Guidelines in the Formulation of Forest Land Use
For Local Government Units
in the Philippines
### Acronyms

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<thead>
<tr>
<th>Acronym</th>
<th>Description</th>
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<tr>
<td>ADSDPP</td>
<td>Ancestral Domain Sustainable Development and Protection Plan</td>
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<tr>
<td>CADT</td>
<td>Certificate of Ancestral Domain Title</td>
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<tr>
<td>CBFMA</td>
<td>Community Based Forest Management Agreement</td>
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<tr>
<td>CCA</td>
<td>Climate Change Adaptation</td>
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<td>CLUP</td>
<td>Comprehensive Land Use Plan</td>
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<tr>
<td>CMA</td>
<td>Co-Management Agreement</td>
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<td>CSO</td>
<td>Civil Society Organization</td>
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<tr>
<td>DENR</td>
<td>Department of Environment and Natural Resources</td>
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<td>DILG</td>
<td>Department of Interior and Local Government</td>
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<td>DRR</td>
<td>Disaster Risk Reduction</td>
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<td>DRRM</td>
<td>Disaster Risk Reduction Management</td>
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<tr>
<td>EcoGov Project</td>
<td>USAID - Philippine Environmental Governance Project</td>
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<td>EIA</td>
<td>Environmental Impact Assessment</td>
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<td>FASPO</td>
<td>Foreign Assisted and Special Projects Office</td>
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<td>FLUP</td>
<td>Forest Land Use Plan</td>
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<td>FPIC</td>
<td>Free and Prior Informed Consent</td>
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<td>FMB</td>
<td>Forest Management Bureau</td>
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<td>FMS</td>
<td>Forest Management Section</td>
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<td>GIZ</td>
<td>Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH</td>
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<td>HLURB</td>
<td>Housing and Land Use Regulatory Board</td>
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<td>ICCAs</td>
<td>Indigenous Communities Conserved Areas</td>
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<td>IFMA</td>
<td>Industrial Forest Management Agreement</td>
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<td>IP</td>
<td>Indigenous People</td>
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<td>JMC</td>
<td>Joint Memorandum Circular</td>
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<td>KBAs</td>
<td>Key Biodiversity Areas</td>
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<td>KirW</td>
<td>German Development Bank</td>
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<td>LGC</td>
<td>Local Government Code of 1991</td>
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<td>LGU</td>
<td>Local Government Unit</td>
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<td>LSP</td>
<td>Local Service Provider</td>
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<td>NCIP</td>
<td>National Commission on Indigenous Peoples</td>
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<td>NewCAPP</td>
<td>New Conservation Areas in the Philippines Project</td>
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<td>NGA</td>
<td>National Government Agency</td>
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<td>NGO</td>
<td>Non Government Organization</td>
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<td>PASu</td>
<td>Protected Area Superintendent</td>
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<td>PAWB</td>
<td>Protected Areas and Wildlife Bureau</td>
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<td>PAWCZMS</td>
<td>Protected Areas, Wildlife and Coastal Management Sector</td>
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<td>REDD</td>
<td>Reducing Emissions from Deforestation and Forest Degradation</td>
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<td>RMP</td>
<td>Resource Management Plan</td>
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<tr>
<td>Abbreviation</td>
<td>Description</td>
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<tr>
<td>SCO</td>
<td>Special Concerns Office</td>
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<td>SFM</td>
<td>Sustainable Forest Management</td>
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<tr>
<td>UNDP-GEF</td>
<td>United Nations Development Program - Global Environment Facility</td>
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<td>VA</td>
<td>Vulnerabilities Assessment</td>
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Guidelines on Forest Land Use Planning

Introduction

This DENR guidelines on Forest Land Use Planning is a product of integrating almost 15 years of experiences in FLUP formulation with Local Government Units. It builds up on the guidelines previously prepared by the Environment Governance Project (EcoGov) and the GIZ/EnRD-supported Natural Resource Governance (NRG) and Community-Based Forest Management (CBFM). This integration was made possible through the collaborative efforts of the Department of Environment of Natural Resources (DENR) through the Forest Management Bureau (FMB) and Protected Areas and Wildlife Bureau (PAWB), with assistance from the Global Environment Facility (GEF)- United Nations Development Programme (UNDP) New Conservation Areas in the Philippines Project (NewCAPP) and German International Cooperation- Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ). Technical discussion to prepare this national FLUP guidelines was held on July 2012 with support and participation by other national government agencies, such as the Department of Interior and Local Government (DILG), Housing and Land Use Regulatory Board (HLURB) and National Commission for Indigenous Peoples (NCIP), local government units (LGUs) and non-government organizations.

The FLUP is also sought to be integrated to the Comprehensive Land Use Plan (CLUP) in a manner that it will help in providing the technical framework for land use zoning and issuance of the zoning ordinance in line with the holistic or integrated ecosystem management (IEM) approach. The integration will help to further institutionalize and mainstream ENRM with LGUs, also with the inclusion of integrated coastal management (ICM), and solid waste management plans to the CLUP.

The FLUP guidelines is consistent with the operative framework of decentralized governance of natural resources as promoted in the Local Government Code of 1991, and expounded in the DENR-DILG Joint Memorandum Circulars 98-01 and 2003-01. Executive Order 318 (Promoting Sustainable Forest Management in the Philippines) requires LGUs to integrate FLUP in the Comprehensive Land Use Plan (CLUP) and provides a step further in institutionalizing and mainstreaming forest management under LGU mandate.

The last decade saw the evolution of FLUP formulation processes and framework from a mere technical to governance and institutional-oriented forest land use planning that emphasizes participation, responsibility, and accountability in managing the natural forest assets. The trend also calls for the inclusion in FLUP not only sustainable forest management but also the key emerging issues concerning biodiversity, vulnerability assessment in relation to climate change adaptation (CCA/VA)/disaster risk reduction and management (DRRM), Reducing Emissions from Deforestation and Forest Degradation (REDD+), and the management of indigenous communities conserved areas (ICCA) in ancestral domains.
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User of the Guideline

This guidelines which provides a systematic presentation of FLUP formulation processes is intended for the service providers, DENR, LGUs, and TWGs to equip them the necessary skills and knowledge in facilitating the FLUP formulation. The recommended process is enabling and requires sound participation from various stakeholders in the light of promoting and exercising good governance of the forest and natural resources within the territorial jurisdiction of the LGU. It was built initially on guidelines prepared by the EcoGov Project and GIZ but expanded to include biodiversity, DR/CCA, REDD, recognition of traditional practices of people in areas covered by ancestral domain.

Use of Complementary Guidelines

It is also recommended that the user of this guidelines also refer to various available tools that are already available which can augment or complement the understanding of the processes and methods used in FLUP. Some of these tools and guidelines are:


FLUP Framework

FLUP Defined

Originally designed only for joint SFM undertaking, FLUP is now seen to provide as a governance and investment framework for LGU and DENR in biodiversity conservation, REDD+, and in understanding disaster risk (from hazards) and climate change impacts and adaptation mechanisms. Having governance of the natural resources as its centerpiece, Forest Land Use planning should be understood as a process of a transparent, demand-driven, participatory, and iterative joint planning of the LGU and DENR for sustainable forest management (SFM), biodiversity conservation, implementing REDD+ and DRR CCA (Guiang, 2012).

2
FLUP will be the main instrument to promote greater collaboration among DENR, LGUs, and stakeholders in achieving effective governance of the entire forest territory within the Municipality or City regardless of classification and tenure. Its implementation shall be empowered by an agreement (MOA) between the DENR and LGU where authority, responsibility, and accountability (AAR) center in the management of the forest will be emphasized, including the agreed land use plan where conservation areas and production zones are defined.

**Why FLUP is Important with and for LGUs?**

The user of this guidelines should have a firsthand understanding of why FLUP must be prepared by the Local Government Units. Realities point outs that most of the forestlands and conservation areas are within the territorial jurisdiction of municipality or City. It is therefore in their best interest to put these resources to effective management and optimum use, both for their economic and environmental advancement (ecosystems services), and for the benefit of their constituents and the municipality as a whole.

In the advent of climate change threats, the importance of managing the forest in the context of (bigger) watershed become paramount. DRRM becomes a pressing issue to the LGU and FLUP can provide a good analytical framework for understanding climate change threats, such as flooding and landslide, in a more ecosystem-based or holistic perspective.

On the economic side, FLUP can also provide a framework where to put investments, both for infrastructure and forest development and management, including the conservation of biodiversity. Other investments or revenue generation opportunities for the LGUs can also be identified (e.g., community watersheds, ecotourism). Additionally, payment for environmental/ecosystem services (PES) can also be recommended in various type of resource uses. PES can also be expanded using the REDD+ scheme in order to reduce emissions and arrest the drivers of deforestation and forest degradation.

Forests is as important assets that needs to be harnessed to support socio economic development and environmental advancement of the Local Government units. It is thus part of physical planning process where LGU investments is required.

**Key Elements of FLUP**

As deemed applicable, FLUP shall have these key essential elements;

1. **Sustainable Forest Management (SFM).** The primary purpose of FLUP is to develop a framework for the effective management of the natural forest assets so that services they provide people are conserved, managed, and enhanced over time with due consideration to intergenerational equity (future generation rights to benefit). Sustained supply of food, raw materials, and services from the forests on the demand side, and likewise, the investment areas including the development of forest and watershed on the supply side,
are the two main focus in SFM. All interventions that warrant forest and watershed development, primarily by closing the open access situation and putting effective management, will complement effort in climate change adaptation and mitigation, biodiversity conservation, and adoption of more advance forest investments mechanisms such as payment for ecosystem services in form of REDD+.

