

GENERAL ANNEX 5.

Lao PDR Forest and Land Use Planning Manuals

5.1. Procedures and Methods for Land Use Planning & Land Allocation in Lao PDR

Lao Peoples Democratic Republic

Peace - Independence - Democracy - Unity - Prosperity

Technical Booklet 1

Procedures and Methods for Land Use Planning and Land Allocation

System 1
Participatory Village
Development and
Sustainable Land Use

Lao-Swedish Forestry Programme, June 2001

Foreword

The Government of Sweden has provided technical assistance to the Government of Lao PDR in the Natural Resources Sector since 1977. Until the mid 1980s the assistance focused on support to the Department of Forestry and two State Forest Enterprises. From 1985 assistance was expanded to include support for the establishment of a Forestry Training Organization including the Forestry Technician School at Mouang Mai. In the late 1980's the Lao Swedish Co-operation was further expanded to cover shifting cultivation stabilisation and nature conservation. During the first half of the 1990's the co-operation gradually changed to institution building/strengthening of the Department of Forestry at the centre and in selected provinces.

The co-operation is based on the premise that national ownership of bilateral programmes will contribute significantly to sustainability after the programmes have been completed.

In more recent years the programme has addressed sustainable land use aspects in the village development context with the view that community participation in partnership with government services will enhance the potential for sustainable management of forest and agricultural resources.

The Phase IV of the Lao Swedish Forestry Programme (1996- 2001) has concentrated on three aspects of institutional building; competence development, model development and research management. The development efforts have covered a process of formulating, improving and disseminating models (methods and procedures) in four main areas including Participatory Village Development and Sustainable Land Use, Participatory National Bio-diversity Conservation Area Management, Natural Resources Management, and Institution Building. Monitoring and gender mainstreaming have been incorporated as cross-cutting efforts in the model development work. The development activities have been performed in partnership with national, provincial and district administrations and with village communities in response to Lao policies.

The LSFP has supported the strategy and policy development of the Government of Lao PDR and contributed to the emerging consensus on rural development that is taking place within the accepted Socio-economic Priorities of the Government of Lao PDR under which broad development policies have long been operative.

This document is one in a series of resulting documents, which have been produced in both Lao and English languages to assist and provide knowledge and ideas to personnel responsible for policy, planning, and implementation of agriculture and forestry development programmes. It contains lessons and experiences learnt during the programme.

I encourage the personnel of departments and agencies to study and assess the content of the documents and apply the relevant parts depending on local conditions.

I wish to commend the Swedish International Development Cooperation Agency (Sida) for it's continued support during four phases of technical assistance to the Ministry of Agriculture and Forestry, and the LSFP personnel and advisors, who have made a major contribution to this development and documentation.

20 March, 2001

Minister for Agriculture and Forestry



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Participatory Village Development and Sustainable Land Use System



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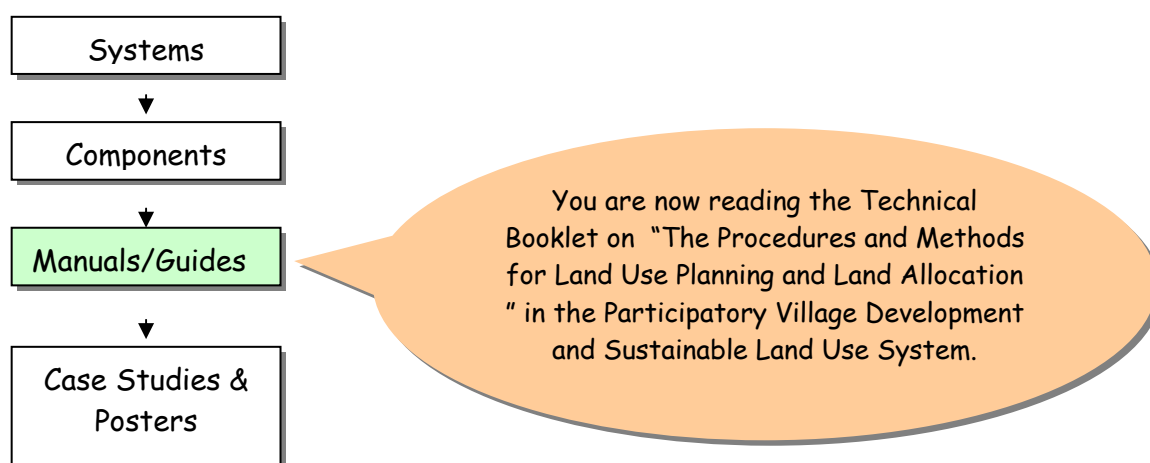
About this Document

1. Intended Audience of this Technical Booklet

- Heads of Provincial Forestry and Agricultural Sections.
- Heads of District Agriculture and Forestry Offices.
- District Land Use Planning and Land Allocation Officers.
- Regional Forestry and Agricultural Training Centres (RTC).

2. Explanation of “Manuals/Guides/Technical Booklets”

Manuals/Guides and Technical Booklets are documents that provide practical information on procedures and methods for implementing activities at field level. They have been developed based on experiences at the local levels under the model/method development programme during Phase 4 of the LSFP. Documents have been produced in both the English and Lao languages for each of the four systems in the model/method development programme.



3. Purpose of this Document

- To summarise the procedures, methods and practices for participatory land use planning and land allocation (LUP/LA) as tested and practised in target areas of the LSFP.
- To provide guidance for provincial, district and Training Centre personnel involved in land use planning and land allocation at the village level.

4. Information Provided in this Document

- An introduction to the 10 stages in the participatory LUP/LA process.
- A summary of the procedures, methods and practices in each of the 10 stages of participatory LUP/LA.

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Introduction

The following is a summary of the process for land use planning and land allocation that has been adopted by the Government of Lao PDR. The various steps were established from field experiences between 1996 and 2001. Eight of the stages were first adopted at the National Land Use Planning and Land Allocation Conference in July 1997. Since 1997 the Land Use Planning Sub-project of the Lao Swedish Forestry Programme (LSFP) has continued method development activities which have resulted in improvements and changes, there now being 10 stages in the process. These stages and the various steps within each of the stages are presented in this document.

The steps presented have sets of activities that are undertaken during village land use planning and land allocation activity. While the stages are described stage by stage, flexibility is recommended during implementation depending on the situations that are encountered in each village.

Within each step are a series of activities that are necessary for the successful accomplishment of LUP and LA in a village. These activities are also described stage by stage, however when LUP/LA is implemented, flexibility is recommended.

The LUP/LA Process

LUP/LA is not a rigid procedure. The 10 stages of LUP/LA may be carried out in phases depending on circumstances. In some cases it may be preferable to undertake LUP and LA over a period of months if staff resources are limited or funds are insufficient. In other cases the land use situation in a village may be quite complicated, making it preferable to do the LUP and LA during a number of separate visits over one, two or three years to enable problems to be resolved progressively.

Table 1: Summary of the Stages in LUP/LA

Stage	Details
1	LUP and LA Preparation
2	Village Boundary Delineation and Land Use Zoning
3	Data Collection and Analysis
4	Village Land Use Plans
5	Forest and Agricultural Land Allocation Decisions
6	Field Measurement of Agricultural Land
7	Forestry-land Agreements and Transfer of Rights to Villagers
8	LUP and LA Information Storage
9	Agricultural Land Allocation Records
10	Monitoring and Evaluation

Activities in LUP/LA

Stage 1: Preparation for Implementing LUP/LA Activities

❖ Staff Preparation

Prepare Implementation Teams at District and Provincial Levels and Conduct Training for Team Members:

- Select appropriate staff to conduct LUP/LA procedures.
- Provide training on LUP/LA methods and activities.
- Define the team tasks at village level.
- Prepare LUP/LA forms and documents.

Prepare Survey and Mapping Equipment and Materials:

- Select 1:100,000 or 1:50,000 topographic map sheets covering the target village area for use in land use planning and drawing village land use maps.
- If available choose aerial photos at scales between 1:5000 to 1:30,000 to help identify village boundaries, land uses and land ownership.
- If aerial photographs or satellite images are available, use them to interpret and define, forest types and land use areas in the target village area.
- Ensure that all essential equipment for mapping, land measurement and area measurement is available for use in the village.

Arrange for Neighbouring Villages to Attend the LUP and LA Exercise in the Target Village:

- Prepare a written invitation for senior representatives from neighbouring villages to attend the LUP and LA activity.
- Send the invitation to the neighbouring villages 3 days before the LUP and LA activities are due to start in the target village.

❖ Villager Preparation or Orientation

Explain the Implementation Activities and Methods of the LUP Process to the Village Committee and Village Organisations:

- Collect general village information and prepare village profile.
- The various steps and work activities that will be undertaken during the LUP and LA exercise.
- Data collection activities which will be undertaken.
- Provincial and District land allocation provisions and instructions.
- Advise that there will be a LUP and LA committee formed and request the villagers consider the membership of the committee.
- Explain that a village forest and agricultural land management agreement will be prepared
- Explain activities in which women will be involved.

Explain GoL Policies, Regulations and Objectives to Villagers:

- Explain the detail in the relevant GoL decrees and regulations to villagers in the target village and to elders from villages with adjoining boundaries.
- Explain about land use options for agricultural land to villagers.
- Present the names of persons selected for the village LUP/LA committee and prepare the village LUP and LA Committee Formation Document.
- Explain the potential rights, responsibilities and benefits for villagers from LUP and LA.

Stage 2: Survey and Mapping of Village Boundary and Forest and Agricultural Land Use Zones

❖ Determine Village Boundaries and Prepare Boundary Agreement

- Discuss the location of target village boundaries with village elders/leaders and village elders/leaders from neighbouring villages.
- Use "ground sketches", topographic maps and aerial photographs if available, to reach agreement on the land boundaries of the target village.
- Survey/inspect the village boundaries to verify the agreed boundaries.
- Resolve inter-village boundary disputes using negotiations and site inspections
- Complete a written document to indicate that agreement on the village boundary has been reached.
- Indicate the village boundary with strategically placed sign boards.

❖ Draw a Village Base Map

- Method 1: If only topographic maps of 1:100,000 are available, use pantograph or scale ruler to prepare a village base map of scale 1:10,000 or 1:5,000 depending on the size of the village area.
- Method 2: If aerial photographs of scale 1:30,000 down to 1:5,000 are available, prepare a village base map of scale 1:10,000 or 1:5,000 depending on the size of the village area.
- Indicate on the map the following features: the village boundary, roads, tracks, streams and other important landmarks.

❖ Survey Village Landmarks and Topographic Features to Establish Village Reference Points:

- Prepare survey instruments such as hand compass, inclinometer, measuring tape, topographic map, field maps of 1:5,000 or 1:10,000 and aerial photographs if available.

- Prepare materials to assist surveys such as survey posts, paint, bush knives, and digging hoes.
- Survey all important roads, tracks and other features which can not be drawn from the topographic map or the aerial photographs.
- Place permanent survey marker posts along the survey lines at 100 meter intervals and paint the reference data on each post.
- Record the various survey data on field survey form
- Draw the surveyed lines and reference points on the base map.

❖ **Identify Village Forest and Agricultural Land Use Zones**

(Refer to Technical Booklet 3, "Forest and Land Use Zoning" for more details)

- Survey the village forest areas with villagers to gather data with which to identify forest types, land use zones and locations.
- Use the enlarged maps and aerial photographs (if available) to reach agreement on the locations of various forest and agricultural zones with the LUP and LA committee. Zoning should be consistent with government criteria relating to forest and agricultural land use.
- Draw the surveyed village forest and agricultural land use zones on the 1:10,000 or 1:5,000 scale village base map.
- Calculate the total village area (within the agreed boundaries) and calculate the areas of the various forest and agricultural land use zones.
- Indicate the various forest and agricultural land use zones with sign boards.
- Prepare a village sign board showing the village land use zones and topographic features.

