

# Technical guidelines - **COMMUNITY FOREST MANAGEMENT**



Hanoi, January 2006

## **Extension and Training Support Project for Forestry and Agriculture in the Uplands (ETSP), Project Management Unit (PMU) and consultants**

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These CFM technical guidelines have been elaborated based on a number of existing documents on the topic of CFM:

- 1) Social Forestry Development Project (SFDP) GTZ/GFA, 1999: CFM training package.
- 2) Rural Development Project Dak Lak (RDDL), 2004: CFM guideline.
- 3) Bao Huy et al., 2004: Establishment of forest and forest land management model basing on ethnic groups Jrai and Bahnar in Gia Lai. Gia Lai Peoples Committee, Science and Technology Department.
- 4) Extension and Training Support Project for Agriculture and Forestry in the Uplands (ETSP), 2005: The field guide for facilitator of CFM ToT training course, Hanoi.
- 5) ETSP CFM documents from 3 CFM ToT training modules in 2005.
- 6) Documented experience gained during the ETSP establishment of forest management plan, implementation and monitoring in the three partner provinces of Hoa Binh, Thua Thien–Hue and Dak Nong.
- 7) The comments and issues/ideas raised by participants in the final CFM sharing workshop in Hue on the 14<sup>th</sup> of October 2005.
- 8) Other documents from related projects working on the same topic.

**With major contributions from Mr. Philipp Roth, forestry expert with special expertise on collaborative forest management from GFA Consulting GmbH, Hamburg – Germany.**

With the support and contribution from key CFM groups from Hoa Binh province, Thua Thien-Hue province and Dak Nong province.

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## **Abbreviations**

<b>AES:</b>	Agriculture Extension Station
<b>CPC:</b>	Commune Peoples Committee
<b>CFMB:</b>	Commune Forest Management Board
<b>DARD:</b>	Department of Agriculture and Rural Development
<b>DPC:</b>	District Peoples Committee
<b>ETSP:</b>	Extension and Training Support Project for Forestry and Agriculture in the Uplands
<b>FPDR:</b>	Forest Protection and Development Regulations
<b>FPD:</b>	Forest Protection Department
<b>FPU:</b>	Forest Protection Unit
<b>LUP/FLA:</b>	Land Use Planning/Forest Land Allocation
<b>MARD:</b>	Ministry of Agriculture and Rural Development
<b>NTFP:</b>	Non-Timber Forest Product
<b>SFM:</b>	Sustainable Forest Model
<b>VFMB:</b>	Village Forest Management Board
<b>VDP:</b>	Village Development Plan

# Part I : Introduction

## 1.1 Background for the elaboration of CFM technical guidelines

The **Land Law** from 2003 and the revised **Law for Forest Protection and Development** (endorsed in November 2004) highlight the relevance of Community Forest Management (CFM), in which the role of the local population and their traditional forest management are considered key elements of resource management. It is expected that through this (new) approach the forest resources are managed in a more sustainable manner. Simultaneously, the use of resources can contribute to improve the livelihoods of local forest tenants. CFM is normally introduced after forest land is allocated to the local village community. The allocation means, that the village population has the right to use the resources in a way that is in line with the current legal framework.

The introduction of Community Forest Management (CFM) involves a variety of changes that can only be achieved by common efforts. They include changes in the policy framework, as well as the introduction of new management procedures and technologies. An important aspect is the elaboration of appropriate financial mechanisms on the grass root level.