2. **Vulnerability Assessment in Relation to Climate Change Threats (CCA/VA).** With Climate Change Act and Disaster Risk Reduction Act now enacted, it is paramount that climate change be factored-in in any development plan of an LGU. Majority of the LGUs in the country have larger area of the state forestland and most, if not all, is within the bigger watershed. It is important to understand the vulnerability of the entire territory, including the natural resources, private and public investments and settlements, to the impact of climate change and whether the adaptive capacity or the readiness of the Local Government Units and people in general is sufficient to moderate potential damages, take advantage of opportunities, or to cope with the consequences (Cabriño, et. al., ____). Aside from the geologic hazards (e.g., earthquake and attendant damages), climate change related impacts such as flooding and landslide is also related to forest and watershed ecosystems integrity which can be best analyzed and presented in FLUP.

3. **Biodiversity Conservation** The country is considered biodiversity hotspots. Most of the territory of the LGUs cover key biodiversity conservation areas (KBAs) such as protected area (PA), critical habitat, and indigenous communities conserved areas (ICCAs). The integration of biodiversity considerations into the FLUP helps in the systematic identification of these biodiversity areas within the LGU territory which also need to be placed under effective management. This inclusion will facilitate the expansion of the terrestrial biodiversity conserved areas in the Philippines under diverse governance regimes. This will also facilitate the establishment of local biodiversity conservation and management regime at the LGU level.

4. **Reduction of Emission from Deforestation and Forest Degradation (REDD+).** REDD+ recognizes that land use change contribute largely to carbon emission. FLUP helps understands the various drivers of deforestation and forest degradation and provides or design recommendations and strategies to address them. In the same token, spatial information on existing land use and vegetative cover can help provide good estimate of carbon stock and the 'carbon sequestration' potential of remaining natural forest and tree plantation. These information will also be beneficial in designing sustainable forest development interventions that can merit REDD+-readiness of FLUP taking into consideration possible carbon-market financing.

**Basic Principles**

a. **Governance-oriented.** Planning and implementation shall promote transparency, well-informed decision making, participation, and accountability which are exercised based on governing laws and regulation (controls) and customary laws (in case of IPs) to
achieve the objectives of SFM, biodiversity conservation, REDD+, supplying ecosystem services, and climate change resiliency and reducing poverty.

b. **Culturally Sensitive.** The process on FLUP formulation and implementation must place paramount respect on the traditional and cultural practices of the local inhabitants, especially of the indigenous people.

c. **Integrated/holistic ecosystems approach** The watershed approach clearly defines the relationship between the uplands, lowlands and the coastal zones. It will facilitate minimization of conflicts because of inappropriate uses of the natural resources, make the most efficient trade-offs and to link social and economic development with environmental protection and enhancement. The approach also helps in the alignment of land uses and forest management in the uplands with the lowlands, settlements, and coastal areas to minimize the long-term effects and damages from landslides, flashfloods, and flooding that may result from erratic and extreme weather patterns (climate change).

d. **Soil and Water Conservation.** In line with watershed development and management, soil and water conservation must be accorded the highest consideration in allocating forest lands for various uses and management regimes.

e. **Participatory/Cross-Sectoral Approach.** The process of planning and allocation of forest lands should provide for democratic consultations, negotiations, and conflict resolution among the various stakeholders, including the IPs. For areas with ancestral domain, IPs customary and traditional practices must be given paramount consideration in planning. Use of community-based approaches in DRR/VA and biodiversity assessment shall be encouraged.

f. **Collaborative.** FLUP as instrument for greater collaboration between LGU and DENR and others stakeholders in managing the forest territory covered by the municipality. Ecosystems as ENR assets provide services to different clients and beneficiaries (on and off sites, now and then) and it recognizes that within an ecosystem, both local and national institutions are involved, mandated, and empowered to carry out effective governance and management of the natural resources.

g. **Decision and action-oriented.** The result of FLUP lead to a well-informed decision by LGUs, DENR, and stakeholders that promote responsibility to act and contribute in ensuring the sustainable management of the natural resource assets including biodiversity, and address climate change threats.

h. **CLUP-Readiness.** The holistic approach in data gathering and analysis should complement and provide the framework for CLUP in zoning the entire municipal territory, including the forests and forestlands.
Module 1. Pre-Planning or Preparatory Activities

This module includes activities that sets the environment for participatory and collaborative formulation of FLUP by the LGU and DENR. Here, entry points for helping LGUs prepare CLUP-ready FLUP must be planned and corresponding requirements must also be prepared. As FLUP formulation becomes a national program for rolling-out, the DENR therefore shall take the lead. However, rolling-out does not mean putting it in the Key Result Areas (KRAs) of each DENR Regional Offices that will only be complied with. It must be made demand-driven to avoid it being misconstrued to be another regulatory requirements for compliance by LGUs.

In this aspect, understanding the importance of FLUP through orientation or awareness building is an important step (creating a demand). This may allow pro-activeness or self-selection by the LGUs to initiate the FLUP formulation process themselves.

The following are preparations necessary to start the formulation of the Forest Land Use Plan (FLUP) which are basically the general requirements recommended for rolling out. The DENR is required to do complete staff work before they can assist LGUs prepare FLUP. However, it does not stop individual LGUs to proactively pursue FLUP preparation on their own following the key requirements and essential elements (e.g., SFM, DRR, Biodiversity Conservation, etc) recommended in this guideline.

This guideline recommends that the entry point for FLUP rolling out is through the Provincial LGU (level) as it is strategic and it has advantage in terms of how easy they can mobilize resources to support their constituent Municipal LGUs. Most Provincial Environment Offices that have been created have manpower and resources to assist municipal level planning and implementation, an opportunity given the existing limitation at the municipal level.

1. **DENR Getting Ready to Roll-out FLUP.** Making it a national program that allows all LGUs with forestlands under its territory to formulate FLUP requires readiness. DENR at all levels (FMB, Regional Office, PENRO, and CENRO) must agree on mechanism and approaches for rolling-out. A workshop or two can help in this regard. Some of the activities needed include:

   - Collate copy of existing laws, policies, and regulations on FLUP, SFM, DRRM, Biodiversity Conservation, and Climate Change, and other pertinent laws. All these laws and policies must be shared and should form part of the IEC and orientation on FLUP.

   - Set criteria for TA prioritization on FLUP. It is not possible to assist LGUs prepare FLUP all at the same time. Some criteria may consider LGUs in priority watershed, biodiversity hotspot areas, or in areas with large block of natural forest. The selection or prioritization of LGUs may also consider their readiness to pursue FLUP formulation who has allocated manpower and budget as indicator of their willingness to undergo the process.

   - Prepare FLUP marketing materials and conduct in-house training/orientation program for DENR at all levels. The first level advocacy will be done by the DENR as the demanders
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of FLUP. Social marketing material on FLUP should therefore be prepared prior to conduct of any IEC activities. All DENR levels must establish excellent understanding and must share the same message on the importance of FLUP to the target client (LGU).

- Allocate budget to support FLUP. An important element for rolling out, budget to support FLUP formulation and implementation must be allocated and should be part of the DENR regular annual appropriation.

2. Establish mechanism between/among agencies for FLUP rolling-out. Issuance or signing of JMC or MOU between and among DENR, DILG, HLURB, and NCIP (if necessary) to define roles and agree on mechanism for nationwide scaling-up of FLUP.

3. Conduct Provincial Level IEC/Advocacy on FLUP. An entry point to engage the LGU in the FLUP process is the conduct of provincial level orientation or roundtable discussions participated by MENROs and/or LGU key decision makers to discuss the importance of FLUP and level off on ways to move forward. This activity can also help assess which LGUs can be prioritized for technical assistance.

4. Facilitate the signing of MOA between Provincial Government (PLGU) and DENR-Regional Office. Once initial groundwork has been completed and the PLGU has signified willingness to be partner with DENR, a partnership MOA can be drafted, reviewed, finalized, and signed for the formulation of FLUP. The MOA should include among others, commitment of both parties to provide technical assistance to municipalities on FLUP, creation of Provincial FLUP Assistance team, and provision of resources and manpower. The MOA will be signed between the PLGU as represented by the Governor, and the DENR represented by Regional Executive Director (RED).

5. Create/Form Provincial Forest Management Committee (PFMC). This is to establish a mechanism by which partnership on forest management can be strengthened and institutionalized at the Province level. The PFMC shall have membership from key Departments of PLGU, DENR-PENRO and CENR Office, including PAMB or PAWCSM Offices, and NCIP. The tasks of PFMC may include 1) monitoring and evaluation of FLUP formulation progress, 2) facilitate resolution of issues that concerns several LGUs, 3) Advocate and raises awareness on SFM, DRRM, Biodiversity Conservation, and REDD+ as applicable.

6. Organize of Provincial FLUP Assistance Team (PFAT). Serving as catalyst and trainors of the MTWG on FLUP formulation and implementation, the FPAT shall be composed of technical staff from the Provincial LGU (ENR Office), the DENR PENR and CENR Offices, NCIP, and PAMB/PAWCSM as applicable. It can also help in developing training and IEC materials and conduct IEC and advocacy in FLUP.

7. Form Municipal Technical Working Group (MTWG) and Barangay FLUP Team. Once all the municipal requisites (e.g., issuance of letter of intent, issuance of SB resolution, and possibly MOA between PLGU, PENRO/CENRO, and MLGU) have been satisfied by the MLGU to formulate the FLUP, the Mayor will issue a Executive Order creating the MTWG.
If possible, it should have composite or multisectoral membership that include IPs/NCIP, and PAMB or PAWCZM as the case may be. The MTWG may be divided into sub-teams–Mapping, IEC and documentation, and socio-profiling sub-teams. Encourage the formation of Barangay FLUP team. This team shall be tasked for Barangay level IEC and consultation activities, socio-economic data gathering, participatory mapping, and validation. In some cases, Barangay Health Workers (BHW) can be mobilized for this.