Stage 3: Data Collection

❖ Gather Information on Village Land Tenure, Land Use and Land Claims

- Understand how the customary shifting cultivation system works.
- Determine what changes have occurred to the system in the last 10 years and why the changes occurred.
- Identify factors within the system that will affect the proposed land allocation activity.
- Record details of all paddy lands, permanent farming lands (orchards and commercial trees) and upland fields which farmers are presently using i.e., current land use.
- Record details of all upland fields previously used i.e., land ownership situation.
- Record details of agricultural land parcels each family wishes to claim so data is available to facilitate land measurement activity.

❖ Gather Socio-Economic Information and Data on Perceived Problems and Needs

- Conduct a socio-economic survey of all families in each unit in the village.
- Conduct a problem/needs survey of all families when socio-economic data is being collected.
- Conduct a women's meeting; arrange discussion groups to record their views and problems on the agricultural production and forest management systems.
- Collect economic crop/commodity data to assist with land allocation.
- Collect data on births and deaths and migration details for estimating crude population growth rates.
- Collect NTFP data from both female and male informant groups.

Stage 4: Village Land Use Plans

(Refer to Technical Booklet 7, "Demonstrating Land Use Practices in the Uplands" for more details. LUP staff should co-operate with extension staff in preparing village land use plans. Extension staff should be responsible for the implementation of demonstrations and extension activities)

- Conduct staff and villager awareness training on the definition, objectives and activities in forest and agricultural the land use planning.
- Review and use existing village forest and agricultural land management agreements to help prepare village land use plans with villagers.

❖ Step 1: (LUP and Extension staff)

For Forest Zones:

- Use the forest use zones delineated and mapped in Stage 2 for preparing village forest use plans.
- Prepare initial forest land use zone management agreements with villagers.

For the Agricultural Zones:

- Define appropriate agricultural land use classes for lowland, sloping land, irrigated land, grazing land etc.
- Select suitable land use options based on land use classes & land slope.

❖ Step 2: (LUP and Extension staff)

Prepare a long term land use demonstration involving several farmers with land of different land use classes and slope using the following steps:

- Conduct meetings with farmers to explain the objective of a land use demonstration.
- If villagers express interest in a demonstration, select a demonstration site in consultation with interested families
- Select demonstration participants.
- Conduct a field survey of the site to define land ownership and land parcel boundaries and to record land slope data.
- Prepare a sketch map of the site showing land ownership and current land use.

❖ **Step 3: (Extension staff)**

- Prepare a demonstration activity plan with participating families based on land slope and farmer land use preferences.
- Prepare a budget for the activity plan.
- Verify activity plans with participating families prior to planting time.
- Implement demonstration activity plans with farmers.
- Conduct land use demonstration field days or farmer exchange visits.
- Monitor results to facilitate planning for the second year.

❖ **Step 4: (Extension staff)**

- Expand demonstration activities with other interested farmers in the second year based on land slope and farmer land use preferences, using similar procedures explained in Step 2 above.
- Implement forest and agricultural land use plans.
- Monitor results and prepare on-going land use plans for the next year.

Stage 5: Forest and Agricultural Land Allocation

❖ Summarise and Analyse the Village Information collected in Stage 3 and Determine Agricultural Land Allocation Criteria

- Socio-economic survey data summary and analysis.
- Problem/needs survey data and women's data analysis (using a problem solving meeting to consider causes and solutions with representatives from all families).
- Population growth rate data analysis.
- Identify and study the types of data that are critical for allocation of land for economic agricultural crops and commercial agro-forestry tree crops, ie, areas required for economic production.
- Agree on land allocation strategies and criteria for the village based on the results of the data analysis.
- Summarise the family agricultural land claims and socio-economic data from the socio-economic and land use /ownership data forms in readiness for the agricultural land allocation meeting.

❖ Village Land Use Planning and Land Allocation Meeting

- Use the land use zoning map to discuss land use management with villagers before allocating agricultural land.
- Verify forest categories/zones with villagers.
- Reach agreement on appropriate land uses for each of the land use zones.
- Verify with villagers the land which lies within the agricultural land use zone.
- Negotiate with the LUP and LA committee and cultivators to relinquish farming plots in "critical" forest land areas.
- Explain that reserve land should be set aside within the agricultural zone to cater for future family divisions and population growth.

❖ Verify Land Ownership, Review Land Claims and Allocate Land

- Use the agreed land allocation criteria for the village to allocate permanent and fallow fields for each family.
- Read out the land claims and pertinent data for each family for consideration by the villagers.

- Invite each family to verify their plots of permanent crop land used and fallow fields claimed.
- Consider families claims for temporary land use rights for permanent crop land and fallow fields.
- If there are disputes and counter-claims over plots of land claimed, use villager consensus to mediate and resolve the problems.
- Ensure that agricultural plots are allocated only within the agricultural land use zone.

Stage 6: Field Measurement

❖ Conduct Field Measurement of Agricultural Fields and Record Information Concerning Land Use

- Prepare 1:10,000 or 1:5,000 scale field maps for each survey team to facilitate finding the plots and locating agricultural fields accurately on the map.
- Prepare a list of the plots to be measured for each measuring team.
- Provide each measuring team with a set of instruments and field survey forms for each measuring group before going to measure fields.
- Measure all sides and the boundary angles of all fields (fallow and in use) and record data on the field survey forms.
- Measure land slope in % and record soil condition for each field on the field survey forms.
- Agree on proposed land use for each of the plots measured and record the land use on the field survey forms.
- Locate each field based on proximity to the established reference points and record details to identify the field.
- Draw a sketch map of each plot on the field survey form.
- Mark and identify on the field map the location of each agricultural plot measured.

Stage 7: Preparing Agricultural and Forestry Agreements and Transferring Land Use Rights to Villagers

❖ Prepare Temporary Agricultural Land Transfer Certificates and Land Use Contracts for Each Family

- Use data from field measurement to calculate allocated plot areas and prepare the land transfer and contract forms.
- Discuss the detail with each family and verify correctness, i.e., number of plots, areas of plots, proposed land use, appropriate conservation practices.
- Sign the Land Transfer and Contract forms.

❖ Confirm Forest and Agricultural Land Use Zones with Villagers Using the Completed 1: 10,000 Village Map

- Confirm locations, areas and uses of forest zones.
- Confirm locations, areas and ownership of agricultural land parcels.
- Confirm that spare land in the agricultural zone will be available for family division and population growth rates in the future.

❖ Prepare Village Forest and Agricultural Land Management Agreement

(Refer to Technical Booklet 2, "Methods for Preparing Village Forest and Agricultural Land Management Agreements" for more details)

- Use the land use zoning map to discuss appropriate forest and agricultural land management rules for each of the land use zones.
- Examine the existing village rules and agreements (if available).
- Discuss existing rules with LUP and LA Committee, propose improvements and provide opportunities for the committee to include articles relevant to the village.
- Conduct follow-up meeting with the LUP and LA Committee to discuss, review and update the agreement.
- Present draft agreement to the villagers and give them an opportunity to discuss, comment, change and agree with the agreement.

- Endorse and have the agreement signed by the Village Head, the LUP and LA committee and the District Governor.

❖ **Summarise LUP/LA Activities with Villagers**

- Arrange a general village meeting with villagers, both men and women.
- District staff advise villagers of the purpose of the meeting.
- District staff present a report on the activities, achievements and problems of the LUP exercise.
- Using the village map, confirm the location of the village boundaries, agricultural production areas and forest category areas to ensure the villagers and neighbouring villages agree.
- Present the village forest and agricultural land management agreement and give recommendations for appropriate land use.
- Hand-over the temporary land transfer documents and contracts to families.
- District provides further suggestions and recommendations for village consideration.
- Village Head presents comments on the activities completed and agreements reached with the District Office.

Stage 8: LUP/LA Information Storage

(Refer to Technical Booklet 4, LUP/LA Information Storage Methods for more details)

- ❖ **For each village in which land allocation is implemented prepare copies of each of the following:**
 - Village forest and agricultural land use maps and sketch maps.
 - LUP/LA Committee Formation Record.
 - Inter-village Boundary and Management Area Agreements.
 - Boundary Dispute Resolution Records.
 - Village Forest and Agricultural Land Management Agreement
 - Village land use planning data (socio-economic, land use, data summary, population, NTFPs etc).
 - Village land allocation data (TLUCs and LUCs).
 - Village LUP/LA reports.

- ❖ **Store all documents in hard-back clip folders; one set at DAFO and one set at the village.**

- ❖ **Store maps in mapping cylinders or cabinets; one set at DAFO and one set at the village.**

Stage 9: Agricultural Land Allocation Records

(Refer to Technical Booklet 5, Establishing TLUC Record Books for more details)

❖ When land allocation is completed in each village a Temporary Land Use Certificate Record Book needs to be established at the DAFO following the steps below:

- Collect all TLUCs and label each TLUC with consecutive DAFO numbers.
- Cross-check the details of each TLUC document against each accompanying Land Parcel Map.
- Label each parcel on the Village Land Use Map with a unique number.
- Cross-check the details of each TLUC against the Village Land Use Map.
- Transfer the parcel numbers from the Land Use Map onto the TLUCs.
- Correct the errors found in the TLUC's the Village Land Use Map.
- Transfer data from the TLUCs to the Parcel Checklist.
- Compile the Land Allocation Record Book (Transfer the data on the Parcel Checklist to the TLUC Record Book).
- Store the TLUC Record Book, Village Land Use Map and TLUC documents using Information Storage procedures (see Stage 8 above).

Stage 10: Monitoring and Evaluation

(Refer to Technical Booklet 8, Monitoring and Evaluation for LUP/LA) for more details)

- ❖ **Prepare monitoring and evaluation procedures and forms and field test the procedures and forms.**

- ❖ **Conduct field monitoring with district staff, the village LUP/LA committee and villagers including:**
 - Progress or activity monitoring.
 - Monitoring impact of LUP/LA on communities.
 - Monitoring of staff adoption of LUP/LA procedures and methods.
 - Functioning and capability of village LUP/LA committee; including management of forest and land resources, the implementation of the village forest-land use agreements, resolving land use disputes, etc.
 - Villager adoption of appropriate land uses and conservation farming practices.

- ❖ **Conduct inspections with district staff, the village LUP/LA committee and villagers, including investigations and problem solving of:**
 - Boundary infringements.
 - Land use zoning infringements.
 - Land parcel use infringements.
 - Village Forest-land Use Agreement infringements.
 - Inter-village land use disputes or conflicts.

- ❖ **Prepare a report for supervisors and feedback monitoring results to the District and local levels.**

Glossary of Terms and Acronyms

DAFO	District Agriculture and Forestry Office
DoF	Department of Forestry
GOL	Government of Lao PDR
LSFP	Lao Swedish Forestry Programme
LUC	Land Use Contract
LUP	Land Use Planning
LUP/LA	Land Use Planning and Land Allocation
PAFO	Provincial Agriculture and Forestry Office
PFO	Provincial Forestry Office
RTC	Regional Training Centre
TLUC	Temporary Land Use Certificate
NTFP	Non-timber Forest Products

5.2. Land Use Planning and Management Practices for NPAs in Lao PDR

**National Agriculture and Forestry Research Institute
Forest and Inventory Planning Centre**

and

**Department of Forestry
Division of Forest Resource Conservation**

**LAND USE PLANNING and MANAGEMENT
PRACTICES IN NPA'S**

A USER'S MANUAL

February 2001

Lao Swedish Forestry Program

**Land Use Planning Sub-program
and
Conservation Sub-program**

GLOSSARY OF ABBREVIATIONS USED

CUZ	Controlled Use Zone
CZ	Corridor Zone
DAFO	District Agriculture and Forestry Office
DoL	Department of Lands
ICAD	Integrated Conservation and Development
LA	Land Allocation
LUC	Land Use Contract
LUP	Land Use Planning
MAF	Ministry of Agriculture and Forestry
MIS	Management Information System
NCF	National Conservation Forest
NPA	National Protected Area
NTFP	Non Timber Forest Product
PA	Protected Area
PM	Prime Minister
TLUC	Temporary Land Use Certificate
TLUCRB	Temporary Land Use Certificate Record Book
TPZ	Totally Protected Zone
VAL	Village Agriculture Land
VCF	Village Conservation Forest
VPF	Village Protection Forest
VSL	Village Settlement Land
VUF	Village Use Forest

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CHAPTER 1

INTRODUCTION

Background

Land use planning and land allocation (LUP/LA) procedures and methods are now well developed and widely used in the Lao PDR. However, early attempts to apply these standard LUP/LA procedures to land use planning in National Protected Areas (NPA's) revealed that they were lacking in a number of respects when applied to the unique situation and specific needs of the NPA's. In particular, the standard procedures :-

- Do not take sufficient account of specific biodiversity values that may often be unique to individual NPA's.
- Are not entirely compatible with the legal framework and some of the provisions embodied in Prime Minister's Decree 164 pertaining to protected areas.
- Do not adequately encompass the conservation co-management roles and responsibilities of villagers in the Forest and Land Use Agreements resulting from the process.
- Focus on individual villages and pay insufficient attention to issues critical at the level of the entire NPA.
- Do not give adequate attention to the collection and analysis of data and information of conservation importance in reaching forest and land use zoning decisions and establishing management agreements.