The Extension and Training Support Project for forestry and agriculture in the uplands (ETSP), commonly managed by the Ministry of Agriculture and Rural Development (MARD) and Helvetas Viet Nam, has committed itself to promote this form of natural resource management. The project has recently initiated a CFM Training of Trainers (ToT) course for forestry officers from three provinces - Hoa Binh in the north, Thua Thien–Hue in central Viet Nam and Dak Nong in the south. The aim of the ToT training was to make sure participants receive a comprehensive understanding of all aspects of collaborative forest management and that the trainees will become key persons in developing and promoting CFM in their own provinces after the course. The training was divided into 3 modular units conducted over a time period of seven months:

### a) **Module 1:**

Was organised in Hoa Binh with the purpose of clarifying the methodology of CFM and introducing and practicing tools and methods in participatory forest inventory, elaboration of forest management plans and design of forest protection and development regulations. In the time between Module 1 and Module 2, ToT groups elaborated CFM trials in their respective province which included a five-year forest management plan and forest protection and development regulations

### b) **Module 2**

Was organised in Dak Nong province to reflect the process and exchange experiences and lessons learnt from field implementation. This module provided ToT participants with facilitation skills, skills for collaborative conflict management in natural resource management and provided the opportunity to discuss benefit sharing mechanism and administrative procedures necessary for CFM. Between Module 2 and Module 3, the five-year forest management plan and forest protection and development regulations from the three trial implementations were submitted to provincial and district authorities for consideration and approval. Furthermore, tentative harvesting procedures were designed.

### c) **Module 3**

Was organised in Hue to reflect and share the results of the ongoing CFM process in the trials, particularly the progress of the implementation of forest management plans. In addition, proposed administrative procedures, as well as CFM technical guidelines and simple silvicultural guidelines were presented as new inputs for discussion during the module.

The establishment of CFM systems begins with the elaboration of the five-year forest management plan. This plan is elaborated by the local population and allows to compare the timber supply situation with the timber demand situation – both assessed on village level. This information is necessary for properly defining a management system of the forest resources. In a second step, local forest protection and development regulations are designed, which have to be in accordance with the current legal framework. To implement the forest management plan properly, simple sivilculture guidelines for villagers are needed, and providing training for villagers on this topic is a prerequisite for successful management. Last but not least, appropriate monitoring mechanism and cost effective system have to form the basis for a successful implementation.

The elaboration of these technical guidelines intends to support the CFM process. These guidelines consist of a chronological description of all steps that are necessary to introduce CFM in a local village: the participatory forest inventory, the elaboration of the five-year forest management plan, the development of forest protection and development regulations and the clarification of roles and responsibilities of all stakeholders involved in the CFM process. It is important to notice, that throughout the manual the village level is considered the most important stakeholder in the CFM process. This also means, that the village gets the opportunity to enhance its management capacity and develop mechanisms that allow the village community to make its own decision related to common resource management.

## **1.2 Objectives and target group of these guidelines**

### **1.2.1. Objectives of these guidelines**

- Provide information on the principles, methods and technical procedures for CFM. Highlighting the participation of related stakeholders and especially the role of the village community in the process.
- Present the main steps for the elaboration of the five-year forest management plan and forest protection and development regulations – including monitoring and evaluation of the process.

### **1.2.2. Target group of these guidelines**

The target group of this guidelines are government departments related to the forestry field and facilitators in CFM process, including:

- Government officers working in the forestry field at different administrative levels. They can use the guidelines for decision-making and monitoring related to CFM, as well as to create favorable conditions for CFM.
- Officers from DARD, FPD and other departments at district level such as FPU, AES, forest enterprises, village forest management boards, commune extension service etc.

This manual can further be used by universities and vocational schools to train students. Technical staff can use it as introduction to CFM in their local area.

## **1.3 Structure and outline of the guideline**

These guidelines consist of six parts:

**Part I – Introduction:** General information on CFM, objectives and target group of the guidelines.

**Part II – Principles in CFM:** Common principles in the CFM process as the participatory approach, the role of the village and other stakeholders, administrative procedures, flexibility in the use of the method and cost effective measures to make sure that CFM becomes a sustainable management system.

**Part III – Elaboration of forest management plan:** Methods, content and steps for elaborating forest management plans, including additional technical information.