8. **Formulate FLUP training material.** Prior to training TWG, the DENR or the service provider (PFAT) shall design/formulate training materials on FLUP. Aside from the general orientation on FLUP importance, concept, principles and processes, materials should be prepared on other key components of FLUP such as Biodiversity Conservation (KBAs, Critical Habitat, PAs, and Biodiversity Corridors, and others), Climate Change, Disaster Risk Reduction, Vulnerability Assessment, and IKSP and Ancestral Domain (ADSDPP). The materials should also include key tools and methods (e.g., participatory rural appraisal) in data gathering (e.g., participatory rural appraisal), mapping, and analysis.

9. **FLUP Training and Orientation (for MTWG).** Possibly through PFAT or any other service provider shall conduct a 3-4 days training/orientation for the MTWG to equip them with skills and knowledge in FLUP preparation. The FLUP orientation shall cover principles, process, data requirements, tools and methods (PRA, Community Mapping, stakeholders profiling and analysis), and technical mapping. Additionally, orientation on biodiversity conservation, CCA/VA, and REDD+ aside from the usual sustainable forest management should also be undertaken as components of FLUP.

10. **Agree on Action Plan for FLUP Formulation.** After the training, the TWG shall prepare an action plan for FLUP formulation. The action plan shall include schedule of activities and resources required for the entire planning duration. Copy of action plan must be also be shared and discussed with Barangay Council and/or the Barangay FLUP team for the scheduling of field activities.
Module 2. Data Gathering, Mapping, and Validation

This section deals with understanding the minimum data needs in FLUP, the processes and methods of data gathering and validation, and the preparation of thematic maps that are useful input in spatial or land use analysis. The MTWG are responsible for gathering, collating, consolidating, and updating/validating all data required in FLUP based on the tasks agreed by the MTWG in the first module.

A. Data Requirements

Preparing CLUP-ready FLUP require two major data sets, 1) the socio-economic and institutional profile, and, 2) biophysical profiles. The socio-economic and institutional profiles present the situation of the entire municipality in terms population and growth rate, settlement distribution, economic standing (livelihood and income), ethnicity and cultural practices, basic services, organizations and stakeholders, institutional capability, and existing or planned infrastructure and other development projects. Now that it demands to understand the governance of the natural forest assets, a review and assessment of the NRM effectiveness of the tenure holders, including the IPs shall also be done.

Biophysical profiles, on the other hand, include data that present or characterize the spatial situation of the entire municipal territory (regardless of land classification and tenure) such as land uses and vegetative cover, biodiversity conservation status, mining and potential mining areas, hazards and vulnerabilities, tenure, and other topographic characteristics presented such as watershed divides and drainage, slope, and elevation. Most of these spatial information will be presented in thematic maps which will be used as input in map overlaying and analysis.

For making it CLUP-ready, each thematic maps must have spatial information covering the entire municipal territory contextualized in a bigger watershed for better understanding of ecosystem's relationship.

There are 14 to 16 thematic maps required in FLUP, presented in the following table below with their possible sources.

| Table 1. Thematic Maps Needed in FLUP and their Possible Sources and Ways for Validation and Updating |
|---------------------------------------------------------------|---------------------------------------------------------------|
| **THEMATIC MAPS** | **DESCRIPTION/USE** | **POSSIBLE SOURCE** |
| 1. Land Classification Map | Presents the location of upland, shallow and disposable areas, and as applicable, include mineral lands, protected areas, and CADTs | NAMRIA-DENR (and PAWB), NCIP, |
| 2. Watershed and Drainage Map | Shows the watershed divide and the drainage or river pattern. The bigger watershed should also be reflected to show the entire watershed ecosystem perspective. Can be used as basis for computing water discharge level, and, if hydrologic study is available, a separate map of aquifers and underground water table can be made. | Topographic Map, Topyonyms and uses of rivers/creeks can be validated through participatory mapping. |
| 3. Administrative Map | Shows the entire municipal territory and location of barangays and sites | DENR MIM Map, Cadastral Map, Can be validated |

1 See Annex 1. Minimum Data requirements in FLUP.
<table>
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<tr>
<th>THEMATIC MAPS</th>
<th>DESCRIPTION/USE</th>
<th>Possible Source</th>
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<tr>
<td>4. Vegetative Cover Map (2 period if possible)</td>
<td>Vegetative cover data. Open and closed canopy forests, plantation, agricultural areas, grasslands/brushlands, etc.</td>
<td>through participatory community mapping and GPS readings. Satellite imagery (DENR); can be update through participatory mapping and field validation, and Google Earth images (for reference).</td>
</tr>
<tr>
<td>5. Slope Map</td>
<td>Shows slope classification: e.g., &lt;18%, 18-30, 30-50%, and &gt;50%</td>
<td>Can be derived from 1:50,000 topographic map of DENR.</td>
</tr>
<tr>
<td>6. Elevation Map</td>
<td>Shows classification of elevation measured in terms of meters above sea level (masl). Typical classification used: &lt;500 m, 500-1,000 m, &gt;1,000 m. Classification may be modified depending on application and level of analysis needed.</td>
<td>Can be derived from 1:50,000 topographic map of DENR (NAMRIA).</td>
</tr>
<tr>
<td>7. Tenure/Allocation Map</td>
<td>Shows the areas covered with legitimate tenure instrument such as CSCS, CBIFMA, land grant, protected area, special agreements, CADT, IFMA, Mining FTA, etc.</td>
<td>DENR, DAR, DA-BFAR, MGB, NCIP</td>
</tr>
<tr>
<td>8. Existing Land Use Map</td>
<td>Shows agro-forestry, built up, cultivation areas, community watershed, established critical habitat, etc. Land uses also indicate causes of land uses changes (including the drivers of deforestation) important to REDD+, and in assessing threats to biodiversity.</td>
<td>Comprehensive Land Use Plans, field validation, DA-BFAR, NAMRIA, community maps</td>
</tr>
<tr>
<td>9. Infrastructure Map</td>
<td>Shows the bridges, roads, communal irrigation system, power distribution systems, schools, hospital, ports, dams and other infrastructures</td>
<td>LGU Engineering, DPWH, MIA, DA, participatory mapping and field validation, Google Earth images</td>
</tr>
<tr>
<td>10. Settlement Map</td>
<td>The map presents the distribution of settlements by Barangay and or sitio. Depending on the quantity, large population are usually presented in map by cluster groupings of households (e.g., 1-10, 11-20, 20-30, 30-40)</td>
<td>Often not readily available. Can be taken through participatory mapping.</td>
</tr>
<tr>
<td>11. Hazard Map/Vulnerability to CC</td>
<td>Location of geologic hazards, e.g. volcanoes, faults, land slips, areas of liquefaction, highly erodible areas, flood prone areas</td>
<td>MGB, DOST, community-based hazard assessment, climate change simulation modeling</td>
</tr>
<tr>
<td>12. Conflicts/Issues Map</td>
<td>Shows the location of existing and emerging conflicts in land use and other issues and concerns related to forest management (e.g. overlapping tenures/claim, identified boundary conflicts, location of new and old kaingin, timber poaching area, rampant hunting, etc.).</td>
<td>Can be generated during participatory mapping and field observation; map overlaying and analysis, and from secondary sources such as DA-BFAR, DENR, and LGU record.</td>
</tr>
<tr>
<td>13. Biodiversity Resources Map</td>
<td>Indicates proclaimed protected areas, key biodiversity areas, closed canopy forest areas, mangrove forests and identified habitats of threatened or protected wildlife species (critical habitat).</td>
<td>PAWB and Other Biodiversity Projects; Participatory, Community Based Biodiversity Mapping</td>
</tr>
<tr>
<td>14. Mineral Map/Mining Terriemnt Map</td>
<td>Shows location of Mineral Production Sharing Agreement, exploration permits/mining claims, and areas covered with Financial or Technical Assistance</td>
<td>DENR-MGB, LGU</td>
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DRAFT for Discussion

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<tr>
<th>THEMATIC MAPS</th>
<th>DESCRIPTION/USE</th>
<th>Possible Source</th>
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<tbody>
<tr>
<td>15. Forest Project Maps</td>
<td>Indicate location and spatial distribution of projects/interventions or investment on forest rehabilitation and development necessary</td>
<td>DENR, NCIP, LGUs, Convergence Initiative Office, and other potential sources</td>
</tr>
<tr>
<td>16. Soil Map</td>
<td>Presents the soil types within the territory of an LGU. Soil is one of the factors of soil erodibility flooding which is also an important input in hazard and vulnerability assessment and analysis</td>
<td>Department of Agriculture</td>
</tr>
</tbody>
</table>

B. Gathering of Secondary Data and Maps

1. Gathering and Collation/Consolidation of Secondary Socio-economic Data. Through a small workshop, make an assessment of the data gaps based on the data required. Using a list, determine which data are already available, data that need to be updated, and the data that are not presently available. Take note of the data that needs to be updated and/or gathered.

Most of the secondary socio-economic data can be taken from the Municipal Profile and CLUP. As much as possible, all data sets should have the same reckoning time to facilitate comparison, thus the need for updating. Consolidate all socio-economic data in tabular format. For data that needs to be updated and gathered, agree on schedule and timetable to gather and complete them.

Some data like the institutional capability, assessment of tenure holders NRM performance, and stakeholders analysis are not readily available and need to be gathered firsthand. An assessment using focus-group-discussion complemented by field observations is necessary to get the desired output. The assessment may also form part already of the situational analysis.

2. Review Other Data Sources. Provincial Framework Plan, Protected Area Plan, Biodiversity Conservation Plan, and Ancestral Domain Sustainable Development Protection Plan (ADSDPP), and Watershed Management Plan, if available, are also sources of data that may be used in FLUP. The TWG should take time to review these data and collect those that can be used. Again, it should be carefully determined the data that need updating.

