FIELD GUIDE FOR VILLAGE LAND USE PLANNING

For Field Staff
of the Afforestation Project in Ha Tinh, Quang Binh and Quang Tri

November 1997

Table of Contents

1. Introduction
   It's easy to plant a tree. It's much harder to let the tree grow big.
   Village Land Use Planning is necessary.

2. Afforestation planning in the Project
   The three planning phases in the Afforestation Project are.
   Village land Use Planning, Site Mapping and Plantation Design

2.1 Village Land Use Planning
2.2 Site Mapping
2.3 Plantation Design

3. Planning approach
   Villagers participation and the role of the project Field Staff

3.1 Rights of participating farmers in this Project
3.2 Duties of participating farmers in this Project

4. Steps in Village Land Use Planning
   Activities at the Village, Commune and the District Level

4.1 Preparation of Village Work
4.2 Implementation of Village Work
4.3 Approval of the Village Forest Land Use Plan

5. Tools for Village Land Use Planning
Communication media for village discussions

5.1 Need assessment
5.2 The 3-D Model
5.3 Village Transect
5.4 Tree Species Preferences

6. Documentation and reporting

The report and maps on village land use

7. Budget

The Costs of village land use planning for a typical Commune

Appendixes

A. Criteria List for the selection of Afforestation Sites
B. Social-Economic data sheet
C. Summary of present land use and land use planning
D. Villagers Afforestation Proposal
E. Content of a VLUP proposal
F. Costs for Village Land Use Planning

Figures

1. Steps in Village Land Use Planning
2. Time Schedule for Village work on Land Use Planning
3. VLUP Documents and their approval
4. Matrix for General Needs Assessment
5. Matrix for Upland Needs Assessment
6. Matrix for Pair Wise Ranking
7. A 3-D Model or "Sand Table"
8. A Village Transect
9. Documentation of the Village Transect
10. Tree Species Evaluation by Farmers
11. The "100 Trees Question"
1. Introduction

The Afforestation Project

The Vietnam - German funded Afforestation Project in the Provinces of Ha Tinh, Quang Binh and Quang Tri started in July 1997. It's first implementation phase lasts until the year 2001. The Afforestation project aims at long term sustainable management of quality plantations by farmer households.

Why is Village Land Use Planning Needed?

Foresters often regard all "bare land" as suitable for afforestation while farmers on the other hand use this type of land intensively for agricultural purposes. That's also the reason why this land is bare. A proper planning of the uplands in close corporation with the actual users of the uplands can avoid these conflicts of interests.

The experience of many foresters in Vietnam:

- It is easy to plant a seedling
- It is much harder to make the planted seedling grow big

In other words, proper afforestation planning at the village level is an investment that pays back at a later stage and thus decreases the risk of failure of the plantations.

About this Field Guide?

The field guide is meant only as a quick reference for project Field Staff in their Village Land Use Planning work. It explains the most important steps and tools in the village Land Use Planning. Besides it covers the documentation and reporting format used in the afforestation project.

Field Staff can understand and use the field guide after a one-week training on Village Land Use Planning in which a more extensive manual for Village Land Use Planning is elaborated during which all tools have been practiced.

2. Afforestation Planning in the Project

Three main planning phases in the Central Vietnam Afforestation Project are:

- Village land Use Planning
- Site Mapping
- Plantation Design

Proper planning of afforestation is important in order to prevent failure of future plantation due to various socio economic, technical, administrative or juridical reasons. The Central Vietnam Afforestation Project follows three major planning phases in afforestation planning: Village Land Use Planning, Site Mapping and Plantation Design. This chapter explains each of the three planning phases briefly. The following chapters will deal with several aspects of Village Land Use Planning only.

2.1. Village Land Use Planning

The first step in afforestation planning is Village Land Use Planning. During this step villagers discuss about their present land use and their future land use needs. The purpose of Village Land Use Planning is to ensure consensus about the right choice and seize of the afforestation sites but also to reach agreement on the future use of all other forestland. Also discussions on tree species selection and Village Regulations for the protection of the future plantation will be initiated during the Village Land Use Planning work.

The purpose of Village Land Use Planning is to ensure Socio Economic Acceptance of the forest plantations by the villagers. It results into direct and indirect outputs:

Direct Outputs:
A Commune proposal for Village Forest Land Use and the location of the afforestation areas that has been achieved through a participatory process and has been approved by relevant authorities.