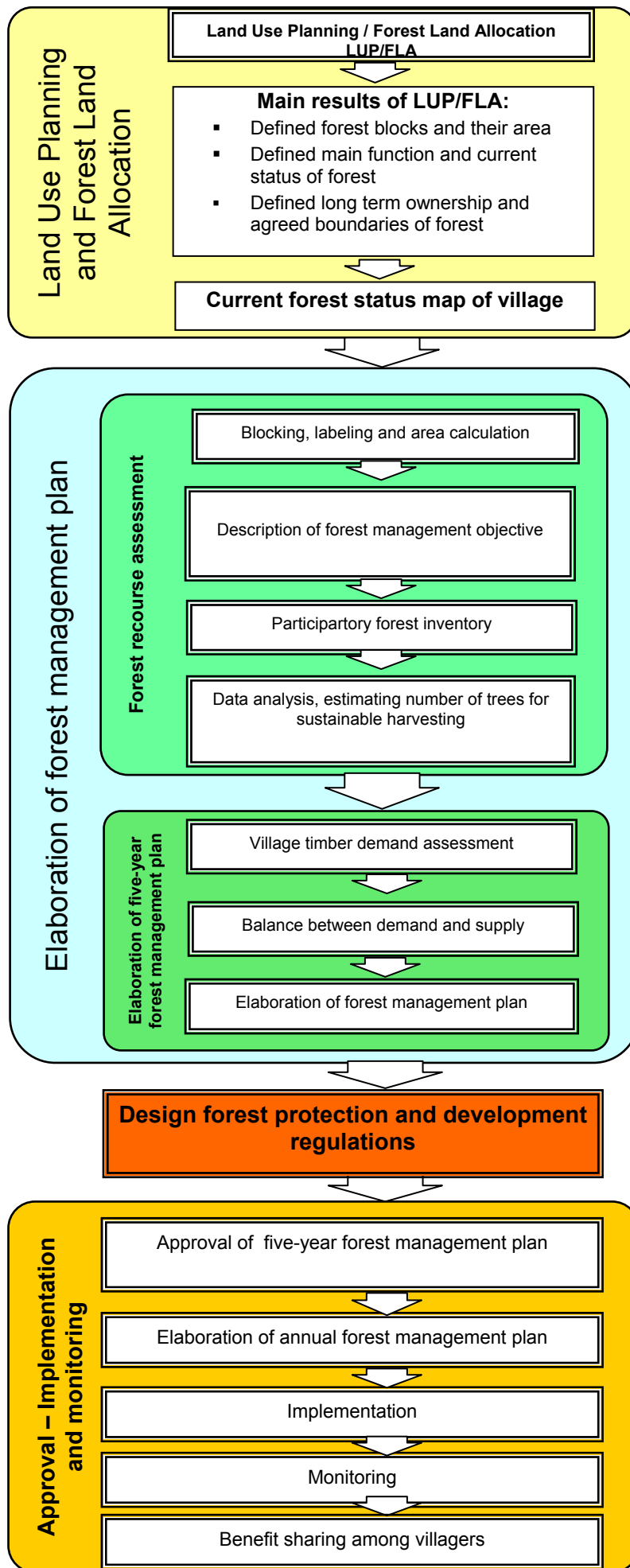
**Part IV – Design of forest protection and development regulations:** Method, content and steps to develop forest protection and development regulations. Approval, dissemination and monitoring of rules and regulations.

**Part V – CFM approval process, implementation and Monitoring&Evaluation:** The approval process, implementation of CFM, monitoring mechanisms and benefit sharing within the village community.

**Part VI – Forms:** Compilation of important forms used in the elaboration of the five-year forest management plan and forest protection and development regulations.

The chart on the next page illustrates the structure of the proposed CFM introduction process. The content of these guidelines follows the displayed structure. As can be seen in the flowchart, it is important to notice that CFM is based on the results of Land Use Planning and Forest Land Allocation (LUP/FLA). However, these two important steps – which have considerable impact on the outcome of CFM – are not part of the CFM process as described in this document.