The Forestry Law (1996), Prime Minister's Decree 164 (1995) and relevant provisions of the Land Law (1997) provide the legal framework for conducting LUP/LA in NPA's. Taken together, these laws provide for :-

- Establishing distinct zones within and adjacent to NPA's, namely, Totally Protected Zones (TPZ), Controlled Use Zones (CUZ) and Corridor Zones (CZ)
- Identifying and zoning village-use land into 5 forest categories and 2 agricultural land types.
- Developing local rules and regulations with villages in relation to the management and permitted uses of the above land categories including the establishment of penalties for improper use.
- Providing legal land use right certificates to families and individuals in those zones set aside for agricultural production.

Current government policy emphasises land use planning as a means of controlling forest encroachment and stabilising shifting cultivation. Policy also places a high priority on LUP/LA in and around protected areas to promote bio-diversity conservation and to ensure sustainable natural resources management.

Introduction

This user oriented manual describes the procedures and methods for conducting land use planning in NPA's. It is designed for use by NPA staff and relevant provincial and district officials to guide the LUP/LA process in NPA guardian villages. The manual should be used with existing manuals that describe the more general form of LUP/LA and explain in more detail some of the methods and tools that are used in both forms of LUP/LA. It also should be used in conjunction with the *NPA Manager's Guide* that explains how LUP/LA relates to other NPA management tasks.

Land use planning in NPA's is a process of resource management planning which is aimed at ensuring equitable access to forest and land resources and providing the basis for their sustainable management by local communities. This particular type of land use planning is used in all so-called *guardian villages* because their proximity to NPAs and the way they use natural resources, have a direct and significant impact on the protected area.

The procedures are for use by NPA staff and district and provincial officials responsible for land use planning. Although designed for use in National Protected Areas, the manual can be used for LUP in provincial or district protected areas. LUP can be conducted in NPA's at any time but it has been found useful as the initial intervention point and is ideal for beginning to establish a dialogue and partnership relationship with protected area guardian communities.

Objectives

Land use planning in NPA's has the following major objectives :-

- Stabilising forest and land use patterns under a sustainable management system.
- Ensuring equitable access to forest and land resources for all community members and formalising land use rights within the existing legal framework.
- Establishing resource use and conservation co-management agreements with local communities.
- Developing a partnership between villages and government for the joint management of community development and conservation activities.

Key attributes of land use planning in NPAs

LUP in protected areas has a number of important attributes which must be adhered to if it is to achieve its desired objectives :-

Participatory: It involves villagers in every step of the process and encourages them to make their own decisions about sustainable natural resources management.

- Empowering:** It strengthens community organisation and capability and provides villagers with the skills and tools to solve their own problems and make improved decisions about the sustainable management of natural resources in the future.
- Gender responsive:** It promotes the active participation of women in all decisions regarding resource allocation and management and addresses the unique problems of women by the use of gender disaggregated discussion groups.
- Networking:** It promotes inter-village cooperation to solve resource use conflicts and creates linkages and networks between villages to facilitate mutual support and cooperation in both conservation and community development activities.
- Holistic:** It focuses at the level of the entire ecosystem, including community livelihood systems, and addresses the key interactions between habitats, wildlife and people.
- Interdisciplinary:** It involves group tasks by teams comprising land use planners, conservationists, agriculturists, gender specialists and district officials who work with villagers in an interdisciplinary manner.
- Integrated:** It links conservation with development in an integrated manner through two-way agreements whereby villagers are compensated for curtailing certain resource use practices by government assistance with livelihood development activities.
- Stepwise:** It follows a logical sequence of discrete steps and provides ample time for both villagers and Protected Area staff to consider the outcomes and implications of each step in the process.
- Iterative:** As villagers implement agreements and adopt new resource management practices, conditions change, new problems emerge and additional lessons are learned requiring that certain steps are repeated in the light of the changed circumstances.

CHAPTER 2

STEPS AND PROCEDURES FOR LUP IN NPAS

Land use planning in protected areas

Although land use planning in protected areas employs a number of methods and tools which are common to standard LUP procedures, the process varies in a number of important respects. Firstly, it proceeds more slowly than the standard LUP process. Secondly land allocation to families and individuals only occurs after villagers have shown they can manage forest and land use agreements. Thirdly, it considers bio-diversity and conservation values throughout the entire planning process. It gives responsibility for and participation in some aspects of conservation management to villagers themselves. Finally, rather than working in one village at a time, it is conducted simultaneously in a number of contiguous villages, which are slowly developed into a community network to co-operate in conservation and development.

The following table explains some of the essential differences.

Table 2.1 Differences between LUP/LA in NPA villages and non-NPA villages

Indicator	NPA Villages	Non-NPA Villages
◆ Target villages	LUP is confined only to Protected Area “stakeholder villages”.	Land allocation teams are responsible for <i>all</i> villages in a district.
◆ Number of target villages	LUP and LA is done in 3-4 villages at one time	LUP and LA is usually done in 1 village at a time
◆ Forest-land use	Focus on forest resources, not agricultural land	Focus on both forest lands and agricultural land
◆ Data collection	Data collection is done <u>before</u> boundary delineation	Data collection is done <u>after</u> boundary delineation
◆ Bio-diversity and habitat information	Bio-diversity and habitat data play a major role in zoning and preparing management agreements.	Bio-diversity and habitat data do not play a major role in zoning and preparing management agreements
◆ Land allocation and land use agreements	Community and use agreements are the priority. Allocation of agricultural land to individuals is done only after forest-land use agreements work effectively.	The allocation of agricultural land to individuals is not contingent on the effective management of forest-land use agreements.
◆ Boundary agreements	Village types I, II and III <u>require</u> a boundary agreement between the village and the Protected Area.	Villages outside protected areas <u>do not require</u> a boundary agreement between the Protected Area and the village
◆ Forest and land management agreement	Village types I, II and III <u>require</u> a management agreement between the village and the Protected Area	Villages outside protected areas <u>do not require</u> management agreements between the Protected Area and the village
◆ Timing of LUP and LA	LUP/LA activities are done in stages over time within the participatory NPA management process.	LUP and LA is often completed in a single intensive visit of several days for each village.

Key steps

Participatory land use management planning in NPA's is a phased but iterative process which proceeds through five stages as illustrated in Figure 2.1. Individual activities within the five stages and the units primarily responsible for each stage are shown in Table 2.2.

Figure 2.1 Participatory forest and land use management planning in NPAs

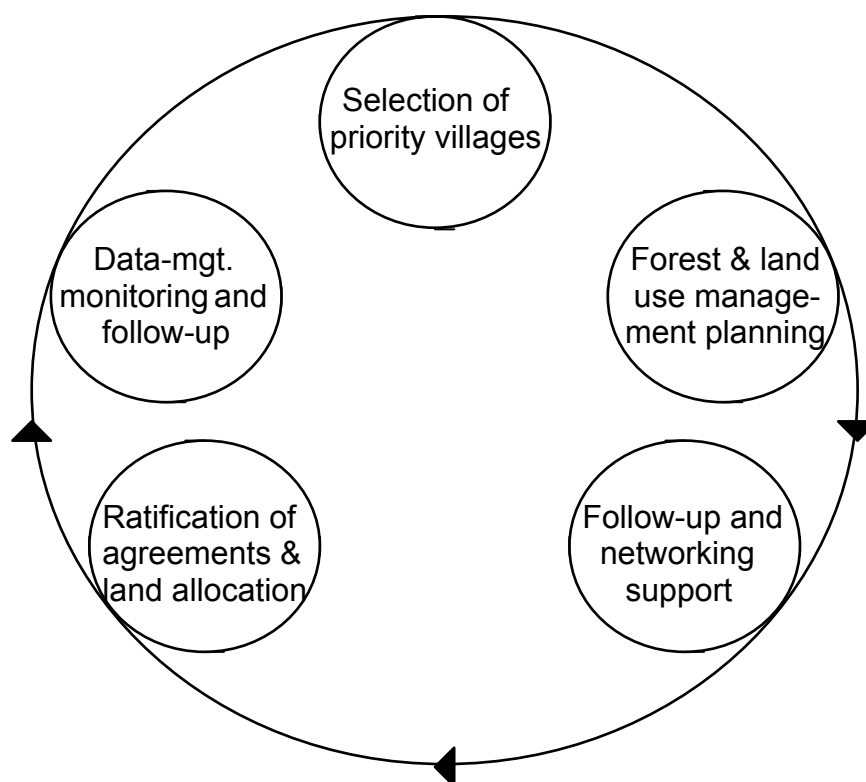


Table 2.2 Steps and procedures for Participatory Land Use Planning in NPAs

Stage	Steps	Unit Responsible	Level of focus
<u>Stage 1.</u> Setting LUP priorities	1. Village classification 2. Selection of priority villages	NPA	Entire NPA
<u>Stage 2.</u> Land use management planning	1. Village data collection 2. Village boundary delineation 3. Village forest and land use zoning 4. Village forest and land use management agreements	NPA and LUP	Individual village

Table 2.2 Continued

Stage	Steps	Unit Responsible	Level of focus
<u>Stage 3.</u>	1. Networking activities	NPA	Village network
Follow-up and support	2. Livelihood development activities		
	3. Conservation activities		
	4. Monitoring activities		
	5. Information storage & management		
<u>Stage 4.</u>	1. Land data analysis	LUP and NPA	Family plot
Land allocation	2. Land allocation decisions		
	3. Land parcel measurement		
	4. Land certificate preparation & transfer		
<u>Stage 5.</u>	1. Land allocation records	NPA and LUP	All levels
Information management and monitoring	2. Socio-Economic Information		
	3. Conservation information		
	4. NPA management plan		
	5. Monitoring		

CHAPTER 3

SETTING PRIORITIES FOR LUP AND LA

This stage of the process focuses at the level of the entire NPA and helps to make decisions about which villages should receive land use planning priority. Two steps are involved in setting priorities :-

- 1 Classification of village types
- 2 Selection of priority villages

Village classification

A village that depends on any of the resources from a protected area is known as a ‘stakeholder’ or ‘guardian’ village. Most NPAs have many such villages, spread over several districts or even provinces.

Why Classify Villages?