Locally controlled mechanisms and regulations that enhance the protection of the forest plantation (animal damage, fire, theft, etc.)

**Indirect Outputs:**

- awareness initiation and promotion of villagers participation aimed at sustainable use of all village forest land
- a micro plan enabling District level coordination with regard to Commune forest land development

The Project Field Staff is responsible for Village Land Use Planning. As Village Land Use Planning needs a high degree of participation by the farmers the role of the Field Staff should be focussed on facilitation discussions and guiding processes rather than on giving directions to farmers and telling them what is best for them or what they should do.

Village Land Use Planning for a Commune of 8 Villages which participate in the Project is expected to take 2 - 3 months time for a team of Field Staff composed of 2 - 3 members. This period already includes appraisal of the plan by Provincial Level Project Management Unit and official approval of the plan by District level authorities.

**2.2. Site Mapping**

The second phase in afforestation planning is Site Mapping.

Site Mapping is a rather technical step and is usually done with little direct involvement of villagers. In order to reduce work, site mapping is done only for the selected afforestation areas in the Village. During site mapping factors like soil, slope and vegetation cover are analyzed, assessed and classified systematically.

The purpose of Site Mapping is to ensure Technical Acceptance of the selected tree species for the site they are proposed. The result of site mapping is:

- identification of the most typical site types for each Commune
- a tree species recommendation for each site type

Site Mapping takes about 1 month per Commune of 8 villages and will be done by the Provincial FIP's on the basis of Guidelines for Site Mapping for the Afforestation Project. It can be expected that these guidelines differ for each ecological zone in the project area.

**2.3. Plantation Design**

Plantation Design is the best known step in afforestation planning in Vietnam. Plantation Design includes basic activities like area division, measurement, plot demarcation including map making. It also includes technical aspects like species selection, planting system and seedling needs. Finally it produces a cost estimation per hectare of plantation. Land allocation should either be initiated or finalized during the plantation design stage.

In the Afforestation Project the Plantation Design can be prepared by trained project Field Staff themselves. Plantation Design focuses here mainly on the organizational and financial planning of project plantations. The technical issues (site and tree species) have been covered already during the Site Mapping step that was done by specialists from FIP.

Plantation Design is meant to create **Administrative and Juridical Acceptance** of the afforestation areas by District and Provincial authorities. The outcome of Plantation Design is:

- a description of the proposed plantation area
- a lay-out of the plantation in the field (map 1:5,000) including compartment and lot number
- a list of participating households for each plantation and site
- a calculation of the number and quality of planting material needed for each plantation
- a technical description of management practices for the plantations
- a cost estimation for the planned plantations

The afforestation project has produced it’s own guidelines and standard forms for Plantation Design. For a typical Commune of 8 Villages including around 300 hectares plantation about 1 - 2 months time is required to
do plantation design.

3. Planning Approach

The role of the Project Field Staff and Villagers Participation

In the past afforestation projects have been very much target oriented. This has caused very high afforestation speeds but often also lead to “over planting”. The result was that non-permanent forest plantations were created with limited funds that could have been invested elsewhere.

The danger of “over planting” exists especially in those afforestation projects where farmers are directly involved and implement tree planting on up-lands that currently are used as farmland.

The land use problem:

Conflicts between planned (ideal) land use and actual land use in the field often happen where local resource users are forced to fulfill their daily subsistence needs directly out of the natural resources.

Village Land Use Planning is meant to assess the present and future needs by upland of resource poor farmers themselves. For this assessment a participatory approach is highly necessary and the role of the Field Staff is decisive for the quality of the results. The Project recommends some simple participatory tools for Village Land Use Planning which are described in chapter 5.

The role of the Project Field Staff

Proper two-way communication between farmer villagers and Field Staff is essential for using the tools and the following points should be taken into account:

- The Field Staff should make clear at the beginning which planning steps are going to follow and who will be involved (clearly defined activities)
- The Field Staff should rather facilitate discussions at village level than being the chairman of village meetings (not top-down!)
- The Field Staff should create an open atmosphere during the meetings and see to it that participants equally participate (also woman!)
- The Field Staff should not force decisions to be taken if villagers are not yet ready for it (flexible time schedule)

Villagers Participation

The plan to be produced by the villagers is a plan for the use of their uplands for a period of five years. Villagers are not used to make five-year plans and are also not used to commitments that goes along with the approval of the plans.

