



Assessing Investment & Financial flows for Adaptation in the **FORESTRY** Sector

UNDP I&FF Methodology Guidebook: Adaptation

Definition of the forest sector

- Either use **UNFCCC definitions** or **national definition** of land use type, particularly to make the distinction between forest & non-forest
 - **FAO definition:** Forest is a minimum area of land of 0.05-1.0 hectares with tree crown cover (...) of more than 10-30 % (...). A forest may consist either of closed forest formations (...) or open forest. Young natural stands & all plantations (...), as are areas normally forming part of the forest area which are temporarily unstocked (...)
- ➔ countries specify on their own which definition they want to use

1. Establish key parameters of the assessment

- Define scope & boundaries for the assessment
- Define the institutional framework
- Specify the time horizon for the analysis: 2015-2030 recommended
- Build on existing model for the sector where possible

2. Compile historical I&FF data and other input data for scenarios

- Data collection, rely on national accounts data
- The **System of National Accounts** (SNA) constitutes the primary source of information about the economy
- **Systems of integrated environmental & economic accounts** (SEEA) were developed to address statistical gaps
- Other sources: **Forest Inventories, National Communications**, FAO forest product reports etc.

- Useful links:
 - <http://www.fao.org/forestry/fra/en>
 - <http://faostat.fao.org/default.aspx>
 - <http://www.fao.org/statistics/countrystat/>

- Information should be disaggregated by:
 - Year (starting 10 years before the Base Year)
 - Source (by corporations & government)
 - Type (national funds, foreign direct investment, official development assistance)

2. Compile historical I&FF data and other input data for scenarios

Data collection, rely on national accounts data

Examples of I&FF data to be collected

| Type of flow | Type of physical asset |
|------------------|------------------------------------|
| Investment flows | Forest development |
| | Fuelwood & charcoal development |
| Financial flows | Services |
| | Policy & administrative management |
| | Research activities |
| | Education & training |

2. Compile historical I&FF data and other input data for scenarios

Data collection, rely on national accounts data

Examples of I&FF data disaggregation in each sub-sector

| Category of Investment Entity | Source of I&FF Funds | Investment Flows (2005 \$) | | Financial Flows (2005 \$) | |
|-------------------------------|--|------------------------------|------------------------------|---------------------------|---------------------------|
| | | Facility / Technology Type 1 | Facility / Technology Type 2 | Practice / Measure Type 1 | Practice / Measure Type 2 |
| Households | Domestic | | | | |
| | Total Household Funds (all domestic) | | | | |
| Corporations | Domestic (e.g. Business investments in hotels, restaurants) | | | | |
| | Foreign (e.g. Int'l service industry- travel agencies, tourism info centers) | | | | |
| | Total Corporation Funds | | | | |
| Government | Domestic (e.g. Physical infrastructure- roads, communication) | | | | |
| | Foreign | | | | |
| | Total Government Funds | | | | |

3. Define Baseline Scenario

- Define the physical basis for the Baseline Scenario
- **A baseline scenario:** description of what is likely to occur in the absence of ADDITIONAL policies to address climate change; expected socioeconomic trends (e.g., population growth & migration, economic growth), technological change (if relevant), & expected business-as-usual investments in the sector

3. Define baseline scenario

Define baseline scenario

- Characterizing each relevant forestry subsector over the assessment period
 - ▣ Assuming no new climate change policies are implemented
- Baseline scenario reflects
 - ▣ Current sectoral & national plans
 - ▣ Expected socioeconomic trends
 - ▣ Expected investments in the subsectors

4. Derive I&FF for baseline scenario

- ▣ **Estimate current I&FF for the sector**
- ▣ **Project future I&FF**
- ▣ As far as possible, project sub-sectors first & then aggregate the I&FF for the whole sector
- ▣ If not information over planning period available, analyze forest product supply/demand relationships for the country by comparing the projection of future demand for forest products with available annual timber yields, harvested sustainably

4. Derive I&FF for baseline scenario

Estimate annual I&FF

Adding costs to baseline scenario

| Funding entity category | Source of funds | Cumulative investment* (2015-2030) | |
|-------------------------|----------------------------|------------------------------------|-----|
| | | (billion 2015 \$) | (%) |
| Households | Domestic funds | | |
| Governments | Domestic funds (budgetary) | | |
| | Foreign borrowing (loans) | | |
| | Foreign aid (ODA) | | |
| Corporations | Domestic equity | | |
| | Foreign investment | | |
| | Domestic debt | | |
| | Foreign borrowing | | |
| | Government support | | |
| | Foreign aid (ODA) | | |
| | Total | | |

* Infrastructure, forest protection, forest fire control measures, social forestry, research, forest development, forest patrolling activities, anti-logging & anti-poaching activities...