3. Consolidating/Drafting Thematic Maps. Most of the required thematic maps are not readily available. The TWG Mapping Team should also do the assessment using a checklist and determine which map are already available at the LGU and DENR. The above table already presents the possible map sources and ways of gathering/updating them. The mapping team initially collects available thematic maps from different sources and then integrate them into a map of uniform scale (1:50000 for a manual map). The mapping team can refer to the Mapping Guidebook For Forest Land Use Planning prepared by EcoGov for details of mapping procedures and standards.

Google Earth and other satellite imagery with good resolution can also be used as reference for preparing thematic maps such as infrastructure map (mainly road networks), Settlement
Map (settlement distribution), and Vegetative Cover and Land Uses. However, the user is advised to maintain caution when doing actual interpretation. In some cases, vegetative cover can clearly be seen but cannot be distinguished as to its type (e.g., natural forest vs. plantation or manmade). This information must be subjected to field validation because different laws and provisions govern the management of different forest types, especially for natural forest where cutting is banned based on Executive Order 23. Likewise, brush lands for most part can also be interpreted as marginal natural forest and vice versa, therefore thorough ground validation is necessary.

If data is available, it is recommended to use maps of different period (at least two-period) for Vegetative Cover and Land Uses to establish trend of forest changes. This can help better understand how vegetative/forest cover change over time in relation to the various threats identified during socio-economic profiling and mapping.

In drafting the CLUP-ready FLUP thematic maps, consider the following:

- FLUP maps cover the entire municipal territory and not only forestlands and must be prepared based on the acceptable (e.g., based on cadastral survey, approved/certified Municipal Boundary) municipal map.

- Some maps come from different sources, sometimes with different scale, datum, and coordinate system that make it difficult to integrate. Make sure to properly geo-reference them using a common coordinates and datum (Luzon or Mindanao) during integration. If no clear coordinates are available from source maps, do actual GPS reading and field validation if possible.

- In preparing for validation and integration of information from the participatory mapping in case latest and desired spatial information is not readily available, prepare a Base Map that contain natural features such as peaks of mountains, ridges, rivers/creeks, springs, roads, bridges, and other permanent landmark possible (complete with toponyms) for reference.

- It is important to note that wrong spatial information inputted in maps will lead to wrong results and input to planning as well as in decision making, thus, the need for the TWG or the planning facilitator to ensure the quality and accuracy of spatial information to be put in the map.

4. Gathering of Socio-economic Data in Areas Covered by Ancestral Domain. The TWG profiling team, which ideally should include representative from the IPs and NCIP, should take note of traditional and cultural practices of IPs being profiled. Available anthropological studies can also be used as reference to determine these cultural practices. A focus-group discussion with IPs can also be done to gather their IKSPs as it applies to natural resources management, including the management of the identified indigenous communities conserved areas (ICCsAs). These IKSPs will be a relevant input when deciding on proposed land uses (including areas covered by development controls/non-negotiable) and in formulating management strategies for areas covered by the ancestral domain.
5. **Minimum Data Needs for Assessing Vulnerability of Ecosystems to Climate Change Impacts.** Most of the LGUs is currently limited, if not totally lacking technical knowhow and resources to do comprehensive ecosystem vulnerability assessment of climate change impact. This is especially true in projecting or simulating spatial or locational impacts of climate change for a more in-depth analysis in determining vulnerable areas. As pointed out in the *ERDB's Manual on the Vulnerability Assessment of Watersheds*, the assessment of vulnerability of ecosystems to climate change involves research into the exposure, sensitivity and adaptive capacity level to a specific impact. This will require long-term data to establish some pattern and trend that can be used to develop a model, in which it may be too arduous to LGUs given the cited limitation.

FLUP can make use of the minimum set of indicators and data that can be collected through participatory means (e.g., community mapping and field observations) and can also be complemented by maps and information available from agencies such as the Mines and Geosciences Bureau (MGB) and possibly, the DOST-PAGASA (for climatological data). A more comprehensive analysis may be done when the LGU is ready and resources and expertise are available.

While national guidelines are yet to be issued or adopted along the core indicators to set the minimum requirements for vulnerability assessment to climate change impacts, the TWG is advised to use the VA tools available. *Cabrido, et. al., on Mainstreaming Guidelines on Sectoral Vulnerability Assessment*, is the primary tool available which considers exposure, sensitivity, and adaptive capacity as main factors of vulnerability. While other tools such as *ERDB's Vulnerability Assessment of Watershed (2011)* and the *MGB Geological Hazard Vulnerability Map*, can also be used though these tools do not cover or assess climate change impacts.

For forest and watersheds, common areas of concern for vulnerability assessment include soil erosion, landslide, flooding, forest/grass fire, and anthropogenic activities (illegal logging, swidden farming) that degrades these ecosystem. If it is not readily possible to conduct a complete CCA/VA, the minimum data that can be used include:

- **Land Use and Vegetative Cover Map**
- **Slope and Elevation Maps**
- **Soil Map**
- **Vulnerable assessed area based on the data from Mines and Geo-sciences Bureau**
- **Land uses and other NRM practices which can be taken during profiling**
- **Existing forest development effort and other adaptive mechanism being implemented (for adaptive capacity)**
- **Rainfall and River Water Discharge Data (if available)**
- **Hydrologic Map (if Available)**

The assessment of vulnerability, at some point, cannot separate hazards or disaster risk brought by climate change impacts from the ones affected or brought by geologic or geographic factors. An example is in the case of flooding which may have caused by intense
and prolong rain (which may be climate change related) but is aggravated by the geological factors and manmade factors such as steep slopes, soil erodibility, complex river system, and destroyed forest vegetation.

The TWG should take attention in gathering and documenting IPs traditional practices for assessing hazards and vulnerabilities. These data or information must be considered in crafting adaptation and mitigation mechanisms which also uses local knowledge and traditional practices as necessary.

6. **Data Needs on Biodiversity (Critical Habitat, Key Biodiversity Conservation Areas).** Identification and inclusion zoning is an important first step in setting local governance and management mechanism for biodiversity conservation areas at the municipal level. Concerns on biodiversity conservation and management in FLUP can be integrated in the process from data gathering up to the decision in zoning. Key Biodiversity Areas have been identified and map are available from PAWB or PAWCZMS Office which can readily be used by the Municipal Technical Working Group as reference. Likewise, different studies on biodiversity have been conducted in many areas nationwide and these can be used by some LGUs as reference and basis for determining biodiversity conservation areas that can be included in their forest management zones. In the absence of data, however, a community-based approach to assessing biodiversity can be done through the use of participatory mapping and field validation.

   a. **For KBAs.** Secure maps from PAWCSM and determine if there are available biodiversity studies conducted...

   b. **For Critical Habitat.** If data is not available, a community/participatory mapping can be administered to determine and map the range of critical habitat based on the presence of indicator (threatened species). A sampling survey to establish population estimate can also be done with the help of Biologist or biodiversity expert. The result of this survey provides data on the estimates of population and the range and distribution of species, and what specific management interventions are needed. Prepare Biodiversity Area Map, indicating the location and distribution of range of species.

After identification and mapping, conduct field observation and discussion with local people to determine the threats to the BCAs. Most common threats include hunting, grassfire, pasture, forest conversion, and illegal cutting and collection of forest products. Assess vulnerabilities of the BCAs based on the intensity of threats. Intense destructive activities indicate the high vulnerability of BCAs which requires that management mechanisms must immediately be established. Prepare Biodiversity Conservation Map. The TWG may also prepare a separate map that reflects threats to biodiversity.

7. **Data Needs for REDD+ in FLUP.** The goal of REDD+ is to reduce emission due to deforestation and degradation, and it is REDD+'s strategy to address systematically drivers or causes. Understanding the direct and underlying causes of deforestation with significant
impact on forest ecosystems loss and degradation are important in designing interventions to reduce pressure on forest as well as reducing carbon emission. See Illustration below.

### Underlying Causes

- Unclear Tenure Rights
- Other Socio Economic & Cultural Factors
- Unsound or Weak Enforcement of Policy
- Unsound Economic & Market Factors
- Weak Institutions (governance & mgm)

### Direct Causes

- Forest Products Extraction
- Expansion of Agriculture and Pasture
- Unsound Infrastructure Development
- Forest Fires
- Extractive Industry Activities (e.g. mining)

Translating this into data needs, **direct causes** are issues that can be gathered based on actual interview with local community and through field observation and participatory mapping, which can presented in one of thematic maps (Issue/Hotspot Map). While underlying causes can be determined as a result of the assessment of the governance capacity of mandated institutions, and analysis of population pressure. Knowing these causes is considered the cornerstone for designing interventions to reduce pressure on forests which is also crucial for planning interventions and deploying resources to reduce deforestation & degradation.

Using some assumption, estimate of existing and potential carbon stock can be done with the use of the Vegetative Cover and Land Use Map as well as in the list of planned forest development interventions that is part of FLUP implementation strategies.

### B. Updating and Validation of Secondary Data/Gathering of Primary Data

The TWG must seek for the **most recent, credible, and reliable data possible.** Some available secondary data (socio-economic profiles and maps) are based on Comprehensive Land Use Plan (CLUP) and Municipal Profiles gathered years ago and therefore need to be validated and updated, and most current and accurate spatial data is important as basis in deciding forest management zones, including defining conservation areas, hazard areas, and disallowed activities. Validation therefore is a crucial activity to ensure that recommendations and/or decisions to manage forest are based on ground realities and therefore well-informed. The process of updating is also an opportunity to gather primary data that are not presently available within LGU or the DENR. This activity on updating and validation is divided into four parts;
Conduct of PRA (focus-group-discussion, SWOT, household interview) to gather/update desired socio-economic profiles and initially validate spatial information;  
Actual participatory/community mapping and walkthrough to validate and update thematic maps;  
Finalization of thematic maps and inputting to GIS;  
Integration/consolidation information and preparation of data tables or matrix.