The Field Staff has the task to make clear to farmers that both right and obligations for farmer household are part of the consequences of village land use planning. These right and obligations should be formulated in such a way that they benefit both the farmers as well as the forest department if they are to be successfully implemented.

Rights and Obligations always go together in an agreement:

- the right to use forest land and to join the afforestation project the duty to follow the agreed upon forest land use plan and
- the agreed upon village regulations

3.1 Rights of participating farmers in this Project

Villagers that participate in the Afforestation Project have the following rights:
the right to obtain quality seedlings
the right to obtain inputs for trees (e.g. fertilizer) if needed
the right to obtain a land tenure certificate (LTC)
the right to receive a savings account book
the right on the produce of the plantation

3.2 Duties of participating farmers in this Project

Villagers that participate in the Afforestation Project have the following obligations:

- the obligation to plant the received seedlings according to the planting instructions of the project
- the obligation to tend the plantation according to the agreement with the government
- the obligation to protect the plantation according to the land use plan and village agreements
- the obligation to manage the plantation according to existing rules and regulations

4. Steps in Village Land Use Planning

Activities at the District, Commune and the Village Level

Three major working areas can be identified in Village Land Use Planning:

- District level work
- Commune level work
- Village level work

Field Staff is also required to do indoor work for the preparation of meetings, processing of data, report writing and especially for map making. The figure on the next page shows all major steps in Village Land Use Planning.

4.1 Preparation of the Village Work

Introductions at the District, Commune and Village

Village land use planning work can only start after all relevant parties have been informed about the objectives of the village land use planning. Parties that have to be informed are the People Committee at District and at the Commune Level. At an introductory meeting at first the District later the Commune Field Staff should explain about the project and its afforestation planning and approval procedures. Visual extension materials (flipcharts) should be used at these occasions.

At the village level it is also preferable to hold an introductory meeting before the actual implementation of the village land use planning. During this meeting all village members should join and key informants can be selected which will assist in the four days of village land use planning.

At this moment also base maps (15000 with village boundaries!), materials for the 3-D model, information sheets and budgets should be prepared.

4.2 Implementation of Village Work

At least four working days are necessary in each participating Village for initiation of the discussion on land use planning. An example of the schedule of activities in each Village is shown in the following table.

The days should be adjusted to the availability of the key persons involved during the four days of Village work. If necessary, extra days should be added.

Village Regulations do not have to be finished at the final Village meeting. Usually it will take more time to produce them. They should be ready at the time of tree planting however.
All village activities are described in short hereafter. Details of each step have been explained during the V-LUP training and are described in the V-LUP training manual. The tools are explained extensively in chapter 5 of the field guide.

1. **Collection of Village Data**

During this short session the Village head is asked to present some basic social-economic Village Data which are relevant for Land use Planning. For this he may use the Village Data sheet format that was provided to his during the introductory Village meeting and which should have been filled out by now.

2. **Village Needs Assessment**

A Village needs assessment at the beginning of the planning period is necessary in order to get a better picture of the social-economic situation in the Village. The first assessment is general but the second one focuses to the upland needs of the villagers. The villagers will also give priorities for their needs through the "pair wise ranking" exercise.

3a. **Present Land Use (start)**

Before future land use can be planned we need to know the present land use status in the village. As the land use plan will only be for forestland or upland we concentrate on the uplands. Some key informants will produce the 3 Dimensional model or "sand table" of the village as an ideal "living map" for farmers who are not used to read and use ordinary maps.

Present land use will be indicated on the sand table by different colors. Typical landmarks have to be named with small objects or names.

3b. **Present Land Use (finish)**

As more and more farmers will help producing the sand table the more improvements will be suggested. The shape of the village on the sand table should be adjusted anytime needed. It is very important that the sand table finally reflects the reality in the village, as it serves as the basis for mapmaking.