5. Define Adaptation scenario

- **Define the physical basis for the Adaptation Scenario**
- **An adaptation scenario:** description of what is likely to occur when measures are taken to adapt to climate change; & required investments in the sector to implement them
- The adaptation scenario should also describe expected socioeconomic trends, & technological change (if relevant)

5. Define adaptation scenario

Define the physical basis for the Adaptation Scenario

| Type of land (defined by forest cover) | Current land use | Adaptation scenario | |
|--|--|---|--|
| | | Forestry option (examples) | Possible activities in the forest management plan |
| Forest | Conservation areas & managed production & protection forests | <ul style="list-style-type: none"> a) Forest conservation b) Sustained yield management c) Reduced logging | <ul style="list-style-type: none"> • Clarification of land & carbon tenure • Defining the system • FLC & Monitoring • Labour • Training • Infrastructure • Machinery & equipment • Miscellaneous |
| Forest | Accessible used/unsustainably managed forest | <ul style="list-style-type: none"> a) Enrichment planting b) Guided natural regen. c) Ecological restoration | |
| Non-forest | Grassland | Plantations | |
| | Cropland | | |
| | Waste land | | |
| Private forest | Forestry & plantations | Forest plantations for wood production | |

6. Derive I&FF for Adaptation Scenario

- ❑ Project I&FF associated with the Adaptation Scenario
- ❑ Compile annual estimates, disaggregated by investment entity, source, investment flow type, & financial flow type.
- ❑ Estimate annual investment costs associated with the alternative management plan

6. Derive I&FF for adaptation scenario

Project I&FF associated with the Adaptation Scenario

| Activity needed to achieve standards (examples) | Estim. Investm. US\$ | Estim. FF cost US\$ | Estim. O&M cost US\$ | Potential funding sources |
|---|----------------------------|---------------------------|----------------------------|---------------------------------|
| Effective conservation of Forest Protected Areas (REDD) <ul style="list-style-type: none"> •Development of effective management of protected areas. •Implementation of REDD demonstration projects | | | | |
| Effective management of Production Forests <ul style="list-style-type: none"> •Initiatives to contain illegal logging •Outcome based independent certification •Investment in Reduced Impact Logging | | | | |
| Enhancement of degraded forests by forest restoration <ul style="list-style-type: none"> •Decentralization of forest management •Silviculture (natural regeneration, enrichment planting) •Ecological restoration | | | | |
| Enhancing capacity of community groups Protect the rights of forest dependent indigenous peoples, reducing encroachment & forest degradation. | | | | |
| ... | | | | |
| Total for initial 5-years program | | | | |

Adding costs to adaptation scenario

| | | Cumulative investment (2015-2030) | |
|-------------------------|----------------------------|--------------------------------------|-----|
| Funding entity category | Source of funds | (billion 2015 \$) | (%) |
| Households | Equity & debt | | |
| Governments | Domestic funds (budgetary) | | |
| | Foreign borrowing (loans) | | |
| | Foreign aid (ODA) | | |
| Corporations | Private sector | | |
| | Domestic equity | | |
| | Foreign investment | | |
| | Domestic debt | | |
| | Foreign borrowing | | |
| | Government support | | |
| | Foreign aid (ODA) | | |
| | Total | | |

7. Estimate changes in annual I&FF needed to implement adaptation

- Subtract the baseline annual I&FF, by entity & source, from the adaptation annual I&FF, by entity & source
- Subtraction of the Baseline Scenario from the Adaptation Scenario
- Sum incremental amounts over all years, by entity & source

7. Estimate changes in annual I&FF needed to implement adaptation

Subtract the baseline annual I&FF from the adaptation annual I&FF

- For each chosen forest adaptation option, the analysis should identify the incremental investment (total dollars) by source (domestic funds, ODA, FDI etc.) up through 2030 to support the respective forest management option

7. Estimate changes in annual I&FF needed to implement adaptation

Summarizing incremental investments

| | | Investment (billion 2015 \$) | | |
|-------------------------|----------------------------|------------------------------|---------------------|---------------------------------|
| | | Cumulative (2015-2030) | | Incremental |
| Funding entity category | Source of funds | Baseline scenario | Adaptation Scenario | |
| Households | Equity & debt | Baseline value | Adaptation value | Baseline minus Adaptation value |
| Governments | Domestic funds (budgetary) | | | |
| | Foreign borrowing (loans) | ... | ... | ... |
| | Foreign aid (ODA) | ... | ... | ... |
| Corporations | Domestic equity | ... | .. | ... |
| | Foreign investment | ... | ... | ... |
| | Domestic debt | ... | ... | ... |
| | Foreign borrowing | ... | ... | ... |
| | Government support | ... | ... | ... |
| | Foreign aid (ODA) | ... | ... | ... |
| | <i>Total</i> | Sum (Baseline) | Sum (Adaptation) | Sum (Baseline minus Adaptation) |

8. Evaluate policy implications

- Assess policy options & summarize the projected I&FF for the key sector
- Prepare report

8. Evaluate policy implications

Assess policy options and summarize the projected I&FF for the key sector

- Determine policy instruments & measures to encourage changes in I&FF
- Identify the entities that are responsible for the significant incremental changes in I&FF. Determine the predominant sources of their funds, distinguish between public & private sources of finance
- When addressing policy options, social, economic & environmental benefits should be assessed qualitatively

9. Synthesize results and complete report

- For more information on synthesizing results, documentation & the completion of the report, please refer to the Reporting Guidelines

Q&A CLARIFICATIONS