It can be useful to classify NPA guardian villages for a number of reasons :-

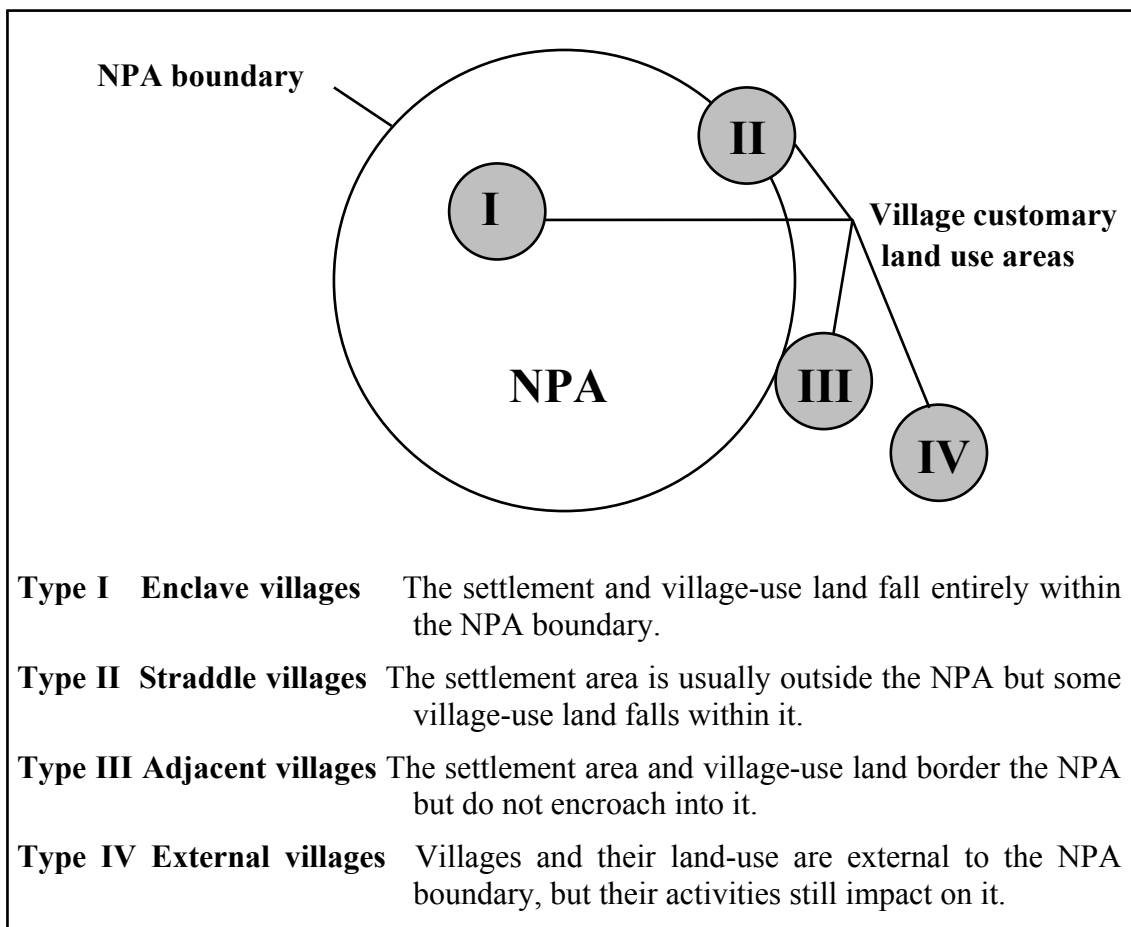
- To identify which villages have the greatest impact on NPA resources.
- To set priorities for forest and land use management planning in and around the NPA.
- To identify which villages have the greatest stake and therefore a vested interest in the NPA and its resources.
- To help identify village partners for NPA management.

The location of a village in relation to the NPA boundary largely determines its impact on the protected area. Villages that are in, or close to, the protected area tend to have the highest impacts. They also generally possess the greatest knowledge about the area, and have a vested interest in its resources; they should therefore have a high priority for forest and land use management planning and conservation co-management activities.

Types of Stakeholder Villages

Guardian village boundaries can be within, overlapping, next to, or outside the protected area. These four criteria are used in a simple classification system that identifies four types of village as shown in Figure 2.2.

Figure 2.2. Classification of NPA guardian villages into 4 categories.



Type IV villages which do not overlap or share a border with the protected area, and may be some distance from it are usually the most difficult class of village to identify. However, if villagers regularly pass through, or collect natural resources from the protected area, it should be considered a guardian village. As a simple guide, any village within 5km of the protected area boundary should be labeled a Type IV village. The importance of this type of village should not be underestimated as they can have significant impacts on the protected area.

Selection of priority villages

The following criteria are used to select priority villages:

- Location
- Population
- Village land area
- Dependence on forest resources
- Traditional land use patterns

1. Location

Village types I and II should have the highest priority for land use planning. Type III villages are also important if they serve as ‘gatekeepers’, controlling important access routes. Type IV villages will not usually be a first priority for land use planning because their land is always some distance from the protected area boundary.

2. Population

Generally a village with a large population has a bigger impact than a small one. However, size is only a rough guide to impact. A village may be large because it has a lot of agricultural land and therefore it may not depend on forest resources at all. Ethnic minorities often live in small villages with little or poor agricultural land, so they might depend heavily on forest products. If a small community is located on a major access route, its size may actually limit effective management by a more powerful neighbor.

3. Village land area

For Type I and II villages, the amount of land used inside the protected area is critical. However, the nature of their claim must be determined first. Villagers may traditionally collect resources over a large area, and thus consider all of it theirs. Or, perhaps they want security rights rather than use rights. For Type II villages, the area of village forest land outside the protected area is also important. If these lands provide for subsistence needs, then zoning more land for protection inside may be possible.

4. Dependence on forest resources

This criterion is influenced by the previous three criteria, and also by the relative wealth of the village. Generally, poor villages depend on forest resources to a greater extent than wealthy villages. However, accurately assessing their dependence may be difficult in the early stages of management.

5. Traditional land use practices

Lastly, the type of farming, hunting or gathering activities traditionally practiced by a community will influence the impact it has on the protected area. Shifting cultivators generally have a higher impact than paddy rice farmers; traditional hunters will do more damage than communities which raise their own livestock; and villages that rely heavily on the collection of Non Timber Forest Products (NTFPs) for either sale or subsistence use will also normally have a greater impact on the NPA. Ethnicity can sometimes be used as a quasi-indicator because traditional land use practices vary among different ethnic groups.

CHAPTER 4

FOREST AND LAND USE MANAGEMENT PLANNING

This phase of land use planning normally takes about 1 week per village, that is 3 to 4 weeks for a cluster of 3-4 villages with a team of about 10 or more people. A team of this size can split into smaller sub-groups to undertake specific tasks.

This phase incorporates five key steps :-

- 1 Community Orientation
- 2 Information gathering,
- 3 Village boundary delineation
- 4 Forest and land use zoning
- 5 Village forest and land use management agreements

Community orientation

Land use planning begins simultaneously in a small group of 3-4 adjacent villages with an orientation meeting for each of the villages. Village orientations are essential to explain the process, its objectives, what will be done, how long it will take, what is expected of the villagers and how they will benefit from it. These explanations are crucial to create confidence, build rapport with the entire community and obtain their commitment to the process. Securing the active engagement of women in the discussions and their input to all decisions is essential during this early step to ensure their continued involvement throughout later stages of the process.

During village orientations, the following points are stressed :-

- The need for community participation throughout the land use planning process
- The importance of ‘community ownership’ of the LUP process.
- The importance of villagers making all the key decisions themselves.
- That government staff are there merely to help villagers address their own needs and problems, not to do the job for them.

Village data collection

Baseline data on a variety of topics is collected during this phase and used to identify, jointly with villagers, the major problems and opportunities facing each community. The aim is to develop a shared understanding of land use patterns, livelihood systems and their impact on protected area resources. Key problems are then analysed with the villagers, and plans for solving them are jointly developed.

Three different methods are normally used to collect information :-

- Group discussions and brainstorming sessions
- Questionnaire interviews with families or specific subgroups
- Field surveys with villagers.

Information collection is conducted most efficiently by splitting the team into small sub-groups, each group being given responsibility for obtaining certain types of information. Data collection can and should be conducted concurrently with other

LUP activities so that both staff and villagers can be rotated among different tasks in order to reduce boredom and to expose them to a broad range of experiences.

The six most important types of information collected during land use planning are :-

- ◆ NTFP collection and use
- ◆ Key wildlife species and habitats
- ◆ Wildlife use
- ◆ Socio-economic indicators
- ◆ Population trends
- ◆ Priority problems

NTFP collection and use

Discussion about NTFPs can help to build rapport, since it shows that the land use planning team is interested in village life. It also leads naturally into discussions of other issues. Sensitive subjects, such as hunting of rare animals (which are often known to be protected by law) are better discussed after more trust has developed between villagers and staff.

Villagers will help provide the following information:

- What forest products are collected, hunted or trapped (including fish)? Having villagers make lists on large sheets of paper can be useful.
- For each forest product, which part is gathered, where, by whom, at what time of year, and by what methods.
- A ranking of importance of each product to the village economy.
- A ranking of products collected by weight, or number, and by desirability.
- If the NTFP is managed (planted, weeded, fertilized). If wildlife have certain seasons, or quotas.
- How much of the product is there now, compared to 5 or 10 years ago.
- If the product is used by the family, sold for cash, or exchanged for goods. If it is prepared before exchange, or sold untreated. The buyers of the products, where the products are purchased and for what price.
- If there are any quotas or government-imposed controls on trade.

A sketch map should also be prepared at this stage, showing where NTFPs and wildlife are collected and hunted. NTFP information should be recorded on the form shown in Table 4.1.

Table 4.1. Sample data sheet for recording NTFP information.

Name of NTFP	Type of NTFP	Part gathered	Where collected	Season collected	Person collecting	Method of Harvest	Organization of Harvest	Amount of NTFP	
								Then	Now

Key wildlife species and habitats

This category of information concerns the occurrence and status of key species and habitats. The species of particular conservation interest for each NPA will vary and a check-list should be prepared in advance. Generally, hunters will give the most accurate information, particularly if they are in a small group and can discuss each question among themselves.

The list usually includes several large mammals, such as elephant, tiger, gaur, and banteng. Villagers know these animals well and can be questioned in detail about their abundance and seasonal movements. They should know the threats to these species and, in the case of elephant and tiger, the problems they pose to villagers (e.g., crop damage and livestock losses). Interviewers should not just accept short answers, but should encourage discussion of the issues. For example, if tigers have been killing domestic buffalo, this may indicate that there are very few sambar or muntjac for the tigers to hunt.

A useful technique is to show a group of hunters a sequence of pictures of species you want to know about. Including a few that occur elsewhere but are known not to occur locally can help to check for reliability and accurate identification.

Village information also guides habitat classification on village lands. Villagers are very skilled at distinguishing old secondary forest (previously cultivated lands) from primary forests. Villagers will know of salt licks, caves, cliffs, and other special habitats in their area.

Wildlife information should be recorded on the sample data sheet shown in Table 4.2.

Table 4.2 Sample data sheet for recording key species

Species name	Description of evidence	Distance/direction from village	status: current compared to past	Other information

Wildlife use - hunting, fishing and trapping

Usually, it is men who hunt, trap, and fish, with the important exception of small animals like frogs. However, people differ in the amount of time they spend hunting, and in their skill levels. Discussions should start by talking to a large group of men and then with a smaller group of specialist informants. It is easy to move the discussion from hunting and fishing to talk about changes in abundance through time.

Find out if there is any traditional management and if it is still observed. Sometimes there are prohibitions on hunting during Buddhist Lent, taboos on certain species, or traditional methods. Traditional fishery management includes protected pools, and limits on certain techniques. For both hunting and fishing, if traditional rules are not being followed, find out who is breaking them and why. For example, explosives and poisons are prohibited nearly everywhere, yet they are still in use.

Wildlife use information should be recorded in the form shown in Table 4.3.