**Overview CFM process**

**Illustration 1:** Overview Community Forest Management (CFM) process as described in this document

## **Part II: Principles applied in CFM**

### **2.1. CFM has to be in line with the current legal framework**

The following legal documents are important elements for the elaboration of the five-year forest management plan, the development of forest protection and development regulations and the subsequent implementation.

- ◆ Land Law from 2003.
- ◆ Revised Forest Protection and Development Law 2004.
- ◆ Decision 245/1998/QĐ-TTg of 21/12/1998 of the Prime Minister on '*State Management Responsibilities at different levels over forest and forestry land*'.
- ◆ Decision No. 08/2001/QĐ-TTg of 11/1/2001 of the Prime Minister on '*Management Regulations of special use forest, protection and production forest as natural forest*'.
- ◆ Decree No. 139/2004/NĐ-CP of 25/6/2004 on '*Administrative fining in forest management and protection and forest products management*' - replacing decree No. 77/1996/CP and Decree No. 17/2002/ND-CP.
- ◆ Decree 181/2004/NĐ-CP of 29/10/2004 of the Prime Minister on '*The implementation of the Land Law*'.
- ◆ Circular No. 56/1999/TT/BNN-KI of 30/03/1999 on the '*Guidelines of development of forest protection and development regulations at local level*'.

### **2.2. Participatory approach applied in CFM**

#### **2.2.1. Enhancement of farmer participation and improvement of community's management capacity**

Enhancement of village level farmer's participation and decision making during the elaboration of the forest management plan, forest protection and development regulations and their implementation will help the community to improve the management of their forest resources. A special focus should be given to ensure the participation of women in all steps, as they play an equal important role in management of forest resources as men.

Participation in this context is understood in a way that all stakeholders are involved in all steps of the CFM process. This does not mean that farmers have to develop everything on their own, nor do supporting staff have to carry out all the steps for the villagers. Both sides depend on each other in community forest management - villagers will not be able to prepare their management plan in terms of technical issues without the support of external technical staff. Similarly, external supporting staff can't prepare a management plan without the help and knowledge of local inhabitants, as they do not have the necessary knowledge on the village forest area and the needs of local villagers. Therefore, both stakeholder groups have to complement each other by being commonly involved and working together.

Throughout the CFM process, local knowledge on resource management is brought together and combined with external forestry knowledge and simple technologies. This helps to improve the capacity of the village members in forest resource management. Enhanced capacity is considered as the pre-condition for a successful planning and implementation of CFM in different localities that have allocated land and forest to local villages.

#### **2.2.2. Role of technical staff in CFM**

The role of technical staff is to facilitate and support the village during all steps of the CFM process: CFM planning, development of forest protection and development regulations, implementation and monitoring and evaluation. At the same time, they are supposed to

provide necessary information on changing forestry policies and appropriate silvicultural technologies. An important task of technical staff is to establish a way of communication that creates trust and enhances information sharing and collaboration among village members and outsiders. Therefore, these facilitators need to be equipped with knowledge about adult training, participatory approaches and facilitation skills for successful facilitation of rural development.

### **2.2.3. Role of village members in CFM**

The village is seen as the body that takes initiative and makes decisions in the CFM process – while different groups within the village have their specific role.

The village management group, the women association, or the partriach association are responsible for the organisation and facilitation of village meetings related to the forest management process on village level. They can take over the function of organisers and responsible authorities for CFM in their respective village.

Household representatives and village members are supposed to participate in discussions, meetings, the participatory forest inventory and particularly in all steps of the decision making process during the CFM planning phase. At least as important is their active involvement in the implementation of agreed management goals. Attention should be paid to the participation of women because they play an important role in the use of forest resources and their contribution for an effective CFM setup is crucial.

