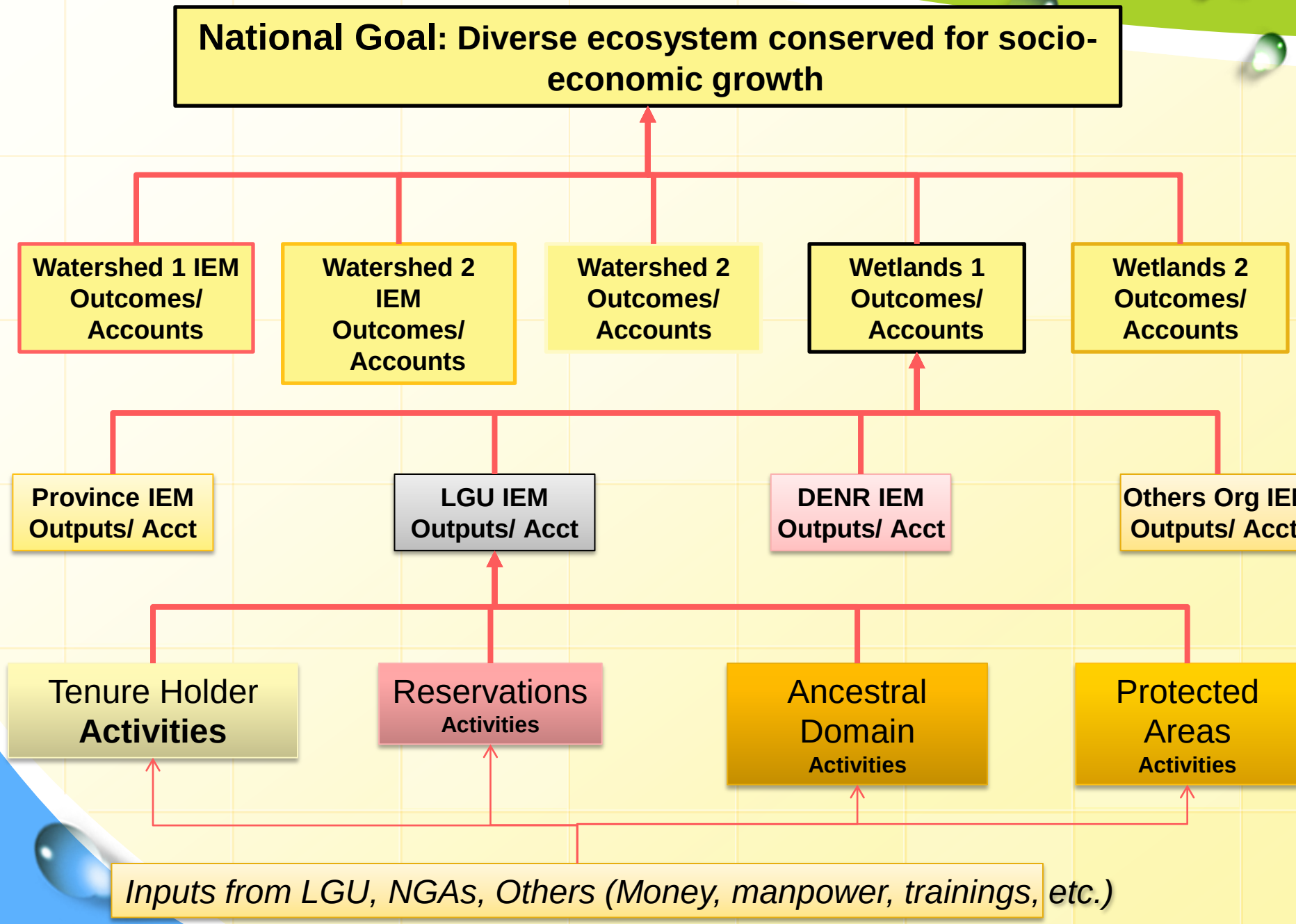
- Level of aggregation/disaggregation
  - National/Regional/Provincial/Municipal
  - Extent of data capture
    - Household
    - Community/Barangay
    - Firms
- Boundary of the accounts
- Who will develop the accounts?
- What account framework to adopt?
- The frequency of data collection, steps involved type of data, number and type of sampling to employ will depend on the analysis required

Why IEM Accounting?