Table 4.3. Sample data sheet for recording wildlife use

Record number	Name of animal	Importance/Rank	Where Hunted	Methods: (gun, trap, fishing line etc.)	Usage %		Buyer (and price)	Market (and price)
					Eat	Sell		

Socio-economic indicators

Socio-economic data is collected to identify village-level and family-level needs, which will guide you in starting development and livelihood activities in each village. The following type of information is collected through interviews with each family in the village. These are often best conducted in the evening when all members of the family are likely to be present. Sample interview forms are shown in Table 4.4.

Table 4.4. Sample data sheet for recording family socio-economic information.

Unit.....		Occupation		Family Members		Labor		Age Distribution							
No.	Family Head	Primary	Secondary	Tot.	Fem	Tot.	Fem	0-5 yrs		6-15 yrs		16-50 yrs		51 yrs+	
								Tot.	Fem	Tot.	Fem	Tot.	Fem	Tot.	Fem
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
14	Tong	Paddy Rice	Upland Rice	5	3	4	2			1	1	4	2		

(Table 4.4. continued...)

People Literate No.	Annual Rice Needs	Rice Production				Annual Rice Lack (Kg)	Main Crops Planted Last Year					
		Paddy		Upland			1st Crop		2nd Crop		3rd Crop	
		Area	Prod. (Kg)	Area	Prod. (Kg)		Crop	Prod. (Kg)	Crop	Prod. (Kg)	Crop	Prod. (Kg)
17	18	19	20	21	22	23	24	25	26	27	28	29
0	1750	0.5	1120	0.5	180	450	Rice	1300	Corn	120	Cucumber	300

(Table 4.4 continued...)

Fruit Trees		Commercial Trees			Large Livestock					Poultry		Fish	Income				
No. of Trees	Yield	No. of Trees	No. of Trees Sold	Proceeds (1000 Kip)	Elephant #	Buffalo #	Cow #	Horse #	Goat #	Pig #	Duck #	Chicken #	Pond #	Livestock Sales (1000 Kip)	Forest Products (1000 Kip)	Other Sources (1000 Kip)	Total (1000 Kip)
30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47
15						3				3		16		50	50	40	140

After the interviews are completed, a summary sheet for each village should be prepared using the data from each family. The summary of important indicators is easily understood during public meetings when development and livelihood activities

are being planned. It also makes it easier for LUP team members to identify and focus development and livelihood activities.

Population trends

Information about change in population also guides development and livelihood activities. Increases in population result in a need for more farming land. Increasing populations can pose a significant threat to the forests and wildlife. The impact on the area's natural resources depends on how quickly the population grows, and if farmers can either find more land to use or take up another occupation. For these reasons, it is important to consider population issues.

To calculate the population growth rate, and estimate what the population will be if the present rate of increase continues, a few simple steps should be followed :-

- Examine birth and death records kept by the village head and committee.
- Use at least three years' information, or more if the records allow.
- Calculate the population change for each year (% increase, or % decrease) over the past few years.
- Average these annual rates to calculate the future rate of change.
- Calculate the expected population in 10 years time.

Problem identification and analysis

A problem census methodology, using group discussions, has been developed specifically for problem identification and analysis with villager groups and it is particularly appropriate for use during LUP. It works by asking community groups to propose and then discuss the major problems they face on a daily basis. As problems are raised during the discussions they should be written down on paper or a white board for villagers to refer back to. The problem census will identify problems which fall under a few common categories. If any of these categories do not appear in the final assessment, it may be necessary to double-check by probing a little deeper with the villagers.

Problem Checklist
food security and agriculture
domestic and agricultural water
health and nutrition
family size and population increase
education and schooling
income levels and poverty
communications and marketing
women and disadvantaged groups

When conducting a problem census, it is important to ensure that women's views are included in the process. To achieve this, it is best to use gender disaggregated groups when discussing problems. Differing views among men and women can be resolved later in a larger group by comparing and discussing the different perceptions of men

and women. This will help to raise community awareness in regard to the special problems of women and ensure that they receive adequate attention.

Once the problems have been adequately identified, the next step is to determine those that the community consider to be the most important. This can be done most simply by directly asking the group of villagers to list the problems in order of their importance. The problems can also be prioritised by counting the number of times each problem is mentioned by individual sub-groups - the problems mentioned more frequently are the most important. As with problem identification, it is important to make sure that the views of women and other disadvantaged groups are incorporated in the problem prioritisation process.

Next, priority problems should be analysed and their key causal factors determined in order to identify appropriate solutions to them. Conducting such a participatory problem analysis jointly with villagers offers a number of important benefits :-

- Villagers better understand the causes of their problems and begin to realise that solutions are within their reach.
- Analysis helps to show the villagers how many of the problems they face on a daily basis are related to the degradation of natural resources in the NPA.
- Their continued involvement gives villagers a greater sense of ‘ownership’ of the solutions which will eventually emerge from the process.
- The process is the start of community strengthening whereby villagers help each other to understand the causes of the problems they face and begin to identify solutions to these.

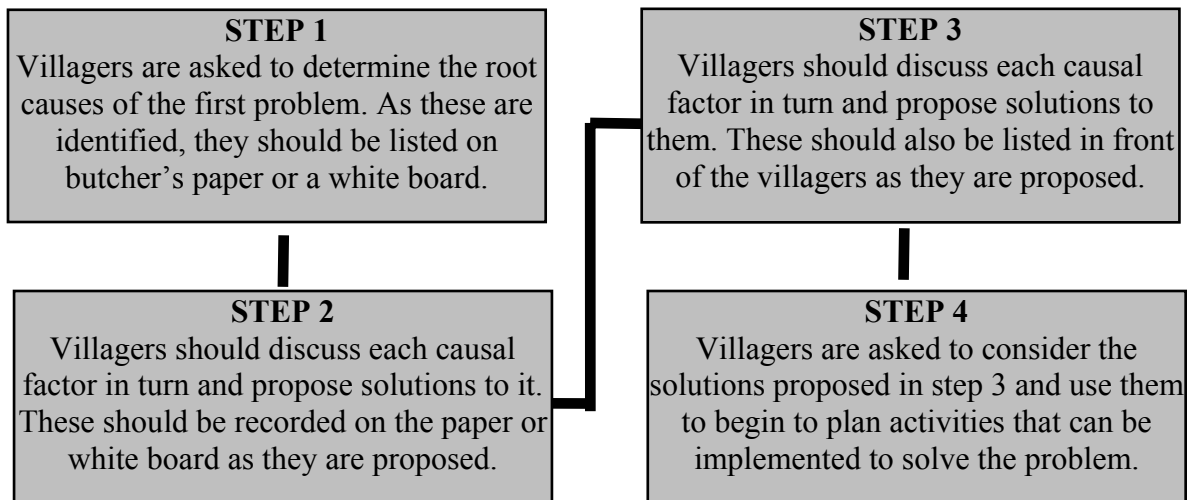
Problems should be analysed in order of their perceived priority using the format illustrated in Table 4.5.

Table 4.5. Recording form for priority problems analysis.

Priority	Problem	Root causes	Proposed solutions	Proposed project
1.				
2, etc.				

Analysis should focus on 4 or 5 of the highest priority problems and should proceed according to the key steps shown in Figure 4.1.

Figure 4.1. Key steps in problem analysis by villagers.



The final output of the problem census process should be a set of proposed activities which address the key problems facing each community.

Boundary demarcation

The boundaries of each village should be jointly surveyed and mapped with representatives from all villages with contiguous boundaries. The inter-village boundary conflicts commonly identified at this time must be completely resolved to ensure that later stages of the LUP process will flow smoothly.

Clear boundaries assist in assigning areas of responsibility and management. They are normally defined in four broad categories:

1. Natural Boundaries

These follow topographical features such as rivers, ridgelines or cliffs; or biological boundaries, such as those between forest types.

2. Human-Made Physical Boundaries

These follow structures such as roads, fences, ditches and cleared land.

3. Legal Boundaries

These exist in law and may or may not have meaningful reference points on the ground.

4. Notional Boundaries

These exist in people's minds, but are widely acknowledged by society.

Village boundaries

In some parts of the country, village boundaries have been formalized as part of the land allocation process. If so, you should get the documentation and map and review them with villagers. Make sure that the village and protected area boundaries agree with people's notional boundaries. The boundary agreement document and the map may need some revision. If initial delineation has not yet happened, or no documents can be found, the full process of boundary demarcation will need to be done by following 4 simple steps.

Step 1. Drawing a Village Base Map

- In each case, the village committee should sketch a map of their village onto the ground or on paper.
- Staff can then transfer the boundaries onto a topographic map. Make enlargements by pantograph, or hand, to a scale of 1:5,000 or 1:10,000. The map must be big enough to be viewed easily and discussed in a meeting.
- Villagers can then locate and name the rivers, major hills and other natural features (cliffs, wetlands etc.), in addition to manmade landmarks such as rice fields and roads.

Step 2. Consultation with Surrounding Villages

- From a topographic map that shows all the village boundaries, staff can identify which boundaries are disputed.
- Where there are boundary disputes, note the details and engage representatives of each party to discuss the disputed sections. Staff should facilitate and mediate during this, but not make any decisions themselves. When disputes have been resolved, mark the new boundary on the map.
- If disputes cannot be solved by negotiation, make arrangements for senior district staff or the District Governor to meet with the villagers and adjudicate.

Step 3. Field Survey

- In flat areas or disputed areas, it may be necessary to survey the boundary on foot with a map, chain and compass and/or GPS. Make field notes of reference features for each section.
- Where obvious topographic features on the map and on the ground define the agreed boundary, such surveying will not be necessary.
- As a temporary measure in disputed areas, it is useful to mark locations with cuts on trees or tags of string so that the boundary can be easily relocated.

Step 4. Boundary Agreements

- Once agreement has been reached between villages, draw the boundaries onto each village base map, and also onto the LUP copy of the 1:100,000 topographic map.
- Draft a boundary agreement for each village and have these signed by representatives from each village and include a copy of the sketch map.
- Later, review these agreements and have them signed by the District authorities. Copies should be kept in each village, the district and in the protected area office.

An example of the format for a village boundary agreement is shown in Figure 4.2.

Figure 4.2. Standard format for a village boundary agreement

Peoples Democratic Republic of Lao
peace, independence, democracy, unity, prosperity

—◆—

Province:.....
District:.....
DAFO no:
 /DC-

Agreement regarding village boundaries between
 Village:..... with
 village..... village.....
 village..... village..... and
 village.....

> in accordance with the PM Decree no 164/PM, of 29/10/1993 regarding the establishment of national conservation forests.
 > in accordance with the special conditions of the surroundings and the (administrative) boundary of the village that are in existence/recognized together.

In order to be consistent with the policy direction of the party and state, that is to clarify the management of land and forest resources of each village, and thus to facilitate the agreed management and protection of each village , and

thus, the administrative authorities of relevant villages have defined the village boundaries between villages as below:

➤ Section 1.....

 ➤ Section 2.....

 ➤ Section 3

Sketch Map of boundary between two (2) villages

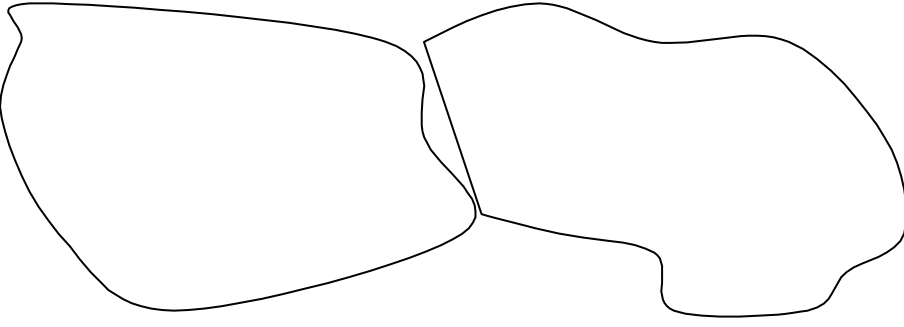


Figure 4.2. Standard format for a village boundary agreement

Thus, the authorities of relevant villages have made this administrative boundary agreement in order to certify it as proof.