## **2.3. Principles of technology application in CFM**

### **2.3.1. Flexible use of methods and tools**

Villages differ in terms of management capacity, education level and experience related to natural resource management. Therefore, the application of tools and methods should be flexible and adjusted to the respective situation. In any case, it is important to use tools and methods that make use of visual material. A good time management is important when applying the tools and methods to ensure good results.

### **2.3.2. Simple methods and tools**

In the context of establishing CFM in Vietnam, forest inventory must be appropriate and simple in order that communities can actively participate in the implementation. Technical staff might have to do the calculation by means of complex methods and tools. But then they need to turn the results into simple and easy to understand figures that they can easily explain to the villagers. Complicated inventory methods should not be used to collect data as they are difficult for farmers to understand. If forest owners do not fully participate in forest inventory and forest resource analysis, they will not feel responsible for the achieved results. As a consequence, they will not be motivated to implement the forest management plan developed from this data. Creating ownership by including local resource users throughout the process is a very important element of CFM.

### **2.3.3. Relevance**

The CFM process needs to base on the management capacity of farmers and content itself with the minimum requirement of forest resource management and monitoring. Therefore, apart from being simple, relevance is another criteria that has to be given. Collection of data should only be done for specific and relevant information absolutely needed to develop the forest management plan. Data collection should not be too ambitious with very complex information that the communities themselves can't process.

### **2.3.4. Cost effectiveness**

Time and labor force is a limited factor – this applies to all communities throughout the country. In order to make CFM competitive, it is important to apply the principle of cost

effectiveness. Simple methods that reduce the efforts needed to a minimum are part of these efforts. Participatory forest inventory activities require a lot of labor because forest are often located in remote areas, having complex topographic conditions. Therefore, forest inventory techniques in the field must be simple and specific, and minimise the input needed to a maintainable minimum.

## **2.4. CFM as common learning process**

CFM in the form presented here is a new approach in Vietnam. The methodology has been developed step by step and is in the process of further being improved. Therefore, there is no *blueprint* model for the process that can simply be applied. Considering CFM as a learning process is much more promising. Through gaining experience, it will be possible to improve the method and make it a more effective approach in Vietnamese conditions.

Furthermore, local natural resource management needs to base on the local communities, as these communities are most experienced in the management of their own resources and have a long management history. It is wise to make use of these experiences and take them as a starting point to develop functioning management systems that are based on positive elements of what the local population has been doing in the past. To develop an appropriate and effective approach of forest management, it is important that involved external stakeholders and communities collaborate and learn venture into a common learning process – which (ideally) includes learning on the spot, means in the field.

## Part III: Elaboration of the five-year forest management and development plan

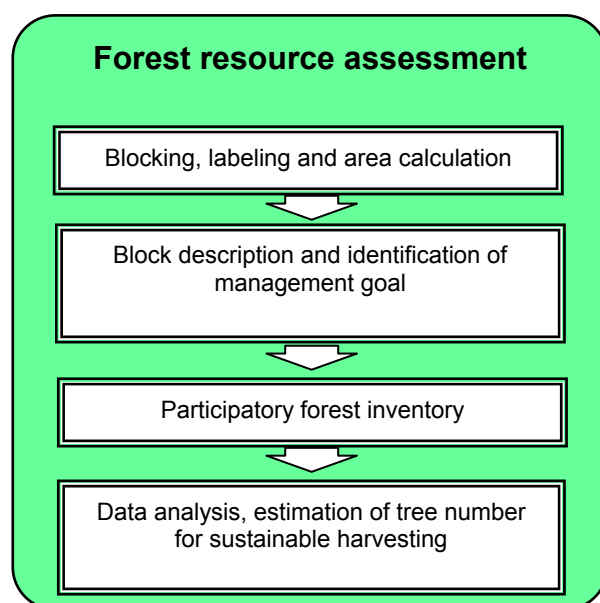
The process of elaborating the five-year forest management plan can be divided into two main steps: the **participatory forest resource assessment** and the elaboration of the **five-year forest management plan**.