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<thead>
<tr>
<th>Day 1</th>
<th>1. Collection of Village Data</th>
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<tbody>
<tr>
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<td>2. Village needs assessment Matrixes</td>
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<td>3a. Present Land Use (start) 3-D model</td>
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<td>Day 2</td>
<td>3b. Present Land Use (finish)</td>
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<td>4. Map making</td>
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<td>5. Village Transect Flipchart</td>
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<td>Day 3</td>
<td>6. Future Land Use Plan &amp; Afforestation Plan</td>
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<td>7. Tree Species Selection Tree preferences</td>
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<td>8. Village Agreements</td>
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<td>Day 4</td>
<td>9. Final Village Meeting</td>
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</table>
4. Map making (present land use)

Information from the sand table should be transferred now to the base map (15000). The map can be brought then to the field for completing the details. The sand table should remain however the most important tool during the farmer discussion on landuse.

5. Village Transect

The Village transect is made just before or after the 3-D model is finished. It will produce relevant information on present land use and it will identify certain farmers' criteria on land use. The result is a cross section of the village with a summary of all typical major land uses including some basic data about the site, soil, crops, etc.

The information collected during the village transect is the systematic background for the future land use planning. This will enhance the decisions on future land use planning and the selection of the afforestation sites.

6. Future Land Use Plan & Afforestation Plan

At the beginning of day 3 the key informants are required to make a proposal for future forestland use including the afforestation planning. Present and expected future need for forestland for agricultural purposes should be considered now such as:

- the future need for grazing areas
- the future need for agro-forestry areas
- the future need for bare land (swiddens)
- the future need for expansion of the settlement

The selection of the afforestation sites should follow project criteria and they are to be considered now. It is of crucial importance to select afforestation sites according to minimally the following criteria:

- far away from selected grazings
- not in `conflict areas' (Village / Commune border problems)
- not at temporary forest land (the bottom part of hills)
- on reasonable fertile soil

It is important not to `over plan'. As a rule of thumb it is wise not to plan more than 40% forest cover for the coming 5 years in order to meet the future upland needs of the villagers, so to guarantee the success and security (protection) of the plantations.

The complete list with criteria for the selection of afforestation sites is appended to this Field Guide in Appendix A.

7. Tree Species Selection

As farmers will be the future owners of the plantation it is very important that they can indicate themselves their preferences for tree species. The session on tree species selection is meant to collect experiences of farmers with tree species and to collect their ideas and preferences for tree species.

Tree species selection should also follow the site mapping that will be done at a later stage when village land use planning is finished. This exercise should therefore be seen as indicative and not as the final decision on tree species selection.

The tools as described in chapter 5 are also not meant to find out the most suitable or best tree for the village but should be understood as an indication of farmers priorities for tree species.

8. Village Agreements

Village agreements are essential in order to ensure protection of the forest plantations. Village agreements should be village based and not formulated top-down. Normally a small group of knowledgeable persons assist the village head in formulating the agreements.
It will take considerable time to formulate village agreements therefore they should not be finished on the fourth day of the village work. They should be finished only by the time of the final Commune meeting but are subject to changes anytime according to the actual needs. Village agreements are actually needed only by the time of first planting and they could therefore be enforced or strengthened during regular cultural or social yearly events in the village (e.g. TET).

Village Agreements are supposed to enhance social stability in the village with regards to the establishments of tree plantations. They don't have and should not have a formal character of 'regulations' which need official approval. It is sufficient however that the Commune head acknowledges the Village agreements during the final Commune meeting.

9. Final Village Meeting

The final Village meeting will take half a day but follow-up on some topics might still be necessary afterwards. The final Village meeting is meant to report the results of three days village work and to reach consensus on the future land use plan and afforestation areas.

Topics that usually come up during the final village meeting are related to land issues such as:

- border conflicts between villages / communes
- land rights inside the village
- Land Allocation
- (re)division of land for the project

The Field Staff should be prepared to face these issues together with the farmers. He should not expect that all issues could be solved easily. The attitude of the Field Staff is very important at this moment. He should rather let the farmers propose solutions for their (usually very old) land problems then to try to solve the problems himself for the farmers. Some issues might even need another special meeting before consensus can be reached.

The direct outputs of the four days Village Land Use Planning are mentioned in the following box on the next page.