Representatives of:

Village 1: _____ Village 2: _____ Village 3:

- | | | |
|----------|----------|----|
| 1. _____ | 1. _____ | 1. |
| 2. _____ | 2. _____ | 2. |
| 3. _____ | 3. _____ | 3. |

Certified by village chief *Certified by village chief* *Certified by village chief*

Representatives of:

Village 4: _____ Village 5: _____ Village 6:

- | | | |
|----------|----------|----|
| 1. _____ | 1. _____ | 1. |
| 2. _____ | 2. _____ | 2. |
| 3. _____ | 3. _____ | 3. |

Certified by village chief Certified by village chief Certified by village chief

participating NPA/DAFO Staff:

- 1
- 2
- 3

dated:.....

sighted by District chief

certified by head of DAFO

Protected Area Boundaries

From PM Decree 164, the protected area master map, and knowledge of the terrain, staff should know roughly where to place the boundary. However, it is necessary to also work with villagers to find out exactly where the boundary is on the ground, and whether any revisions in its location are needed. Unlike village boundaries, some villagers may not know where the protected area boundary is located.

Step 1. Village Base Map

- If it has not already been done, develop a base map for each village and add the local names of major features of the area.

Step 2. Consultation

- Show the location of the preliminary ‘Decreed’ boundary to village leaders.
- Ask villagers for their opinions about where the protected area boundary should be.
- Discuss the differences.

Step 3. Field Survey

- As was done with boundaries between villages, decide which sections of the protected area boundary are uncertain, or where there are differences of opinion. Check these sections first.
- If the villager-proposed boundaries closely follow those in the Decree, there is no problem.
- Discuss details that may lead to misunderstandings. For instance, if the boundary follows a stream, you may need to specify which side of the stream.

If boundaries are within a kilometer or two of the Decreed location, and still make sense on the ground, then mark them on the map and adopt them as the proposed boundary. However, inform villagers that these amendments are pending official endorsement by a higher authority.

When negotiating with villagers, staff should keep in mind the interests of conservation, and aim to determine the most effective and recognizable boundary. Occasionally, there are serious differences of opinion that will require a careful discussion of alternatives.

Step 4. Boundary Agreement

- Write an agreement to describe and formalize the protected area boundary and attach a sketch map or topographic map to this agreement.
- Have it signed by the village Head and the village committee, then signed by the District Governor. Make copies.
- Leave one copy of the agreement at the village; keep one at the protected area field station; and deliver another to the district. The village base map should also be kept and displayed in an appropriate place in the village.
- Transfer the information from each protected area boundary agreement onto a master map for the protected area, showing both the ‘Decreed’ boundaries and those adopted in the boundary agreement.

An example format for a protected area boundary agreement is shown in Figure 4.3.

Figure 4.3. Standard format for protected area boundary agreements.

Peoples Democratic Republic of Lao
peace, independence, democracy, unity, prosperity

—————◆—————

District: _____ No: _____
NPA: _____
Village: _____

● *Agreement regarding boundary of the NPA*
(in or next to the village)

I. Background:
 According to the agreement of the cabinet, documented as decree no 164/PM of 3/10/93, regarding the establishment of the national conservation forests.
 According to the survey of the real situation of (date):..... in the village of inDistrict ofProvince.

II. Objective:
 - in order to review the boundary of the NPA within the village jurisdiction.
 - in order to inform the villagers of the boundary of management and of the better utilization of forest resources.

Thus the survey team of the.....NPA have worked with the villagers of..... to conduct a survey of the real situation, and have found that there is a boundary of the NPA (within or next to the boundary of the village) as follows:

➤ Point 1, starting from:

➤ Point 2, starting from:

➤ Point 3, starting from:

Therefore, the representatives of the survey team of NPA have made this note/agreement together with the leaders, elders and authorities ofvillage in order to have proof of this agreement,
 dated:.....

Figure 4.3. (continued)

<i>Village chief</i>	_____	<i>Head of NPA</i>	_____
<i>or</i>			
<i>Village Admin representatives</i>			
1. village police.	_____	1.	
2. village forester.	_____	2.	
3. Village Elders	_____	3	
4. village militia.	_____	4.	
<u><i>Sighted by District Governor</i></u>		<u><i>Head of DAFO</i></u>	

Marking boundaries

In many countries, boundaries are marked with tree-cuts, paint, or even fences to prevent encroachment. Currently in Laos, physical boundaries are rarely needed or appropriate. It is most important that their location and meaning are publicly known and accepted by nearby communities.

Where roads or tracks cross a boundary, signs can serve a valuable function in informing outsiders. Placing signs on roads asserts tenure rights, so be sure to discuss sign design, construction, and placement with the villages involved. Ideally, villagers themselves should be responsible for making and placing the signs, as this gives them a sense of recognition and ownership of the boundary in question.

Village Forest and Land Use Zoning

Once boundaries are agreed to, forest and land use zones in each village are surveyed and mapped with villagers. To establish zones, the traditional land use boundaries must first be understood and sketch maps prepared. Discussions with both village men and women are conducted to ensure that community needs are adequately considered including access to NTFPs, wood for housing and other purposes etc. Opportunities for establishing additional zones, or changing the status of existing zones to enhance conservation values should be explored at this stage. Finally, an agreement needs to be reached which incorporates both community and conservation needs.

The key responsibility of LUP and Conservation staff undertaking LUP in NPA villages is to zone the forest land in the villages around the NPA. Land Use Zoning should always be completed and trialed for an extended period and shown to work satisfactorily prior to conducting the individual land allocation process.

After establishing village and protected area boundaries, the next step is to establish management zones and appropriate local rules within village lands. A primary distinction is made in the Forestry Law between the ‘Totally Protected Zone’ (TPZ, or Core Zone), and the ‘Controlled Use Zone’ (CUZ) of an NPA. Management of the

TPZ is primarily the responsibility of government, while the partner villages (or occasionally organizations such as companies) manage the CUZ. Some limited extractive activities are permitted in the CUZ.

If land allocation is finished in a stakeholder village, then much of the work of establishing participatory management should already have been completed. However, forest zoning may have been poorly carried out during land allocation because the needs of the protected area may have not been adequately considered. Therefore, the protected area team should find and review the village boundary agreements and any existing zoning maps with villagers, and then proceed with zoning or re-zoning of village forest lands.

Under the law, there are 5 categories of village forest land within the CUZ.

1. Village Conservation Forest (VCF)

Strict controls are enforced, with few uses allowed.

2. Village Protection Forest (VPF)

Activities that contribute to soil erosion are prohibited, including the cutting of trees, and forest clearance. Collection of many NTFPs is permitted.

3. Village Use Forest (VUF, or Village Production Forest)

Cutting of timber is permitted for domestic use following the approval of the village authorities, but timber cannot be extracted for commercial sale.

4. Village Agricultural Land (VAL)

This category includes all currently or recently cultivated land, and other intensive productive uses, such as fishponds, livestock pens, and so on.

5. Village Settlement Land (VSL)

This category includes private houses, public buildings, roads, and so forth.

These categories can be thought of as overlapping circles of different uses, with protection levels tending to increase with distance from the village. The specific allocation of land among these use zones will vary depending on the forest characteristics, bio-diversity features and prevailing land use in each village.

The zoning process itself must be fully participatory to be successful. A series of discussions are conducted, first with the Village Committee, and then with the wider village community. The Village Base Map, showing the various boundary delineations at a scale of perhaps 1:10,000, is an important tool in this process. Using a plastic overlay sheet on the village base map enables staff and villagers to sketch and change forest-land use zone boundary lines on the map during discussions.

If available, aerial photographs are a powerful tool for examining current land use and habitat conditions. Field checks of the land use zone areas and boundaries must be carried out with villagers to ensure their actual locations are understood.

There are a number of issues which should be carefully considered when zoning :-

- **Location of key habitats and species.** All discussions of zoning must be based on knowledge of where key species occur. Their habitats must be identified and zoned correctly to achieve conservation benefits. This information will come from surveys and village interviews.

- **Boundaries Between Zones.** These boundaries are not as formal as village and protected area boundaries, but still need to be discussed in detail, and ideally to follow identifiable features. They should be drawn on the village land use map.
- **Local Rules.** Identification of ‘zones’ needs to be closely linked to ‘local rules’ that define exactly what activities are permitted in each zone. These need to go beyond the broad guidelines for each zone by specifying access to particular locations and resources.
- **Distinction between TPZ and CUZ.** The boundary between TPZ and CUZ is related to the village boundary. When the TPZ and CUZ for a group of villages are drawn together, the TPZ should occupy either a specific habitat (e.g., a range of hills), or a central block in the NPA. However, this may not always be possible. For instance, many villages claim access and use rights to the river that runs through Xe Bang Nouan NPA. Most of this NPA will be zoned to CUZ if villages can agree on the division of land. To arrange this division of zones, it is best to work with a *group* of villages all at once, and for representatives from each village to be present at meetings of its neighbors.
- **Village Conservation Forest.** VCF is very important in Type I and II villages, particularly if village areas are large and little of the protected area is a TPZ. In these situations, the VCF should have strict rules preventing destructive cutting of trees. Perhaps only fishing or seasonal fruit collection should be allowed. Do not allow any form of hunting or trapping in VCF. Key habitats, species areas (such as the range of a gibbon group), and salt-licks should be zoned as VCF. VCFs should also include any sites with particular interest for eco-tourism.
- **Village Protection Forest.** VPF is an important zone, because most NTFPs will be collected here. In order to ensure that enough land is set aside, allocation to this zone should be based on resource needs. Steep land close to the village and watersheds for minor irrigation schemes are likely areas for VPF. Spirit forests and burial grounds are already a form of VPF.
- **Village Use Forest.** VUF must be within an easy walk of most of the village. If village houses are spread out along a road, then more than one block of VUF should be allocated. This will reduce hauling distances for firewood and planks cut in the VUF. Though VUF is intended to supply timber, individuals still need to get the Village Committee’s permission to cut trees up to a specified volume per family. Type II villages should try to locate VUF outside the protected area.
- **Access by Other Villages.** A common problem is that villagers are either unable or unwilling to deny resources from their own lands to outsiders. However, neighboring villages often agree to allow access and use of each other’s resources, if the visitors respect local rules and zones. This system does not work as well when a powerful Type IV village at a distance from the protected area demands access from a smaller Type I or Type II ‘gatekeeper’ village.
- **Village Agricultural Land.** VAL includes a wide range of agricultural uses from temporary upland cultivation to paddy land and fruit trees. For zoning purposes, *any* fallow land that is claimed for use should be thought of as VAL. However, clearance of any new primary forest for agriculture within a protected area is not permitted. For Type I and II villages, land zoned for agriculture is eligible for a Temporary Land Use Certificate, but is not eligible for a full land title at a later

date. The purpose of this is to limit the amount of future land development within the protected area. This also limits the expansion of enclave villages.

- **Fishing and Fish Stocks.** Although fishing is distinct from agriculture, many villages complain of depleted stocks, and they often blame outsiders. Some villages designate protected pools in rivers close to the village settlement area, where they can be guarded easily. Agreement on rules for controlling fishing methods and intensity are an important part of the zoning process.

Village Forest and Land Management Agreements

The development of draft forest and land use conservation agreements is based initially on existing traditional rules which, through discussion with villagers, are identified, tightened and improved upon. Emphasis here is placed on obtaining agreements that are practical and workable, even if they are not entirely optimal from a conservation standpoint. Draft agreements are not formalised with the district at this stage. They establish the basis for a period of trial to assess their viability.

A village Conservation Management Agreement formalises the agreements reached during discussions of boundaries, zones and local rules. This is an exchange of commitments. Villagers receive formal recognition of some tenure rights and continued legal access to specific areas and resources. Likewise, they make commitments to respect the rules that they helped to create. These rules are recognized to be in villagers' own long-term interests, even though they may limit use of resources in the short-term. In this exchange, the protected area management team acquires a dependable partner.