### 3.1. Participatory forest resource assessment

#### 3.1.1. Objective of participatory forest resource assessment

Forest resources are assessed by using a simple method to have available the baseline information needed for the identification of management goal and timber supply capacity of each forest block.

**Illustration 2:** Depiction of individual steps of participatory forest resource assessment



#### Step 1: Blocking, labeling and measuring area of forest blocks

Blocking is the first step to be conducted in order to carry out the forest inventory and the elaboration of the five-year forest management planning. The blocking divides the forest area into different areas that have the same characteristics regarding structure, age and management history. The subsequent CFM planning process will base on these spatial units defined in this first step and these units form the baseline for proposing forest management objectives.

<b>Expected results</b>	<ul style="list-style-type: none"> <li>➤ The forest resources of the village are divided into different forest blocks possessing similar characteristics</li> <li>➤ Forest blocks are labelled (local names) and the area of each block is measured</li> </ul>
<b>Materials</b>	<ul style="list-style-type: none"> <li>➤ Forest status map with scale 1:10.000</li> <li>➤ Transparencies (large enough to cover the map) with clips</li> <li>➤ White board makers and permanent pens</li> <li>➤ Compass</li> <li>➤ Transparency showing squares of 1 ha to measure forest block area</li> <li>➤ If necessary: Global Positioning System (GPS) to check the boundaries of forest blocks (for this, the map should have coordinates)</li> </ul>
<b>Participants</b>	<ul style="list-style-type: none"> <li>➤ Key farmers</li> <li>➤ Commune extensionists, local forest protection officers, commune land</li> </ul>

management officers (about 2 people)

- District forest protection officers, forest technical staff (2 persons)

## Methods

- Introduce the map and technical characteristics of topographical maps to farmers
- Ask them to orientate the map so that it is easier to understand i.e. North on the map really faces North
- Give time for villagers to examine the map. After a while, explain that they will be marking the forest area in the village on the map
- Put the transparent overlay over the map and use clips to temporarily fix it. Using a whiteboard marker (which can be erased), show them how they can draw on the overlay to delineate a boundary. Show them that it doesn't matter if they make a mistake, because the lines can be easily erased
- Make use of **natural boundaries** such as rivers, streams, mountains as boundaries for forest blocks
- Once they have finished – look at the map and ask villagers to propose a name for each blocks on the map. Use local names
- Measure the area of each forest blocks: Explain that they will need to know the area of each block so that they can calculate how many trees there are. Show them how they can roughly measure areas using squares drawn on a piece of transparent sheet. If the map scale is 1:10,000 then a 1 x 1 cm square is equal to 1 ha. Write down the area of each block on the map