Validation with community is also an opportunity to do the IEC and make the community aware of the importance of FLUP. It can be done for individual or cluster of Barangays depending on what can be allowed by available resources and schedule. In preparing for validation, all of the three TWG sub-teams should jointly work together to facilitate sharing information and to save time. Some of the things that TWG must take into account, include:

- Preparing the survey questionnaires (and the list of data) needed for the socio-economic profiling as necessary;  
- Schedule, make arrangement, or send of invitation to target participants prior to the activity;  
- Preparation of visual aids for the IEC;  
- Preparation of Base Map (to aide in thematic map validation) to guide the TWG in facilitating participatory community mapping and discussion.

It is best to do simultaneous validation of socioeconomic data and draft thematic maps to make more efficient use of time and to allow more community interaction. The use of participatory community mapping can elicit more people sharing information that can enrich findings. The activity should also be used to do awareness on FLUP and its importance and how people can be enjoined and support the implementation. IEC and materials must be ready to be used in this activity.

1. Validating Socio-economic Data

The TWG conducts a combination of PRA methods (focus group discussion, and household interview, and participatory mapping) to validate and update socio-economic data needed in FLUP. The TWG may also review updated Barangay Development Plan (BDP) and Barangay profiles (if available) to get the most recent socio-economic data. Gathering and/or updating can also be administer during the conduct of participatory mapping. Collate and integrate updated data and prepare table matrix as necessary.

2. Validating Thematic Maps

Maps are the most effective means of presenting and understanding the biophysical situation in an LGU. In FLUP, thematic maps, though is usable in its form, will be further used during the analysis through map overlaying or the merging of themes to get the "derived" or "analytical" which will now be used to guide decisions on land uses and management. It is important therefore, that maps are not only presented in good resolution format, the

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credibility and authenticity of spatial information are paramount. In the absence of more accurate methods or technology to get a more accurate spatial information, the conduct of validation is necessary. Two levels of validations are recommended here: 1) through participatory community mapping (may include 3d mapping if possible), and, 2) conduct of field visits/observation. The TWG, however, may also use other means possible that can help increase the accuracy of the spatial information in the maps.

Map validation will be undertaken to:

- Add information in the draft thematic maps that are needed but are not available from other sources
- Validate the existing information as to their exact or best approximated geographic location
- Take a first-hand understanding of the actual field situation which is important in planning
- Eliminate doubt on the accuracy of information

Validation done in a combination of participatory/community mapping and ground validation (walk through) is considered the cheapest way to either get first hand or update the spatial information. It has become a widely accepted tool because it provides richness of information not only limited to the focus area of concerns, but also to how people relate to their surrounding environment which is also useful in better understanding the situation. For example, vegetative cover and land uses provide a link to human activity or population pressure in the forest and forestland, therefore, this information must be gathered with community participation. The information gathered through community mapping should be integrated into the thematic maps and then subject to ground validation.

The guide in conducting participatory/community mapping are available. The TWG may refer to Community Mapping Manual for Resource Management prepared by Environmental Science for Social Change (1998) which is also articulated in the Ecogov's FLUP Mapping Guidebook.

Validation through participatory mapping and field observation/walk through can help improve the spatial data or information in the following thematic maps:

<table>
<thead>
<tr>
<th>Table 2. List of Thematic Maps and Focus of Participatory Validation</th>
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<tbody>
<tr>
<td><strong>Thematic Maps</strong></td>
</tr>
<tr>
<td>1. Vegetative Cover</td>
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<tr>
<td>2. Biodiversity Conservation Areas</td>
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<tr>
<td>3. Land Uses</td>
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<tr>
<td>4. Issues/Conflicts in Forestlands</td>
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<td>-----------------------------------</td>
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<tr>
<td>5. Infrastructure</td>
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<tr>
<td>6. Settlements</td>
</tr>
<tr>
<td>7. Tenure</td>
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<tr>
<td>8. Geologic Hazards and Vulnerable Areas</td>
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<tr>
<td>9. Forest Development Investments</td>
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Participatory mapping and field validation can also help gather additional information e.g., areas experiencing shortage of water supply for both domestic use and irrigation, river/stream with massive siltation, and location of important natural resources and landscape not readily available from other sources such as falls, caves, specific stream or spring that are potable water supply source, among others.

After assessing the completeness of the draft thematic maps (preferably prepared in hard copies of at least 1:50000 scale), validation can be made. The TWG may follow these steps in preparing and doing the actual participatory validation:

a. List down all the points or key areas in each thematic map that need to be validated as presented in the Table above. Prepare a questionnaire.

b. Schedule and make arrangements with target key informants for the conduct of participatory mapping and field validation. For participatory mapping, work with Barangay key leaders to identify and select key informants for the activity. For areas covered by ancestral domain, select elders or key leaders. Prepare set of questions (launching and probing questions) for each of the thematic maps that will be validated.

c. Prepare a Base Map that contain natural features such as peaks of mountains, ridges, rivers/creeks, springs, roads, bridges, and other permanent land mark possible (complete with toponyms) for reference. The Base Map will be used as guide by the TWG in facilitating participatory community mapping activity, and in integrating the community map to the technical (thematic) maps. Facilitators must make sure to have familiarized the Base Map prior to validation.
d. During the actual conduct of participatory community mapping, assign facilitators from the members of the TWG profiling and mapping team. The facilitators may be divided into three: 1) Main facilitator who lead the discussion and keep asking questions on the subject being validated, 2) Co-facilitator-one that assist co-facilitators and help ask probing question, and, 3) Documentor who notes down key important points in the discussion and can also help ask questions. Also take the opportunity to get information on traditional knowledge, systems, and practices of IPs as it relates to land uses and natural resources management in the ancestral domain. Do the facilitation by theme (e.g., land uses only) to make the discussions more focus and organized.

e. From a member of TWG Mapping team, make sure to follow the discussion during participatory mapping and start immediately the integration to the technical thematic map. Using the Base Map as guide, start approximating the location of features or spatial information provided by the key informants in the community maps into the technical map. Use key natural features and other known landmarks to approximate the extent and location. Complete the integration immediately upon returning to the office. Make sure to complete the integration as soon as possible to avoid overlooking important spatial features.

f. Upon completing the integration of community map to the technical map, review all the thematic maps and see what information need to be adjusted. Then conduct a walk through or ground validation as a necessary follow-on activity to participatory mapping. This is important to determine the existence of identified spatial information during participatory mapping and to properly geo-reference them (accurate global position). A combination of GPS reading and taking photos and videos of the area can be done. The most recent GPS is now equipped with all these features that can further enhance map accuracy. Use of Google Earth imagery as reference can help. Geo-referencing digitized Google Earth image can be done through the use of GPS and GIS software (e.g., GPS Tracker or GPS Tracker Pro).

g. Make another round off validation with local community, preferably with bigger number of key informants and present the completed thematic maps. Discuss in detail each map. Some spatial features that might have overlooked during integration shall be adjusted as appropriate.

h. Finalize thematic maps. Then input into the GIS.

C. Finalizing Socio-economic and Institutional Profiles. Socio-economic data shall be presented by Barangay with distinction as to which belong to various land classification (forestland, protected areas, A & D lands). Consolidate all data in a tabular or matrix format to facilitate analysis and interpretation. For quantitative data, it is advisable to use spreadsheets or in Excel format. See Annex ___ for example.
D. **Finalizing Thematic Maps.** Using GIS software is important in mapping. However, experiences have shown that the best time to input maps are when they have been validated and properly geo-referenced (with appropriate datum and coordinates). Input the thematic maps (layers) into the GIS using appropriate datum and coordinates. Any GIS software that is available with the capability to do overlaying ("merging") analysis will do. There are many ways to present maps. There are GIS software that is capable of preparing 3D maps which can present the spatial feature in more appreciable way, nonetheless, standard 2D map will do. For each thematic map, prepare data table (data fields) necessary. Interchange data fields into an Excel format for easy manipulation and analysis.

E. **Presentation of final maps and consolidated data to stakeholders and key decision makers.** Following the good governance principles of transparency and participation, the data and initial key finding must be presented by the TWG to the key stakeholders and decision-makers (Local Chief Executive, Legislative Council, DENR-PENRO and CENRO) prior to the analysis. The TWG should make sure that stakeholders are properly represented during this activity. Data and maps and initial key findings must be prepared and presented in a more appreciable and understandable means possible. The presentation is relevant to allow further review and validation of the data, and for key decision makers and stakeholders to keep abreast of the result which facilitate the conduct of succeeding activities that requires more stakeholders participation.
Module 3. Situational Analysis

Analysis of data in the previous module helps in establishing some relationship, pattern, and trend in the biophysical and socio-economic parameters to better understand the situation of the natural resources assets. Considered a transition to planning phase, it helps the planning team and decision makers come up with appropriate strategies, recommendations, and actions based on the results or key findings.

![Diagram of situational analysis](image)

Figure 2. An illustration of the various factors that influence the change of forest, watershed, and biodiversity situation in FLUP. An adaptation from the vicious cycle of forest degradation. (A. Cabrera)

Situational analysis focuses on understanding the situation of the forest in the context of a bigger watershed with its components biodiversity. The interplay of the resources, people, and institutions will be assessed or studied to determine how these natural assets are affected or changing over time and what causes these change. In a more confined context change, which can either be positive or negative, the change can be attributed in general to population pressure, policies, institutional capacity and capability (which include and the efficiency of the enforcement of laws and regulation and governance). Increase pressure from the population, inappropriate or not properly enforced policies and laws, and the inadequate capabilities of mandated institutions brings these negative changes which also can be link to negative of overall adverse environmental impacts. The opposite is true if change is positive. Positive change presents the ideal situation in terms of sustaining the goods and services from these natural assets. (See Diagram)

With climate change, however, it brings more complexity in terms of understanding this cause-and-effects cycle because climate change both affects the natural resources and people and is considered inevitable. With given limitation, the analysis on climate change impacts may be limited to its direct relationship to disaster risk (flooding and landslides) and may be less to vulnerabilities in relation to overall ecosystem resiliency. REDD+, on the other hand, presents the overall strategy that contributes to both mitigating and adapting to climate change impacts.
and addressing the drivers of deforestation and degradation to reduce carbon emission and increase stock.