**Direct Outputs of V-LUP at Village Level after four days:**

**General Village Data**

- village secondary social-economic data
- village needs priority list
- documentation on land use development
- documentation of village income sources

**Village Transect Sketch**

- with basic production data
- with local classification of soils / sites

**Maps (1:5.000)**

- present land use status map
- land use planning map
- (with village land use data sheets)

**Tree Species Preference**

- list of preferred Tree Species
- including priority of preferred tree species

**Village Agreements**
• concept of village agreements
• (to be acknowledged at the commune meeting)

*Indoor Work and Consultations with District Sectors*

After Village work is finished in all participating Villages in the Commune time is needed for indoor work. The following work should be finished before the final Commune meeting:

• finishing provisional village maps (present and future land use)
• aggregating village data (area estimations and measurements) to become Commune data (Appendix B, C and D)
• production of provisional aggregated Commune Land Use maps (present land use and future land use planning maps) consultations with relevant sectors at the District level in order to coordinate with District macro plans

Appendix E finally provides an example of a content list of the Commune report for Village Land Use Planning.

4.3 Approval of the Village Forest Land Use Plan

*Final Commune Meeting*

During the final Commune meeting the Commune Forest Land Use Plan is presented to all involved Village heads and relevant Commune sectors officials. Consensus should be reached about the Forestland Use Plan that will be binding for a period of five years and about the selection of the afforestation areas including priorities. Afforestation areas should follow the criteria as mentioned in appendix A and ideally they should be block-plantations which contribute to the formation of so called "forest management units".

*Characteristics of Forest Management Units are:*

• they are homogenous units with forest or agro-forestry as main land use type ("permanent forest cover areas")
• they are based on the topographical situation (e.g. should cover a whole hill)
• they respect natural boundaries (such as rivers and roads) as well as administrative and management borders (such as Commune and Village borders)
• they should include natural regeneration areas / existing (broadleaf) tree stands (if existing)

*Preferably forest management units:*

• are far from grazing areas
• are not too close to residential areas
• include local micro watersheds
• are accessible by (future) infrastructure

*Final District Meeting*

District Level authorities have to approve each Village Forest Land Use Plan (VLUP). If consultations by Field Staff with the relevant District sectors have taken place already before the final Commune Meeting no major comments and changes to the plan are to be expected at this moment.

During the final District meeting also the District Project Management Unit will present its' appraisal of the Village Forest Land Use Plan. This appraisal was done with the help of the "Village Land Use Planning Appraisal Guide" for District Project Management Units as provided by the project.

Both the Village Forest Land Use Plan as well as the District PMU Appraisal has to be checked by the Provincial PMU before submission in the final District meeting. The objective is to see that Land Use Plans have been formulated, understood and appraised well.

Approval of the Village Forest Land Use Plan (VLUP) by the District means:

• Commitment by the District for a period of minimally five years for the functions as assigned to the
Commune Forest Land including the recommended distribution and phasing of the afforestation areas.

- Support to the development of Commune Forest Land along the directions set by the proposed forest land use plan
- Approval of the recommended village priorities with regard to implementation of afforestation areas
- Support by the District to necessary land (re) allocation procedures in line with government regulations
- Acknowledgement of, and support to the development of Village agreements which enhance Village social security.

5. Tools for Village Land Use Planning

*Communication media for village discussions*

Four major tools are used during Village work in Land Use Planning. Field Staff should understand the objectives of each of them well and become skilled in using them.

5.1 Needs Assessment

*What is needs assessment?*

A need assessment gives insight in actual problems as felt by villagers. Needs assessments can be intensive and time consuming (e.g. PRA) or can be simple and fast. For the purpose of afforestation planning the project uses two simple needs assessments. One on general needs (A) in the village and one on `forest production' related needs (B).

*Why to do a needs assessment?*

The information collected during the needs assessment should be used by the Field Staff as input during discussions in the Village that are related to Village Land Use Planning and Afforestation Planning. A needs assessment at the beginning of the first day of the Village Work also gives the Village head and participating key farmers the opportunity to express their ideas and give their opinions freely before they have been influenced by several days of Village Work with Project Staff.

*How to facilitate a needs assessment?*

During the needs assessment we use large sheets of paper to document and group the ideas of the farmers. The paper is divided into three parts with the headings as presented in figure 4.