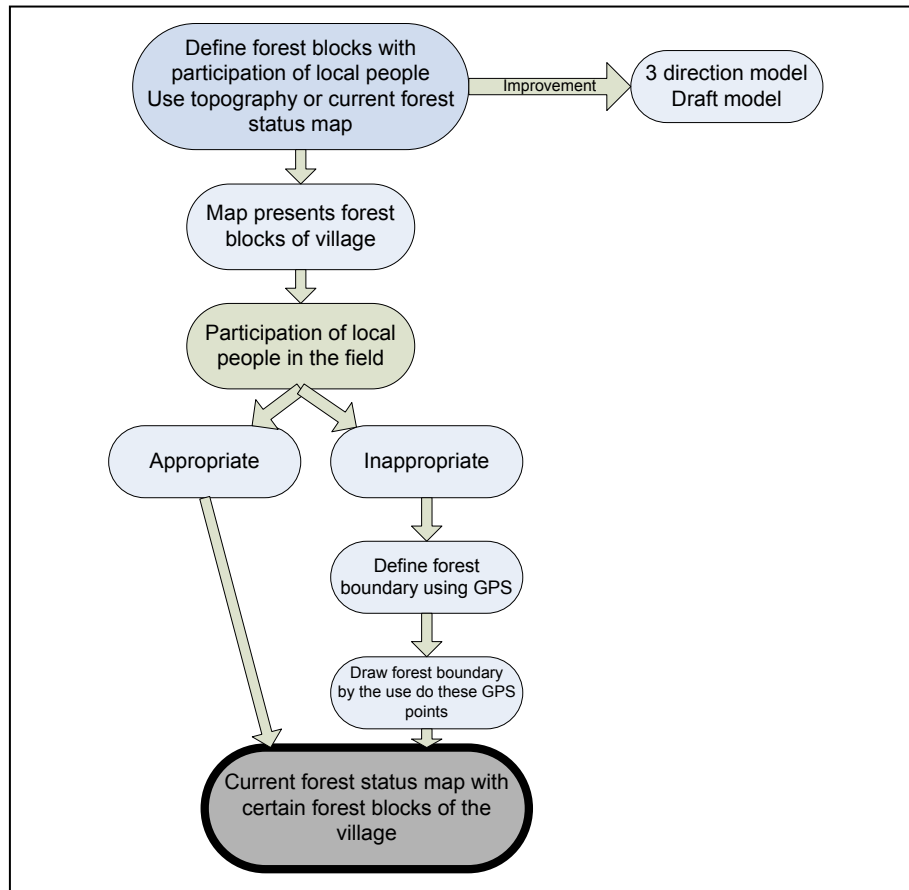


**Illustration 3:** Identification of forest blocks on topographical map

- Finally, go over the temporary lines drawn on the transparent sheet with a permanent marker
- Identify real boundaries with villagers in the field: use compass to orientate in the forest. Global Positioning System (GPS) hand receivers (if available) can be used to record the exact boundaries of each forest block. Waypoints will afterwards have to be added onto the map manually

## Time, location

- At the village, ½ day
- ½ - 1 day for field work



**Illustration 4:** Flow chart illustrating steps used to identify accurate delineation of forest blocks

## Step 2: Block description and forest block management goal

After blocking, forest blocks are defined on the reference map (scale 1:10.000) with clearly defined boundary and area. A forest block description is carried out to describe the main features of each forest block. The opportunities and constraints of each block are discussed and a (preliminary) forest management objective is defined.

- a) To reduce the workload, forest inventory is carried out only in forest blocks that villagers agree to include in the five-year forest management plan. Other forest blocks, for example special use forests, are excluded from the time-intensive forest inventory. These areas will still be mentioned in the protection plan. In order to minimize cost and labor inputs, it is important to carefully conduct the block description and planning of forest inventory.
- b) Topographical features, roads and other features provide the opportunity to define an appropriate design of transect lines for forest inventory.

The stated preliminary forest management objective of each forest block will be reexamined when additional information is available after conducting the forest inventory.

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<b>Expected results</b>	<ul style="list-style-type: none"><li>➤ Each forest stand is briefly described (based on participants' knowledge)</li><li>➤ Management goals are identified for each forest block (can be adjusted after forest resource assessment if necessary)</li></ul>
<b>Materials</b>	<ul style="list-style-type: none"><li>➤ Form for block description (<i>Form 1 in part VI</i>)</li><li>➤ Form for management goal, issues and opportunities (<i>Form 2 in part VI</i>)</li><li>➤ Stationary</li></ul>
<b>Participants</b>	<ul style="list-style-type: none"><li>➤ Key farmers (about 7 people)</li><li>➤ Commune extensionist, local forest ranger officer, commune land management officer (about 2 people)</li><li>➤ District forest ranger officer, technical forestry staff (2 people)</li></ul>
<b>Methods</b>	<ul style="list-style-type: none"><li>➤ Establish groups of 3-4 farmers and 1-2 technical staff</li><li>➤ Use form 1 to describe forest blocks (<i>form 1 in part VI</i>)</li><li>➤ Use form 2 to discuss forest management goal of each block, constraints and opportunities (<i>form 2 in part VI</i>)</li><li>➤ Use the guidelines to discuss forest management goal with villagers (<i>form 3 in part VI</i>)</li></ul>
<b>Time, location</b>	<ul style="list-style-type: none"><li>➤ ½ day in the village</li></ul>