The results of situational analysis should highlight threats to and opportunities in conserving biodiversity, improving management of forests, restoring degraded areas in lands of public domain, and mitigating CC-related risks and damages.

A. Coverage of Situational Analysis in FLUP

The analysis cover three main categories:

1. **Biophysical Resources.** This pertains to analysis of forest and biodiversity in the context of watershed, forest tenure and management regime, issues and threats. For REDD+, it shall highlight the key drivers of deforestation and forest degradation which shall be included in the list of issues and threats to forest and biodiversity, and estimate carbon emission (?) and existing and potential carbon stock based on assumptions from studies.

2. **Vulnerability and Disaster Risk Assessment.** This covers spatial analysis of geologic hazards and assessment of vulnerabilities in relation to climate change impacts (CCA/VA). It should be noted however, that CCA/VA can be an option (?) until LGU has available expertise and resources to conduct a thorough CCA/VA. At the minimum, the LGU shall cover analysis of vulnerability to geologic hazards based on the maps available at the Mines and Geo-Sciences Bureau. An assessment of vulnerability of watershed can also be done following the ERDB' Manual on the Assessment of Watershed Vulnerability. Traditional methods of assessing vulnerabilities and hazards shall also be adopted and documented.

3. **Socio-economic and Institutional Situation.** Forest ecosystem degradation are caused by interconnected factors; population pressure, weak institutional and capability, weak enforcement mechanism, overall pressure from the population, and inadequate or absence of sound forest management system. It is important to determine the interplay of these influences so that appropriate strategies can be developed to address them. SWOT and cause-and-effect analysis can be administered to understand these factors.

Summarize in the Table below are the minimum by which to focus analysis for each key components;

<table>
<thead>
<tr>
<th>Components</th>
<th>Data/Focus of Analysis</th>
<th>Tools/Methods</th>
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<tbody>
<tr>
<td>Forest and Watershed Assessment</td>
<td>a. Socio-economic and institutional issues</td>
<td>Review of socio-economic data</td>
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<tr>
<td></td>
<td>• population pressure/forest dependence/economic activities</td>
<td>Community Mapping</td>
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<td></td>
<td>• issues and threats to forest and watershed ecosystem</td>
<td>FGD</td>
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<td></td>
<td>• traditional and cultural practices</td>
<td>Community Mapping/review</td>
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<td></td>
<td>• Basic services/infrastructure services</td>
<td>LGU records</td>
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<tr>
<td></td>
<td>b. Institutional/Stakeholders Analysis</td>
<td>Governance practices of LGU, DENR, tenure holders</td>
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<tr>
<td>Biodiversity</td>
<td>Determination of the extent of KBAs, Critical habitat, other biodiversity conservation areas</td>
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<tr>
<td>Disaster Risk/VA</td>
<td>Identification and mapping of highly vulnerable/disaster risk areas</td>
<td></td>
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</tbody>
</table>
| REDD+ | Identify issues and threats --drivers of deforestation and forest degradation (see findings in resources assessment) 
Estimate of existing and potential carbon stock |
B. Assessing the Socio-economic, Demographic, and Institutional Situation

As mentioned, conflicts and overall change in land uses in the forest and forestlands are attributed in general to population pressure, policies, and institutional capacity and capability (which include and the efficiency of the enforcement of laws and regulation and governance). The assessment of the socio-economic and institutional situation would try to establish these influences so that appropriate strategies can be developed to address them. It shall also include the analysis and assessment of the overall governance of the forestlands, tenure holders NRM performance, and stakeholders mandates and interest in forest and watershed. The TWG may use a combination of PRA tools such as SWOT, FGD, and Key informants interview.

1. Population Pressure. It looks at population, population growth rate, economic activities and forest dependence, and the cultural and traditional natural resources management practices (esp. in case of IPs). It may answer the questions, how large is the population dependent on the forest resources? What are their practices? Are their practices destructive to the forest resources? To biodiversity? To the watershed? What are the threats? What are their economic standing vis-à-vis poverty threshold levels?

2. Assessment of NRM Effectiveness of Tenure holders. Tenure or forest lease holders are (CBFM POs, IFMA, etc) those authorized by DENR or NCIP (in case of CADT) to manage and develop the forestlands based on legitimate agreement. Their management practices shall be assessed and understood to determine whether or not their practices contribute to the effective management of forest and watershed, or if management is indeed being practice.

An assessment of tenure holder’s NRM effectiveness is necessary to guide in the design of strategies to improve the management system based on the weaknesses identified, as well as enhance on their strength. Tools that can be used on this are available in various DENR CBFM Projects. The EcoGov Project also developed guidelines on tenure assessment that can also be used. These questions may be asked; what is their capability? What are their current forest management and development interventions? Are they organizationally and financially capable to sustain management? Do they have management plan? How effective is their enforcement mechanism? What are their contribution in forest development? Conflict mechanism established? What are their inadequacies? How can their capability in forest management be improved? What forest development projects they are implementing?, etc. A rating system may be used to quantify level of capability based on key indicators presented in the above questions. The TWG should develop survey questionnaire for the conduct of this assessment.

3. Stakeholders Analysis. Other than tenure holders, these are groups or individuals groups with either direct or indirect roles, mandate, or interest to use, develop, or protect (preserve) the forest and watershed and how these are being carried out. These questions may be asked: Who are the stakeholders of the forestlands? What are their mandate and interest? What influence do they have in decision making with respect to forestland management? Are they opposers or supporters? How can they be mobilized in FLP implementation? What are their strengths? Current involvement or contribution in forest management?
DRAFT for Discussion

4. Governance system/Institutional Analysis. Poor enforcement ability due to lack of manpower and resources are some of institutional inadequacies that result to forest degradation. DENR (include PAMB for the protected areas), LGU, and NCIP in areas covered by ancestral domain, are the primary mandated institutions to oversee the management and use of forest resources. It is therefore important to determine their current capacity and capability, and what and how efficient is the governance of forest and forestlands. Some internal and external factors that may hinder or facilitate their effectiveness should also be established, e.g., governing policies, local priorities, among others. What are their mandates? Do they have manpower, budget, and technical capability in addressing forest problems? What is the structure? What are their inadequacies? How can they be strengthened? What are their strengths? What are their internal and external threats to exercise their mandates? What local policies/ordinances have been issued by LGUs in support of SFM?

C. Assessing the Resource (Forest and Watershed)

Resource assessment resource shall be done through a combination actual field observation, participatory discussion with local people, and through map overlaying. Actual field observation will provide the first hand information of what is happening in the forest and watershed and how they are being used. It also provides the understanding of threats to resources and opportunities available. The findings from the field observation can then be validated during community interactions and participatory mapping, and vice versa. With properly validated thematic maps, a more in-depth assessment of the resources can be done through map overlaying. This method can also simulate some changes impacts (e.g., climate changes) with the use of some parameters of key variables.

1. Field Observation and Focus Group Discussion. Field visits or walk through made during validation of thematic maps helps the TWG to get the first-hand information of what is on the ground. The TWG must therefore properly document what have been observed either through photos or videos. The documented field observation shall complement findings in the analysis of biophysical condition presented in maps, and the findings from socio-economic profiling.

2. Map Overlaying and Analysis. The 15 thematic maps prepared in the Module 2 will be used as input to map overlaying and analysis. If done manually, the process is literally laying one map over the other in order to see relationships of one data to another. This method has now been simplified with the use of GIS software, where one or more layers (or thematic maps) can be "merged and dissolved" to other layers to produce the desired spatial information (or derived maps). The GIS, however, must be equipped with appropriate extensions to do this. The process is very important in FLUP, not only in showing the relationship of spatial information (e.g., land uses and settlements), but also in simulating changes and occurrences in the subject area for analysis. A GIS manual can help guide the TWG Mapping team in conducting map overlaying and analysis. The TWG can also refer to EcoGov FLUP Mapping Guide for additional help.
Information that can be derived from map overlaying is unlimited. Therefore, it is important for the TWG to focus only on the most needed result. It will help to review the goals and objectives of LGUs in their CLUP, and the peculiarities observed during field validation as basis. In FLUP, this method is useful in determining the following,

- The natural resources assets and its trend and pattern of changes (if previous data is available)
- Distribution of different land uses, land conflicts and threats
- Extent of open access areas or areas without tenure and management regime
- Zoning and Land Use Planning/Determining the Extent of PRODUCTION and PROTECTION forest (including conservation areas)
- Distribution of forest issues and land use conflicts based on primary forest uses (PRODUCTION and PROTECTION)
- Characterization/prioritization of the watershed/Establishing forest and watershed value (e.g., water production value, biodiversity value)
- Biodiversity Mapping/Critical Habitat Assessment
- Area Vulnerability/Disaster Risk Assessment

As mentioned, analysis can be unlimited and so are the 'derived maps' that can be obtained from map overlaying and analysis. At the minimum, 'derived maps' that can be produced in FLUP are the following,

- Primary uses or zones of forestlands (Production and Conservation Areas)
- Envisioned land uses (including conservation areas and hazards)
- Forest cover in open access area
- Determining inappropriate land uses (use of protection land and hazard areas for production purposes)
- Forest cover in watershed or subwatershed
- Distribution of settlements in each watershed or sub-watershed
- Watershed production importance (Distribution of water-production related facilities, e.g. irrigation canal and area or hectares being served, water impounding systems, dams, etc)
- Disaster risk and hazard prone Areas
- Projected climate change impacts area presented at various levels of vulnerabilities

To simply illustrate map overlaying, follow these steps. *(Show Diagram)*

1. Set the objectives or the desired result of the analysis. The objective is what we want to see or achieve in the derived map, ex., natural forest in area covered by CADT.
2. Set the criteria. The criteria will help locate desired results/objective in the map. In GIS these are map "layers" needed in the overlaying operation. In this example, the criteria would be, open canopy and close canopy natural forest within the CADT. The layers required are 'Tenure Map' and 'Vegetative Cover Map'
iii. Perform map overlaying then get the derived map.
iv. Tabulate the result. The result is a 'derived map' which shows the combined area of open and close canopy forest within the area covered by CADT.