**Figure 4. Matrix for General Village Needs Assessment**

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<th>TOPIC / PROBLEM</th>
<th>POTENTIAL</th>
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It is recommended first to collect all topics / problems related to Land Use before asking for potentials and action needed for each topic. The list of topics / problems may be long and enough time should be given to
farmers and participating woman to express their ideas. It is very important that the Field Staff sincerely tries to understand the background of each problem. This creates thrust and mutual understanding and will make further work and planning in the Village easier for Field Staff, Extension Worker and farmers.

It will take up to 1.5 hours before the general needs assessment is finished. After a small break we continue with the second needs assessment for which the headings according to Figure 5 are prepared.

**Figure 5. Matrix for Upland Needs Assessment**

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<th>TOPIC / PROBLEM</th>
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*Priorities through "Pair Wise Ranking"*

The needs assessment for forest production is finalized with a priority ranking through "pair-wise ranking". This is a simple method to weigh the importance of each problem as felt by the villagers and to arrive at the major and minor problems.

All topics are written both on top of an empty sheet of paper as well as along the left vertical side (Figure 6). Each time two topics are judged on their importance. The more important one is listed on the intersection. After all topics have been compared with each other one by one, the one listed most often is the most pressing problem, the one least mentioned the least pressing, etc.

**Figure 6. Matrix for "Pair Wise Ranking"**

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*5.2 The 3-D Model*

*What is a 3-D Model?*

The 3-D Model, also called "sand table" is a micro representation of the geomorphology of a village. It is made
mainly out of sand and should be produced by some knowledgeable villagers. It will take them only some time
to form the main features of a village out of sand but it will take considerable more hours to shape the details
according to reality.

**Why to produce a 3-D Model?**

The main objective of the sand table is to facilitate discussions on land and land use by groups of farmers. In
contrary to maps that farmers generally are not able to read, the sand table is very easy to understand.

Maps are produced by outsiders and usually don't represent reality. The sand table can be shaped and
adjusted by the users until everybody is satisfied. Producing and working with the sand table is often fun for
farmers. Their village and the surrounding places gradually becomes visible while making the "living map".

**Preparation for the 3-D Model**

Some essential materials have to be prepared in advance by the Field Staff:

- wooden box (seize 1m x 1m and about 10cm deep)
- ranculi powder (five different colors, 100 gram each)
- sand for making the model (200 liter, dry and clean)

Other materials can be found in the village while producing the 3-D Model:

- small sticks as markers
- small pieces of paper to indicate names

The materials that are only needed in order to give the 3-D model its' final permanent form are:

- gypsum (or cement)
- paint (several colors)
- a cover for the 3-D model (mica)

**Making the 3-D Model**

The selected key informants are asked to start shaping the village according to the following features:

- mountains, hills
- rivers, streams
- roads, railroads
- settlements, houses
- borders between Villages / Communes
- other important landmarks

Names should be given (small pieces of paper) to all major areas (summits, valleys, hamlets, etc.) which are
easy to recognize in the field.

Finally existing land use should be indicated with different colors of ranculi powder:

- existing forest, plantations
- bare land
- rice fields / lowland
- lakes, water resevoirs, etc,

Once the 3-D model is finished it should be protected from playing children and animals like chickens, pigs,
etc. as it is to be used many times during village discussions.

**How to facilitate the process of 3-D making and its' utilization?**

The role of the Field Staff during the making and utilization of the 3-D model should be modest. The Field
Staff should only guide the key farmers who have to understand why they make a 3-D model. Finally the
model will also stay in the Village and it will belong to it.

During the land use planning the 3-D Model will be intensively used and any time later when there are discussions on land related issues the 3-D model can be used to make clear what areas are involved.

5.3 Village Transect

What is a Village Transect?

A Village Transect is a simplified drawing of typical land use types in a Village. It is made by Field Staff during a Village walk through the most representative sites of a Village. The walk is done together with key farmers that have knowledge about the land use situation in their Village. Criteria for certain types of land use are identified and documented during a Village Transect exercise. It takes about half a day to produce a Village transect including discussions.

Why is a Village Transect helpful in Village Land Use Planning?

A Village Transect can help in the Village discussion on present and future land use. In the first place it helps the Field Staff in understanding the land use situation in the Village. Secondly it documents criteria on land use that are based on farmer experience and farmer knowledge.

How is a Village Transect made?