The agreement should be written jointly by the LUP team and the Village Committee, or its Land-use planning and Land Allocation Sub-Committee (if this exists) and the village community. In other words, the agreement must have strong village ownership. The agreement should contain the following elements.

- An introduction stating the date, the purpose of the agreement, and the legal entities party to it.
- A map of village lands and boundaries (including the protected area boundary), drawn on either an enlarged ordinance survey sheet, or a sketch map.
- A clear indication on the map of all zones agreed to be village lands.
- A description of each zone, and the rules that apply to it, including any local rules.
- An indication of any initial requirements already agreed to such as i) appointment of a Village Forest Volunteers; ii) establishment of a land-use planning committee; iii) the amount and proposed use of any fines against infringements; or even iv) commitments to gun hand-ins.

An example format for the agreement is shown in Figure 4.4.

Figure 4.4. Example format for village conservation management agreements.

Province:.....District:.....Village:.....
Regulations for the Management and Care of Natural Resources in National Conservation Forest ofVillage
— In accordance with Decree 164 of 29/10/93 regarding the establishment of National Conservation Forests.
— In accordance with the Forestry Law, Article 42 (management of Conservation forests) and Article 63 (rights ad duties of village authorities, especially clause 6).
— In accordance with the agreement of village authorities and elders ofvillage, agreeing to develop these village regulations.
Article 1: <u>Introduction and Objective</u>
1.1 These regulations have been developed by participatory review, consultation and agreement between villagers of village.....and staff of
1.2 In order to provide education opportunities, training and an example of the sustainable use of natural resources for future generations.
1.3 Following the Government’s establishment of the National Conservation Forest, there should be the establishment (identification) of areas for i) total protection, ii) controlled use zone and iii) corridor zones.
Article 2: <u>Village boundary, and boundary/type of conservation forest in village</u>
2.1 The village boundary has been agreed to by the village and neighbouring villages, as signed by village chief and District chief (see attached agreements and maps).
2.2 The area and boundary of the national conservation forest within the village land has been surveyed and agreed to by village and staff (see attached agreement and maps).
2.3 Definition and delineation of the totally protected zone (<i>if identified/relevant</i>).
2.4 Definition and delineation of the controlled use zone, including Village Conservation Forest, Village Protection Forest and Village Use Forest (<i>if identified/relevant</i>).
2.5 Definition and delineation of the corridor (<i>if identified/relevant</i>).

Figure 4.4. (continued)

- Article 3: Regarding the management of forest (wood) resources**
- 3.1 No slash and burn in any area of NCF.
 - 3.2: No logging for sale in any area of NCF.
 - 3.3 No starting fires in the NCF.
 - 3.4 Collection of firewood or wood cutting for house construction is allowed in the defined areas of the CUZ. All instances of wood collection for house construction must be properly recorder by the Village Forest Volunteer.
 - 3.5 No building of houses anywhere in the CUZ/Village Forest.
- Article 4: Regarding Hunting and Fishing**
- 4.1 No hunting whatsoever in the TPZ or Village Conservation forest zone.
 - 4.2 In the Village Protection Forest and Village Use Forests, no hunting for sale, but certain species such as;.....,.....,..... plus fish, can be caught for family food, but not by the use of firearms, bombs, electricity, poisons etc.,
(what about destructive customary methods - large fish traps, metal traps etc, ?)
 - 4.3 Regarding protected species, no hunting whatsoever in any area, except with the specific permission of the local and ministry authorities.
 - 4.4 No use whatsoever of firearms, bombs, electricity, poisons, metal snares and crossbows for hunting of any animals in all of the NCF.
 - 4.5 No hunting whatsoever during the ‘Pansa’ (Buddist lent) period.
- Article 5: Regarding the gathering and use of NTFPs**
- 5.1 No gathering of any NTFPs in the TPZ.
 - 5.2 In the CUZ, gathering of NTFPs is allowed, but gathering must not extinguish the plants, in order that they can be harvested sustainably for the future generations.
- Article 6: Regarding cropping and animal raising**
- 6.1: No paddy field or other farming in the NCF, except with specific permission of the NPA and DAFO offices (and only then in the CUZ).
 - 6.2: No claiming of land in TPZ or CUZ-Village Conservation Forest for raising animals.
 - 6.3: In the TP zone, no release or raising of any animals is allowed , but in the CUZ-Village Protection Forest and Village Use Forest large animals may be released for grazing if permission is first obtained from the local NPA or District authorities.

Figure 4.4. (continued)

Article 7: Regarding tourism, or entry into conservation forest

- 7.1: No entry of tourists, either local or outsiders, in the TP zone except with the specific permission of the NPA authorities.
- 7.2: For areas which have been specified as tourist areas, tourism is allowed but must follow the regulations of local and other government authorities, and only after permission from both the District and village authorities.

Article 8: Penalties for offenders

- 8.1: First offenders in the CUZ will be warned and trained
- 8.2: First offenders who kill or catch totally protected species (in any place), or undertake forbidden agricultural, NTFP or other activities in the TPZ will be charged and fined according to the cost of the offence
- 8.3: Second offenders in the CUZ will be charged and fined according to the cost of the offence.
- 8.4: Second offenders who kill or catch totally protected species (in any place), or undertake forbidden agricultural, NTFP or other activities in the TPZ will be charged with a crime and face court hearings.
- 8.5: Third offenders in the CUZ will be charged with a crime and face court hearings.

Article 9: Policy regarding persons with achievements (rewards, incentives)

- 9.1: Individuals or groups/village authorities who have demonstrated good care and management of forest, animals and fisheries will be eligible to receive a small financial reward and a certificate from the village and district.
- 9.2: This regulation has effect from date of the signatures below:

Village Chief ; dated..... **Conservation Staff:**
dated:.....

sighted and agreed sighted and agreed
District Chief dated:..... **Head of DAFO** dated:.....

sighted and agreed
Village Land-Use Planning / Land Allocation Committee:

- 1..... dated:.....
- 2..... dated:.....
- 3..... dated:.....
- 4..... dated:.....
- 5..... dated:.....
- 6..... dated:.....

Village conservation agreements should be endorsed at a general village meeting, to which all members of the community are invited. The people of neighboring villages should also be invited to attend in order to facilitate village networking. The protected area team leader, the village headman, and the village LUP/LA committee should each sign the agreement, with witnesses to the signatures. The protected area management team might consider sponsoring a dinner, or *baci*, to celebrate the signing of the agreement.

After completion, the agreement should be sent to the DAFO or District Governor to be endorsed. Copies are supplied to the village and to the DAFO, and one is kept in the Protected Areas office. The signatures and ceremony may seem like a major procedure, but formality needs to be observed if the agreement is to be meaningful, and to have a good chance of being implemented.

CHAPTER 5

FOLLOW-UP AND SUPPORT

Draft land use and conservation agreements have to be tested in practice to assess if villagers can follow and implement them. The period of testing the agreements should last at least one year to evaluate if they are managing and using the forest and land resources as agreed. During this period, a variety of follow-up and support activities are initiated.

Networking activities

As practical testing of the agreements continues in the initial group of villages, the LUP process should be slowly expanded through other adjacent communities. This process links and coordinates the efforts of all villages and, over time, integrates them into a '*Community Network of Guardian Villages*' which, with the assistance of district NPA staff, cooperate and help each other in both resource conservation and livelihood development activities.

This networking approach has a number of advantages :-

- It enables new villages to learn from other communities who have more experience of the LUP process.
- The network has the authority to deal with infringements of one village's regulations by villagers from another community in the network.
- By linking villages to a common cause, it empowers the network to resist threats from external sources which might be beyond the capacity of any single village on its own.
- Both conservation and development initiatives can be shared and replicated through the network.
- It allows the incorporation of more macro-level conservation considerations into the LUP process, for example, maintaining contiguous forest habitat across a number of villages for animal migration needs, etc.

Livelihood development activities

Why include development activities in the LUP process?

Villages in and around protected areas are among the poorest in the country due to their remote position and the rugged and difficult terrain. Most families have no regular income and rely entirely on what they can grow or collect. Consequently, in times of crop failure, illness in the family or the need to buy school books they turn to the protected area as a source of food and income. By helping guardian communities solve these key economic problems, we can reduce their dependence on destructive and non-sustainable extraction of resources from protected areas.

Secondly, participatory forest and land use management planning is a two-way agreement between villagers and government. In the process villagers are asked to forego some of their traditional rights and to help with conservation activities. By helping villagers with their development needs, government is demonstrating its parallel commitment to the agreement.

Finally, through the process of livelihood development, communities become better

organised and are strengthened and empowered to better manage their own affairs and development needs. This helps prepare them for the task of forest land and conservation management which is more likely to succeed in cohesive, well-organised communities comprising capable people.

The approach to development described here, commonly referred to as integrated conservation and development (ICAD), is gaining in popularity throughout the world as a key component in participatory protected area management.

Scope of Activities

Development activities will vary from place to place according to local conditions and community needs. As a general rule, development activities should meet a number of key criteria.

Development activities should aim to :-

- Address priority problems and needs as identified by the villagers themselves.
- Focus primarily on those problems that are forcing families into destructive patterns of resource use in the NPA.
- Focus on the poorest of the poor or those families doing most damage to the protected area.
- Have a clear and demonstrable positive effect on natural resource conservation.
- Be cheap, simple to implement and give significant benefits with rapid results.

Interventions can be wide-ranging and may involve a number of different disciplines such as agriculture, water resources, health, education, infrastructure development, etc. In many cases, technical, material and/or financial support for these activities will need to be sourced elsewhere. These resources can often be accessed from other local projects, NGO's or aid agencies working in rural development with whom partnerships can be formed.

Important Concepts

ICAD attempts to improve the quality of life of guardian villagers by linking conservation with development in such a way that they support each other in a mutually beneficial manner. For example, eco-tourism increases family incomes through the sale of produce, handicrafts and food, and the provision of accommodation, guide services, etc. At the same time, it demonstrates to villagers the value and importance of the protected area and gives them a vested interest in conserving these resources to maintain their source of income from eco-tourism.

In order to implement ICAD activities successfully, a few key concepts need to be understood and followed.

- ICAD is *participatory* in nature and actively involves villagers in the entire process from needs assessment through activity planning to implementation and evaluation.
- It is *empowering* and aims to increase the capacity of guardian communities to better manage their own development needs.
- It is *community focused* and encourages cooperation among villagers in the

implementation of development activities which benefit the entire community.

- ICAD is *gender sensitive* and attempts to respond to the specific needs of women, in particular: family planning, domestic water and the management of NTFP's.
- It is *holistic* in approach and considers entire livelihood systems and their interactions with natural resources in the protected area.