D. Phases of Conducting Situational Analysis

The analysis in FLUP is an iterative process and since the coverage is immense, the TWG is advised to do this in phases. Ensure that data have been validated and consolidated before conducting this activity.

First Phase. Conduct a 3-5 days training for the Technical Working Groups to familiarize coverage, tools and techniques of the analysis. Specifically, the training shall cover Map overlaying and analysis (or the use of GIS), Disaster Risk/Vulnerability Assessment, and Biodiversity Assessment, and other research means such as the cause-effect relationship, pattern and trend, among others. Make sure to avail of copy of materials of said tools for easy reference of the TWG.

Second Phase. Conduct of actual SA by the TWG. This will require a series of workshops (in-house) to consolidate the result of field observations, assessment of population pressure (economic activities), and the conduct of SWOT and FGD to assess governance of forest and forestlands, stakeholders analysis, assessment of tenure holders NRM performance, and map overlaying and analysis. Consolidate the result for each key component. Prepare and finalize "derive or analysis map" from the result of map overlaying and analysis.

E. Facilitating Land Use Planning/Zoning (ID non-negotiable or 'development controls').

One of the main output of FLUP is an agreed zones and land uses which reflects the desired future state of the forest and forestland as agreed by the LGUs, DENR, and stakeholders. This forest management zones serves as the framework to base decisions on land uses, management, and future investments. Here, the participation of key stakeholders is crucial because some of their interest may be at stake. The TWG is advised to carefully study the trade-offs of various options that will come out during the discussion and ensure that decision is guided by sound basis (policy, technical soundness, indigenous practices, and sustainability). The TWG may organize a 2-3 days workshop in preparing this land use plan.

i. Establish criteria to determine the primary zones - Conservation Areas (Multiple Use/Production & Protection Areas), and Hazard Areas. Conservation areas may include identified critical habitat, mangrove forest, riverbanks/river easements, and other areas that may be declared by LGU (e.g., ecotourism sites, municipal park, etc). Multiple-use zone areas _________, while Hazard/DR areas are those that with high vulnerability to landslide, flooding, and other natural/geologic occurrences. Areas determined with high climate change exposure and assessed to have high disaster risk/vulnerability should also be included. Other conservation areas may include;
- All areas declared through proclamations, Republic Acts, and Protected Areas
- Watershed reservations for conservation, watershed and forest protection, habitats, natural attractions, heritage, etc.
- All closed & open natural forests in non-PA, CADTs, and tenured areas
- Highly diverse areas, habitats, and unique landscapes in Non-PA but in KBAs and under different tenure regimes and/or CADTs
- Ordinance-supported local watersheds & natural attractions
- Community watershed
- Historical, cultural and archaeological sites
- Severely eroded areas (landslide prone areas)
- Point sources of water for domestic use, irrigation, and hydropower
- Water bodies

ii. Based on the agreed criteria, select which thematic maps will be used in performing map overlaying operation. Map overlaying may be done either manually or using computerized GIS. GIS (Arcview) operation in map overlaying is supported by 'merging' and 'dissolve' functions. Prepare a derived map showing area covered by Conservation Areas, Multiple Use Zone, and Hazard/DR. These primary uses will now serve as the basis for identifying sub-uses consistent with imposed limitation and management prescription for each.

iii. Now using (Current) Land Use/Vegetative Cover Map and the censuses, perform map overlaying to determine inappropriate land uses within this primary zones (production vis-à-vis protection). These conflicts are “decision points” needed for resolution and must be first subjected for review and scrutiny with stakeholders that will be affected (NRMP FLUP Guidelines 1997). In addressing this, an assessment of the balance between production and protection and the proposed land use’s long-term economic and environmental impacts must be considered. The agreements must be reached in order to come up with resolution where compromises and trade-offs shall be part of coming up with best options and solutions. Example of conflicts are:

- Denuded forest zones;
- Settlements in Hazard Areas
- A and D areas in high elevation and steep slopes
- Severely eroded/degraded areas
- Settlements and conversion in protection forest
- Pasture/grassland in conservation areas forest
- Cultivated steep slopes
- Others
iv. Agree on disallowed for each zone. Disallowed activities put limits on future uses and must be based on existing policies, laws, and regulation, technical soundness, and the traditional and cultural practices (in case of IPs).

v. If the LGU, DENR, and stakeholders so agreed, the decision can be extended to determine proposed uses within the identified primary zone based on defined prohibition or disallowed. Considering various threats and the development vision, goals, and objectives of the LGU, agree on a combination of land uses that give the optimum benefits economically, socially, and environmentally. These land uses should consider the technical (site suitability) and social (people need, preference, and/or acceptability) considerations. Prepare the Land Use Map and present to stakeholders before finalizing.

Example of Management Objectives and compatible uses

<table>
<thead>
<tr>
<th>Primary Uses</th>
<th>Management Objective</th>
<th>Example of Compatible Land Uses</th>
</tr>
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</table>
| Protection zone (Strict protection zone for PAs) | 1. Biodiversity conservation  
2. Water Production Values  
3. Wood production  
4. Food Production | Mangrove forest (habitat)  
Birds sanctuary  
Critical Habitat  
Multistorey agroforestry for open areas  
Natural forest  
Birds sanctuary  
Reforestation (tree plantation)  
Agroforestry  
Riceland  
Orchard (fruits)-agroforestry  
Cash crops  
Sustainable Grazing | |
| Multiple Use/Production Zone | | |
| Hazard/DR Areas | 1. DR Mitigation | |

vi. Formulate the overall management prescription based on disallowed activities and the requirements for each proposed use. Consider the existing laws and regulations and other requirements of each zone. For some areas in the protection zone, some minor uses may be allowed (e.g., non-timber forest products) and cutting of natural trees may be prohibited.

F. Identification of Open Access Areas and Agreeing on Proposed Allocation

Open access situation of forestland exacerbated threats to forest resources and biodiversity and increase opportunity lost. In the context of REDD+, the open access situation can increase carbon emission because unregulated activities destroy forest and decrease carbon stock. There are areas not covered with tenurial instruments and therefore without the legitimate on-site
DRAFT for Discussion

manager. The mode of allocation should consider the output of the forest management zoning and the defined disallowed. For production/multiple zones, the most fitting mode of allocation or tenure that can be issued are the Community Based Forest Management Agreements (for community) and for private investments such as IFMA and SIMFA. Other consideration in agreeing or deciding for tenure instruments may include the following:

- Existing policies and regulation;
- Existing and proposed forest land uses
- Acceptability to the communities/stakeholders
- Other criteria as may be established such as accessibility, presence of settlements, site suitability, among others
- Hazard/Disaster Risk Area/ Intensity of climate change exposure (if available)

Examples of forestland allocation are the following:

- Co-management Agreement with LGUs (with possible provision to issue sub-management agreements to individual or groups)
- Community Based Forest Management Agreement/Certificate of Stewardship Contract (CSC)
- Protected Area Community Based Resource Management Agreement (PACBRMA)
- Community Watershed Management Agreement
- Industrial Forest Management Agreement (IFMA)
- Proclaimed Watershed/Critical Habitat

G. Presentation of Result of Situational Analysis to Stakeholders and Key Decision Makers

After the results of the analysis (including the decision of forest management zone and proposed allocation) have been completed, organize a 1-2 days meeting with stakeholders and decision makers (DENR PENRO, CENRO, PAMB, NCIPs, Mayor, Legislative Council) to present the results of the situational analysis. The presentation shall cover all the data and key findings of the situational analysis including the issues, threats, and opportunities on SFM, Biodiversity, DR/CCA, and REDD+. Specifically, the objectives of the presentation is to;

- Validate the criteria and get the consensus for the management zones and disallowed and on the proposed tenure/allocation;
- To solicit legislative support from the Sangguniang Bayan for the issuance of zoning ordinance;
- Awareness of stakeholders and community on the proposed management zones and tenure/allocation to close the open access;
- Understanding the issues, threats, and opportunities.

The TWG should document discussions and key agreements from the consultation.
Module 4. Plan Formulation Stage

This module covers formulation of vision, mission, and objectives for FLUP, agreeing on consensus on the proposed strategies and recommendations for SFM, DRRM/CCA, Biodiversity Conservation, and in adopting REDD+, preparation of the investment plan, writing the FLUP, and presenting the whole plan to stakeholders. The completion of this Module requires TWG to organize and facilitate a series of workshops. The workshops should have good representation from different stakeholders.

1. **Formulation of Vision, Mission, Goals and Objectives.** Vision and goals setting provide the LGUs the opportunity to reflect and decide on what they would like their forest and forestlands to be in the future. Objectives must be short, measurable, realistic, and time-bounded (SMART) that will serve as the overall milestones or target of LGU. The objectives also respond and support the resolution of conflicts and maximize opportunities presented in the forest and forestlands.