A Village Transect always starts with a Village Walk done by Field Staff together with the selected key farmers. The Village Transect can best be made after the 3-D model is finished. The 3-D Model can then be checked during the Village Walk. It is important to take enough time for doing the Village Walk. Only when there is a relaxed atmosphere the key informants will tell abundantly about their land use system, including the use of uplands for agricultural purposes.

It is good to look at indicator plants for certain site types and to ask for some basic data as yields, important tree species and typical land use problems. Also border conflicts / issues can be discussed during the Village walk.

After coming back in the Village a summary of the Village Transect should be documented on a big sheet of paper. The headings of the left column are given in the next Matrix.

Figure 9. Documentation of the Village Transect

<table>
<thead>
<tr>
<th>Land use type</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Land Status</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Socio-Economic</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Natural</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>+ Slop</td>
<td></td>
</tr>
<tr>
<td></td>
<td>+ Fertility</td>
<td></td>
</tr>
<tr>
<td></td>
<td>+ Vegetation</td>
<td></td>
</tr>
<tr>
<td>Present Land Use</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Difficulties</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Future Land Use Plan:</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
It won't take much effort to identify the most typical land use types when coming back from the Village Walk. While sitting in a circle the farmers will easily give the information for the matrix to be filled out. The discussion during this session are very important for the next step (No. 6) in the Village Land Use Planning, the Future Land Use Plan and the Afforestation Plan.

5.4 Farmers' Tree Species Preference

Another important tool used in Village Land Use Planning is the tool for finding out the farmers' preference for tree species to be planted. Usually farmers base their idea on tree species preference on aspects like easy growing and multi functional. However usually there's no ideal tree that full fills all wishes of all farmers. As the project doesn't intend to plant large pure stand plantations we can get an idea of a suitable species mix through the following exercises.

Farmer Tree Species Evaluation

First the key farmers are asked for their ideas on tree species for afforestation. All preferred tree species are listed along the horizontal top of a big piece of paper or on the blackboard. The aspects on which each tree species is evaluated are then chosen and written on the most left column of the table. Ranking should be with a letter (A,B,C,D) where A represents the best and D the worst. Ranking should not be done with a figure as adding up figures will automatically lead to the identification of the "wonder tree" which doesn't exist. An example of a table used for tree species evaluation is given in the following figure.

![Figure 10. Tree Species Evaluation by Farmers](image)

<table>
<thead>
<tr>
<th>Aspect</th>
<th>Acacia</th>
<th>Eucal</th>
<th>Pine</th>
<th>Anona</th>
</tr>
</thead>
<tbody>
<tr>
<td>Likes good soil</td>
<td>B</td>
<td>A</td>
<td>B</td>
<td>B</td>
</tr>
<tr>
<td>Soon first harvest</td>
<td>B</td>
<td>A</td>
<td>C</td>
<td>A</td>
</tr>
<tr>
<td>Good fire wood</td>
<td>B</td>
<td>A</td>
<td>C</td>
<td>D</td>
</tr>
<tr>
<td>Improves soil</td>
<td>A</td>
<td>C</td>
<td>A</td>
<td>A</td>
</tr>
<tr>
<td>Few diseases / pensis</td>
<td>A</td>
<td>A</td>
<td>B</td>
<td>A</td>
</tr>
<tr>
<td>High Economic Value</td>
<td>C</td>
<td>B</td>
<td>A</td>
<td>A</td>
</tr>
<tr>
<td>Easy to market</td>
<td>C</td>
<td>A</td>
<td>A</td>
<td>A</td>
</tr>
<tr>
<td>Preferred by woman</td>
<td>B</td>
<td>A</td>
<td>C</td>
<td>A</td>
</tr>
<tr>
<td>Total evaluation</td>
<td>-</td>
<td>A</td>
<td>B</td>
<td>A</td>
</tr>
</tbody>
</table>

It should be clear that the outcome of the evaluation does not determine the tree species to be planted in the Village by the Project. It only serves as additional information for the Field Staff and Farmer in the Tree Species selection that will be done at a later stage. The outcome of the Site Mapping e.g. is also very important in the tree species selection.

The "100 Trees Question"

The final discussion on farmer tree species preference is done through the "100 Trees Question". Here a number of farmers are asked how many of what type of trees they would plant if they can plant only 100 trees. Here the farmer will consider the results from the Tree Species Evaluation and he will draw conclusions for his own situation. The results of this question can be collected in a table like in Figure 11. Of course the outcome here again does not reflect the "best" tree species to be planted.