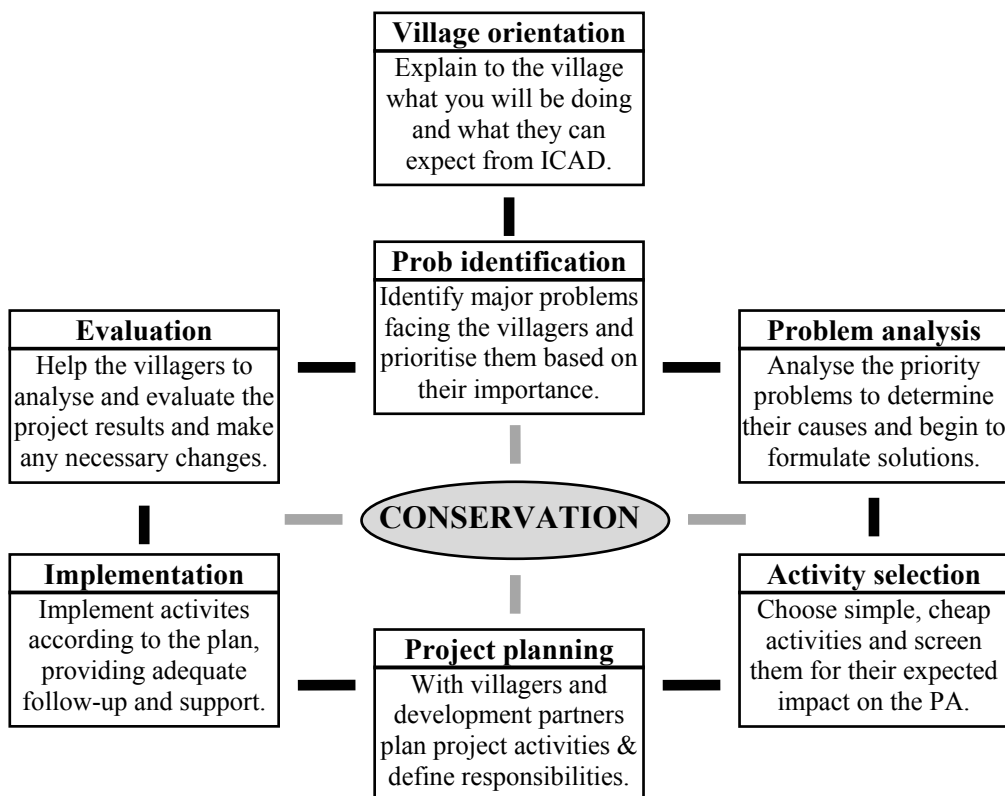
Key Steps

Although the planning and implementation of livelihood development activities can be initiated at any time, combining it with land use planning provides a number of benefits :-

- It demonstrates staff commitment to help villagers in return for community agreements on land use and conservation.
- It is less confusing to villagers and also less demanding of their time.
- It makes immediate and effective use of the information gained during land use planning, in particular problem census and socio-economic data.
- It makes the most efficient use of staff time and travel budgets.

ICAD comprises a number of sequential steps. Their sequence and how they relate to each other in the overall process is summarised in Figure 5.1.

Figure 5.1. Steps in the integrated conservation and development process.



Conservation agreements

After draft forest and land use management and conservation agreements have been drawn up, they should be tested and evaluated to assess if villagers can follow and implement them. This period of testing should last at least a full year to verify that it is appropriate for managing and using the forest and land resources effectively.

Effective monitoring of the draft land use and conservation agreements is essential during the testing phase. This is done through regular meetings of the community network, attended and supported by NPA, LUP and district staff. This helps to (I) solve inter-village problems, (II) share ideas on solving specific problems, (III) exchange experiences among villages, and (IV) strengthen the network. As agreements are jointly reviewed in this manner, any necessary changes are made to them and these modifications are then tested for a further period.

Ratification of agreements and land allocation

Once draft agreements have been shown to work satisfactorily, and villages can demonstrate that they are being followed and adhered to, they are ratified by the district authorities. It is only at this stage that formal land allocation begins. This entails surveying individual family land plots, comparing their productive potential with family subsistence needs, making any necessary redistribution among families and issuing land-use-right certificates to each household.

Monitoring activities

Monitoring is a participatory activity used to understand and assess the effectiveness and impact of the LUP/LA, conservation, and village livelihood development activities at village level. Villagers (both men and women), village organisations and relevant staff members are involved in monitoring activity. These groups of people are also be the end users of the results.

The Types of Monitoring

The three important types of monitoring activity in NPAs are:

- Assessing if problems exist with forest and agricultural land management and use, eg, are there disputes concerning village boundaries, forest use zones or agricultural land between villages in the village network or within individual villages themselves.

The intention of this type of monitoring is to ensure that various rules or conditions that have been agreed upon, documented and signed are being followed. This type of monitoring reveals transgressions and violations of rules. Offenders are subject to penalties including warnings, fines and court actions if the offence is very serious.

- Assessing if villagers follow the village land use management and conservation agreements, eg, are the villagers implementing the agreements on managing natural resources according to the land use zones and the rules defined during LUP.

The intention of this monitoring is to help strengthen the capability of the village committees and the villagers to manage and utilise the forest and land resources effectively and sustainably. The commitment and capability of the village LUP/LA committee to handle the management of forest and agricultural land is assessed and supporting advice provided. It is important to strengthen the ability of committee members and increase awareness and commitment of the villagers to prevent inappropriate practices and to facilitate the implementation of the promulgated village forest, agricultural land use and conservation agreements.

- Assessing the progress and effectiveness of the livelihood development activities that have been initiated with the community in the village.

The importance of development activities in conservation have been discussed above. Villagers need to receive benefits in return for the effort they make in conserving the natural resources. The monitoring of development or extension activities is therefore necessary to provide support to villagers while they test and evaluate the activities that have been started and to gather information and feedback to assist with future livelihood development plans.

Monitoring Methods

The following monitoring methods may be used:

- 1) Interviews with village committees
- 2) Interviews of individual farmers (men and/or women)
- 3) Gender dis-aggregated group discussions (men's and women's groups)
- 4) Field walks and observations with farmers

Information storage and management

Information collected and created during the LUP process will be very valuable for developing NPA Management Plans. District officials concerned with LUP in NPAs and the management of NPAs therefore need to co-ordinate the establishment of an information storage system at the District and NPA levels. This data will then be available for entry into an NPA Management Information System (MIS).

The information that needs to be secured and protected properly as it is collected or produced includes: socio-economic, land use, land allocation, population trends, problem census, problem solving, habitat, key wildlife species, hunting, fishing, trapping and NTFP collection. In addition, village boundary, land use zoning maps and village forest and land management agreements are produced which are important tools for planning and implementing conservation and development activities.

Cheap and practical methods of storage should be used. Data of various types and the boundary and land agreements should be filed in hard-back clip files while maps can be stored in plastic mapping cylinders. It is important that the village committees have copies of the agreements and individuals and families have copies of the temporary land use certificates issued during land allocation.

CHAPTER 6 LAND ALLOCATION

After draft village forest and agricultural land management agreements are working and being followed by villagers satisfactorily, they are ratified by the district authorities and formal land allocation begins. Four steps are associated with this stage of land use planning :-

- Land use and ownership data analysis
- Agricultural land allocation decisions
- Land parcel measurement
- Land use certificate preparation and transfer

These activities are conducted using the normal LA methods, particulars of which can be found in the “*Manual on Participatory Land Use Planning and Land Allocation*”.

A summary of the methods is presented below.

Land use and ownership data collection and analysis

Land use, land ownership and land claims data are collected for each family or individual using the same methods applied in non-NPA villages. This land data is examined with the socio-economic data to:

- Determine the agricultural land allocation criteria for the village
- Compare productive potential of land claimed with family subsistence needs.

The criteria are a set of simple guidelines which outline the amount of land families or individuals in the village should receive depending on family or individual circumstances. The comparison of productive potential enables villagers and staff to see if the land claims are realistic against the criteria, ie., are the families or individuals claiming too much or too little land for their future food and economic needs.

Agricultural land allocation decisions

A general village meeting is held with all families and individuals making land claims to make land allocation decisions based on the village land allocation criteria and the analysis of land claims previously made. The following tasks are completed:

- Examining the location of every parcel to ensure the parcels claimed are within the approved agricultural use area
- Resolving any disagreements between families about land claims
- Making any necessary redistribution of land parcels among families or individuals

Land parcel measurement

When all land claims have passed the steps above, the parcels are measured in the field, usually with a hand-held compass and measuring tape. This procedure involves:

- Preparing field maps and lists of families with land in sections of the agricultural zone
- Arranging families in groups to accompany staff to the various locations
- Surveying family or individual land parcels
- Resolving any further land disputes which arise as a result of field measurement
- Altering land ownership particulars if necessary

Land use certificate preparation and transfer

The data from field measurement is used to:

- Prepare land parcel maps
- Prepare Temporary Land Use Certificates (TLUCs) and Land Use Contracts (LUCs) for each family or individual
- Draw land parcels on the village land use zoning map
- Issue the land use documents to each family or individual
- Store copies of TLUCs and LUCs at the DAFO office

CHAPTER 7

LAND USE MANAGEMENT INFORMATION SYSTEMS

Land allocation records

Procedures and methods have been developed for securing and managing Temporary Land Use Certificate (TLUC) information. These are based on the preparation and operation of Temporary Land Use Certificate Record Books (TLUCRB)

TLUCRBs are kept at District Agricultural and Forestry Offices (DAFO) to record and maintain data on agricultural land allocated by the Ministry of Agriculture and Forestry (MAF) to villagers and other persons. These registers *do not relate* to land which has been recorded or registered by the Department of Lands (DoL).

Purpose of Temporary Land Use Certificate Record Books

Persons allocated agricultural land are issued with Temporary Land Use Certificates (TLUCs). This entitles them to use land for specified periods during which time they are expected to develop the land using stable and permanent land use practices.

If the land allocation data is not secured and protected, many land ownership discrepancies will arise. The TLUC Record Book is therefore an essential recording mechanism and tool to secure and protect the TLUC data.

Objectives of a Record Book

- To secure information about *ownership* of the land parcels for the benefit of both the farmers and the District Administration.
- To systematically keep the information contained in the *TLUC Documents* .
- To systematically keep land parcel information shown on the *Village Land Use Map*.
- To enable staff to easily find the main information contained in the TLUCs.
- To assist in discovering discrepancies in the data

Steps in Establishing the Register

There are nine steps in the procedure which have to be followed systematically and carefully to avoid making errors. The nine steps are as follows:

Step	Actions Required
1	Collect all TLUCs and Label each TLUC with consecutive DAFO Numbers.
2	Cross-check the details of each TLUC document against each accompanying Land Parcel Map.
3	Label each parcel on the Village Land Use map with a unique number.
4	Cross-check the details of each TLUC against the Village Land Use Map.
5	Transfer the parcel numbers from the Land Use Map onto the TLUCs.
6	Correct the errors found in the TLUC documents and the Village Land Use Map.
7	Transfer data from the TLUCs to the Parcel Checklist.
8	Compile the Register (Transfer the data on the Parcel Checklist to the TLUC Register Book).

9	Store the TLUC Register Book, Village Land Use Map and TLUC documents.
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Details of the procedures and methods within the nine step process are provided in Technical Booklet No. 5 “ Establishing Temporary Land Use Certificate Record Books”, August 1999.

Socio-Economic Information

The socio-economic and problem census data collected during LUP should be retained and stored as part of the NPA Management Information System (MIS). These data can be useful for protected area management generally, particularly for selecting priority villages for development, educational and awareness building activities.

If they are updated from time to time, these data also allow NPA managers to monitor the progress of development in guardian villages and to track how the key problems that are forcing villagers to rely on NPA resources are changing over time in response to variations in bio-physical and socio-economic conditions.

Conservation information

Similarly as with socio-economic information, conservation information collected during LUP on habitats, key wildlife species, hunting, fishing, trapping and NTFP collection and use should be retained as part of the NPA’s MIS.

Habitat and wildlife data collected during LUP are particularly important and can form the starting point and basis for the further development of a community-based, participatory wildlife monitoring system. Information held within the system can be updated through regular patrols which, rather than relying solely on wildlife evidence and sightings by the patrol itself, spend time in villages to collect information on sightings by villagers.

NPA management plans

Land use planning generates a wealth of information that will be valuable when developing an NPA Management Plan. After LUP has been completed in a number of high impact villages, a better understanding of the key threats facing the NPA will be developed. An understanding of how villagers livelihood problems are creating these threats will also begin to emerge from the problem census and analysis sessions, along with ideas for practical solutions to these problems. The ranges of some key species and their preferred habitats will be generated by the wildlife surveys and those species most threatened can begin to be identified from the hunting and wildlife use information collected during LUP. This wealth of information can be extremely valuable in the development of management plans, which are likely to be all the more effective as they will be based on and incorporate the perspectives of the NPA guardian communities.