2. **Formulating Strategies and Recommendations.** Crafting strategies and recommendations is an iterative process that needs to have strong stakeholder’s involvement. Strategies and recommendations are divided into the following:

   a. **Spatial (Technical) Strategies.** The effective enforcement of zoning and land uses based on limitation set in the disallowed and management prescription is paramount. It has to be supported with development interventions consistent with each management zone and land uses that will lead to the improvement the forest, watershed, and biodiversity. This interventions may include reforestation, agroforestry, development and protection of ICCAs and other biodiversity area, restoration of natural forest, among others. The following should be considered:

      - Existing policies and regulations
      - Needs based on demand and supply scenario
      - Social acceptability of the strategies
      - Overall capacities of implementing unit
      - Understanding the environment and socio-economic impacts of the proposed recommendations/strategies

   b. **Socio-economic Strategies** deal with the provision or creation of income opportunities and basic services to address the threats to forest, watersheds, and biodiversity from the population.

   c. **Organizational and Institutional Strategies.** This is imperative as all the planned forest management interventions cannot be enforced if the institutions and organizations are not strong and capacitated. It has to do with creating a governance structure with defined responsibilities and budgetary support to implement sustainable forest management. It likewise addresses the issue of tenure security, capacity of tenure holders, and the creation of a good policy environment to warrant an effective implementation of FLUP.
d. **Financial/Funding Strategies.** Answer the question ‘how much are needed to implement FLUP strategies’ and ‘where to source funds’? In some instances, innovative ways of financing forest development may be used such as user fee schemes or the payment of environmental services where those who utilize the resources should be able to pay or provide assistance to protect and enhance the resource. Putting monetary value to the labor counterpart of local communities, especially in forest rehabilitation and development, can also be considered among means to implement activities is support of FLUP implementation.

e. **Monitoring and Evaluation** helps FLUP implementation to be on track. Corrective measures should be done in the event that strategies are no longer fit to the situation or do not anymore contribute to the attainment of objectives and vision. Mitigation measures must be designed for proposed uses of forestlands that optimizes benefits economically, but may have negative environmental impacts over the long term (e.g., pasture and mining).

In formulating the strategies, these steps are recommended:

3. **Crafting the Technical Strategies.** In crafting the technical strategies, the following questions may be asked.

   o **What are the forest management and development intervention needed to address threats in the forestlands and watersheds?**

   o **What are the proposed strategies to develop and managed each zone? The natural forest? Bare forestland? Marginal areas? Cultivated lands? How to enforced disallowed activities?**

   o **On Biodiversity—What are the interventions to ensure that protection and improvement of biodiversity? What local and traditional practices can be used? How threats can be minimized or eliminated?**

   o **What are the strategies for onsite management of these zones? How these zones will be managed? Who will manage? Tenure Holders?**

   o **In Open Access Area, what tenural instrument can provide the best management and optimum benefits vis-à-vis the proposed management zones and land uses? Are they acceptable to local communities and LGUs?**

   o **On population pressure- How to control in-migration to the forest zone? How activities will be regulated? What are the strategies that will help minimize impacts of forest activities by the people? What are the technologies that may be adopted for upland farming, pasture, and other economic activities that will ease pressure to forest and watershed?**
DRAFT for Discussion

- On responding to demand—What resources are currently at high market demand? Are supply to support the requirement of these demand available? What resource development interventions are needed to increase production and meet these demands? What are other alternatives source of raw materials?

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<tr>
<th>LUP Components</th>
<th>Focus of Strategies</th>
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<tr>
<td>S&amp;R</td>
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<tr>
<td>Diversities</td>
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<td>DRRCCA</td>
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<td>REDD</td>
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4. Formulating Strategies for Improving the Governance System (institutional and organizational). Success in the implementation of FLUP and any ENRM interventions can be achieved with strong LGU, DENR, and tenure holders’ support from other stakeholders. In some LGUs, MENRO has not been created because of budgetary limitation. It is best to help LGU figure out how and when MENRO can be created with support staff and budget. Forest and watershed are natural resources assets and it is therefore wise to encourage active participation of other stakeholders in its development and management. Some stakeholder may not necessarily get involved in actual onsite management, but it is important for them to participate in the decisions on how the forestland should be managed. This is within the purview of good forest and watershed governance where transparency and participation in decision making are paramount.

The following question can guide in formulating the organizational and institutional strategies.

- Who will implement FLUP at the LGU? What structure? Budgetary and manpower support needed?

- What support other stakeholders and sectors can provide? What institutional arrangement should be established?

- On community tenure holders – How can we strengthen capabilities of tenure holders? Organizationally? Technically? Financially? What are the roles of individual members? Is issuance of sub-agreement or property rights needed?

- What are the local policies needed to support FLUP implementation? What are the systems and mechanism (or protocols) that must be set in place?

- How can governance of the key governance bodies (DENR, LGU, tenure holders, and other stakeholders) can be strengthened?

Some organizational and institutional recommendations that may be considered are the following;
Creating and Strengthening the Office of MENR (with proposed structure)
- Formation/Mobilization of Steering Committee as FLUP implementation oversight
- Creation/Mobilization of Forest Protection and Enforcement teams
- Assessing and Strengthening tenure holders capability in forest management
- Information Campaign (IEC and Advocacy)
- Issuance of zoning ordinance and other ordinances/policies support FLUP implementation (e.g., forest protection and enforcement, watershed rehabilitation and development, declaration of area for critical habitat)
- Creation of incentive mechanism for SFM
- Others

5. **Formulating Financing Strategies.** It is equally important that resources or budget is available to support FLUP implementation. With existing budget limitation of most LGUs, this has become a common concern. The Internal Revenue Allotment (IRA) is the primary source, but with many competing sectors asking for share of funding allocation, the environment (specifically forest management) often get a very meager share. For these reasons, other financing mechanisms must be explored, such as payment of environmental services, development contracting, and use of sweat capital or labor counterpart. Submission of project proposal or some investment portfolio and application of REDD+ following a PES scheme may also be explored.

6. **Preparing and Investment Plan.** Estimate of budget requirement should be done by key strategies and activities contain in it, e.g., forest rehabilitation, biodiversity conservation, infrastructure support, etc. It is also best to disaggregate estimates for Operating Expenses and Investment Cost to give idea of what purpose and where to source funds. The financial strategies should be supported by a Work and Financial Plan (WFP) or Investment Plan outlining the details of budgetary requirements for technical, institutional, M & E, and socio economic strategies.

Detailed estimate of 10-year work and budget can be prepared for each strategy in a investment plan. This is where LGU puts its target in plan implementation and will serve as the basis of LGU and DENR in preparing monthly and/or annual allocation of budget to support FLUP implementation. If possible, develop a first year work and financial plan that itemizes in most realistic term the priorities of LGU for implementation. Usually, first-year implementation lays down the ground for the full blown implementation of the plan and focus mainly on institutional/organizational strategies and few technical strategies.

7. **Drafting/Write-up.** The TWG should organize a series of write-shop to complete the FLUP manuscript. The TWG may opt to divide the section of the manuscript to write and allow one or two members to integrate. In the event that TWG find difficult in writing, the LGU may get a writer to help in preparing the FLUP document. An outline should be ready to guide in the drafting process. The following tips may help.

- Organize a series of small group write-shop to draft the plan.
DRAFT for Discussion

- It is important to have a complete information and data before commencing the FLUP write-up.
- The writer must have complete grasp of all the information about the area being planned, the focus of planning, and the objectives of the planning exercise. Review data and the outputs of the previous modules.
- As soon as the activities in FLUP formulation started, the TWG writing team should keep records or documentation of each discussion and/or the output of each module undertaken. Writing the plan is best facilitated by commencing as soon as the plan formulation gets started.
- It is very important for the writer to have a clear mental picture of what to write. Knowledge of the area being planned and the objectives and focus of the planning exercise will facilitate the writer organize his/her thoughts in writing.
- In technical writing, the writer must be straightforward as possible. Avoid cluttered write up and do not complicate discussions by putting too many ideas in a sentence or paragraph.
- The basic rule of improving the manuscript is to Proof read! Go through it over and over again many times and if possible have others look at the plan and proof read it as well. The writers/authors tend to skim through the final document and skip a few mistakes here and there as he/she knows what is being read and what to expect.
Module 5. Affirmation/Adoption of Plan

The legitimization and approval of the plan promotes an exercise of governance by all stakeholders involved. This process basically started during consultation and consensus building and shall be completed upon adoption by the Sangguniang Bayan and the signing of Co-management Agreement between the DENR and Local Government Unit. Ideally, an FLUP that has undergone participatory consultation will not find difficulty getting affirmed and legitimized, because people are aware of it, they were part and has owned the process, therefore support and endorsement can easily be facilitated.

There are two levels of protocols that must be observed. First, is the technical review that may be done by the DENR, including the PAMB or a Management Council in case of protected area, just to ensure that the plan follow some established standards. The review, however, must always take recognize strategies and recommendations that contain or follow traditional practices of indigenous people.

Second, is the acceptance or adoption by the LGU, where the plan will be subjected to either public hearing and/or Municipal Development Council review and endorsement to Sangguniang Bayan, and the review and adoption by the Sangguniang Bayan. The adoption means that all of the strategies and recommendation are accepted and the LGU has committed to support the implementation of the plan including the provision of the regular budgetary allocation and its integration to the Comprehensive Land Use Plan for mainstreaming.

The DENR and LGU will sign a Co-management Agreement that specifically define responsibility center and joint collaboration in the implementation of FLUP. After adoption, the TWG may facilitate a implementation joint planning with DENR, LGU, other key actors and stakeholders. The joint planning may include discussion, among others, on:

- Creating LGU-DENR Steering Committee
- Establishing LGU implementation unit
- Issuance of tenure and IPR instruments
- Investment planning and promotion
- Setting-up mechanisms for monitoring and enforcement
- Assisting community tenure holders
- Providing infrastructure and Financing Services
- Periodic review of implementation progress
- Ensuring sustainable co-financing arrangements (including establishing mechanism for payment for ecosystem services or PES)
References


4. GIZ. Supplementary Guidelines on the Formulation of Forest Land Use Planning with LGUs. 2012.