![Figure 11. The "100 Trees Question"](image)
7. Budget

Costs of village land use planning for a typical Commune

Appendixes to

Field Guide for Village Land Use Planning

Appendix A

Criteria List for selection afforestation sites

<table>
<thead>
<tr>
<th>Person</th>
<th>Acacia</th>
<th>Eucal</th>
<th>Pine</th>
<th>Anona</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mr. 1</td>
<td>50</td>
<td>20</td>
<td>10</td>
<td>20</td>
</tr>
<tr>
<td>Mrs. 2</td>
<td>50</td>
<td>10</td>
<td>30</td>
<td>10</td>
</tr>
<tr>
<td>Mr. 3</td>
<td>60</td>
<td>-</td>
<td>40</td>
<td>-</td>
</tr>
<tr>
<td>Mr. 4</td>
<td>50</td>
<td>10</td>
<td>30</td>
<td>10</td>
</tr>
<tr>
<td>Mrs. 5</td>
<td>40</td>
<td>20</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Priority</td>
<td>1</td>
<td>3</td>
<td>2</td>
<td>4</td>
</tr>
</tbody>
</table>

Background:

The project **aims** at establishment of block plantations which contribute to the development of sustainably managed forest managements units at the commune level. The strategic selection of afforestation sites is the basis for long term security of the plantations and can enhance the development of forest management units at the commune level which have locally ecological impact.

<table>
<thead>
<tr>
<th>Group</th>
<th>Criteria</th>
<th>Ranking</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Location</td>
<td>the selects afforestation sites contribute to the formation of &quot;forest management units&quot; on the commune level</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>the afforestation site should have a relative short common border with neighboring communes</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>afforestation sites should preferably be isolated areas (no interaction with grazings, swiddens, etc.)</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>priority should be given to permanent forest land (far from residential areas)</td>
<td>1</td>
</tr>
</tbody>
</table>
not closer then 200 meters to provincial / district roads 2
not closer then 50 meters to commune / village roads 2
close to possible seedling supplier (wet season) 2
soil conditions suffice for economic attractive financial return of plantations 3
afforestation sites have not been covered with forest for the last five years 3

Forest Management Unit
cover land from at least some bordering villages 2
are not close to residential areas 2
include micro-watershed areas 2
include "permanent forest cover areas" 2
might include natural regeneration areas 3
might include enrichment planting areas 3
are accessible by (future) infrastructure 2

B. Bio-Physical
1

Topography
not on bottom 20 meters of rolling hills (which have agro-forestry function) 1
not on isolated islands of small hills < 1 ha (is temporary forest land!) 1
not on only one side of the hill 1

Soil Condition
(see site matching recommendations) 1

Existing Vegetation
(see site matching recommendations) 2

1= compulsory
2= important
3= supportive

Appendix E

Contents of a VLUP proposal

1 DESCRIPTIVE SUMMARY OF THE COMMUNE

1.1 Bio-physical condition

• Location and accessibility
• Topography and soil
• Existing vegetation status
• Typical transect of the commune

1.2 Socio economic situation

• villagers needs (result needs assessment)
• future development directions (commune 5 year development plan)
• integration of micro and macro planning

1.3 Present Land Use

• land pressure (population and farm animals)
• critical areas in the commune

1.4 Land Use Planning

• identified forest management units
• villagers priorities in afforestation areas
• villagers priorities in &forestation species
• ecological (micro) effects of afforestation

1.5 Human resources and village organization

• villagers commitment to participate
• labour availability
• development of village agreements

2. COMMENTS BY THE DISTRICT SECTIONS (2 empty pages)

APPENDIXES

1. List of villages involved in- and excluded from M-LUP (with argumentation)

2. List of persons involved in M-LUP and time schedule of implementation

3. Summary tables of village and commune land use:

   Table A: Summary of land use in the commune

   Table B: Compilation of present Land Use in the commune

   Table C: Compilation of land use planning in the commune

   Table D: Compilation of commune secondary socio-economic data

4. Maps:

   Commune present land use map (scale 1:10.000)

   Commune future land use planning map (scale 1:10.000)