- Decision-making at the watershed level needs synergy of different sectors and sectoral objectives
- Need for common goals and objectives for management of watershed or ecosystem
- Links/Impacts of upstream interventions on downstream economic activities
- Ecosystems decision-making rather than sector decisions and actions

Processes of IEM Accounting

- Account based on expected goals, desired outcomes and outputs
- Clearly define accountable entities for data collection, monitoring and evaluation
- Agree on measurable indicators and coverage of the accounts
- Develop the account structures based on agreed upon accounting framework


National Goal: Diverse ecosystem conserved for socio-economic growth
Watershed 1 IEM Outcomes/ Accounts
Watershed 2 IEM Outcomes/ Accounts
Watershed 2 Outcomes/ Accounts
Wetlands 1 Outcomes/ Accounts
Wetlands 2 Outcomes/ Accounts
Province IEM Outputs/ Acct
LGU IEM Outputs/ Acct
DENR IEM Outputs/ Acct
Others Org IEM Outputs/ Acct
Tenure Holder Activities
Reservations Activities
Ancestral Domain Activities
Protected Areas Activities
Inputs from LGU, NGAs, Others (Money, manpower, trainings, etc.)

Ecosystem Outcomes/ Accounts

Outcome 1: Forest Ecosystem

- 1.1 (Direct Consumptive Benefits)
- 1.2 (Direct Non-consumptive benefits)
- 1.3 (Indirect Consumptive)
- 1.3 (Indirect Non-consumptive)

Outcome 2: Lake Ecosystems

- 2.1 Hectares Freshwater swamp protected
- 2.2 Hectares herbaceous swamp protected
- 2.3 Hectares Open and still waters protected
- 2.4 Hectares Shrub-swamp protected
- 2.5 Hectares Degraded habitats rehabilitated

Outcome 3: Coastal and Mangrove

- 3.1 Fishery (Fish and Shrimp) production improved
- 3.2 Crop production improved
- 3.3 Flood Control Services improved
- 3.4 Waste Assimilation Services improved

Outcome 3: Agro-ecosystem

- 4.1
- 4.2
- 4.3

11 to 15 LGUs; DENR-CENROS, PENROS, Provinces, Others

LLDA Accounting Issues in Watersheds

- water availability and regulation,
- soil conservation
- silt control
- flood control
- Pollution control

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Recommendation for LLDA Outcomes/ Accounts

Outcome 1: Upland Ecosystem/ Accounts

- 1.1 Hectares of erosion-prone areas reduced
- 1.2 Hectares of degraded area rehabilitated
- 1.3 Upstream areas managed
- 1.3 Hectares of headwaters conserved
- 1.4 Hectares of erosion-prone areas reduced

Outcome 2: Lake Habitats/ Accounts

- 2.1 Hectares Freshwater protected
- 2.2 Hectares herbaceous areas protected
- 2.3 Hectares of open and still waters protected
- 2.4 Hectares fish habitats protected

Outcome 3: Urban Ecosystem/ Accounts

- 3.1 Hectares of navigation areas maintained
- 3.2 Hectares of tourism areas developed
- 3.3 Flood Control Services improved
- 3.4 Waste Assimilation Services improved

Outcome 3: Agro-ecosystem/ Accounts

- 4.1 Crop production improved
- 4.2
- 4.3

11 to 15 LGUs; DENR-CENROS, PENROS, Provinces, Others

Way Forwad

- Identify entities (agencies, LGUs, etc) accountable
- Spatial accounts and entities accountable
- Non-negotiable areas
  - Protected Areas
  - Protection forests and forest lands
    - Areas greater than 50% slope, greater than 1000 meters above sea, mangroves;
    - Designated as head waters of watersheds and critical habitats;
    - Areas with closed & open natural forests
    - Conservation areas managed by local communities and Indigenous Peoples and
    - Ordinance-supported local watersheds and natural attractions
  - High hazard zones
  - Prime agricultural lands
  - Disallowed investments, land and resource uses