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Block description and defining forest management objectives are the first steps to analyse the current forest status with villagers. Therefore, a participatory approach needs to be used to involve experience-ed local farmers as they have a lot of experience in forest management (local knowledge). This is the opportunity for technical staff to have an overview of forest resources and to learn more about the forest product demand of the local population. The block description is necessary to create the base for participatory forest inventory.



### Step 3: Participatory forest resource assessment

The participatory forest resource inventory is then carried out based on the results of the forest block discription and forest management objectives. Carrying out this step with the active involvement of villagers helps to reduce time that is needed for this labor-intensive step. Involved technical staff can benefit from the indigenous knowledge about local tree species and traditional management practices of the local inhabitants. Farmers on the other hand have the chance to learn a simple method how to assess their forest resources.

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<b>Expected results</b>	<ul style="list-style-type: none"><li>➤ Actual tree numbers and diameters in the block are measured to provide quantitative information on the potential for forest product harvesting from the block. This information is important for management and monitoring.</li><li>➤ Better understanding of general structure and composition of forest blocks that are the basic for identifying management goal.</li></ul>
<b>Materials, tools</b>	<ul style="list-style-type: none"><li>➤ A4 paper and coloured pens</li><li>➤ Forest map with transparency overlaid showing defined forest blocks</li><li>➤ Ruler for distance measurement</li><li>➤ Coloured tape measure (dbh tape)</li><li>➤ Each group gets two sets of ropes (20 m rope with a knot at 10 m and 2 x 10 m ropes with knots at 5 m)</li><li>➤ Chalk for marking trees</li><li>➤ 6 sticks of 2 m lenght (can be taken in forest)</li><li>➤ Compass, GPS (if available)</li><li>➤ Sample plot recording form (<i>form 4 in part VI</i>)</li></ul>
<b>Participants</b>	<ul style="list-style-type: none"><li>➤ Key farmers (especially people who have good knowledge about the village forest resources), Village Forest Management Board (VFMB)</li><li>➤ Commune extensionist, local forest ranger officer, commune land management officer</li><li>➤ District forest ranger officers, forest technical staff, staff of SARD</li></ul>
<b>Methods</b>	<ul style="list-style-type: none"><li>➤ Select forest blocks for inventory. Subject for inventory are only the blocks that have been selected by the villager to be included in CFM planning. Other forest blocks such as special use forest and protection forest might be excluded</li><li>➤ Establish groups of five persons, consisting of four farmers and one technical staff</li><li>➤ Use transect line system for inventory. Set up sample plots of 10x30 m every 50 m apart along these transect lines. Transect lines are laid out evenly distributed within the forest block (see illustration on page 18)</li><li>➤ Coordinate inventory tasks with all involved groups based on the number of sample plots that a group can complete in one day</li><li>➤ Fill in sample plot recording form for each sample plot (<i>form 4 in part VI</i>)</li></ul> <p>Identify the species that are of special value (as timber or for special use) with the farmers, as these trees will be considered as <i>target trees</i></p>
<b>Time, location</b>	<ul style="list-style-type: none"><li>➤ All the forest blocks that villagers include in the five-year management plan</li><li>➤ The time needed for inventory is related to number of inventory groups, the</li></ul>

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area and location of forest block. On average, a group can establish around 7-10 plots per working day, but this figure might considerably vary according to the terrain

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## **3.2. Guidelines for sample plot measurement**

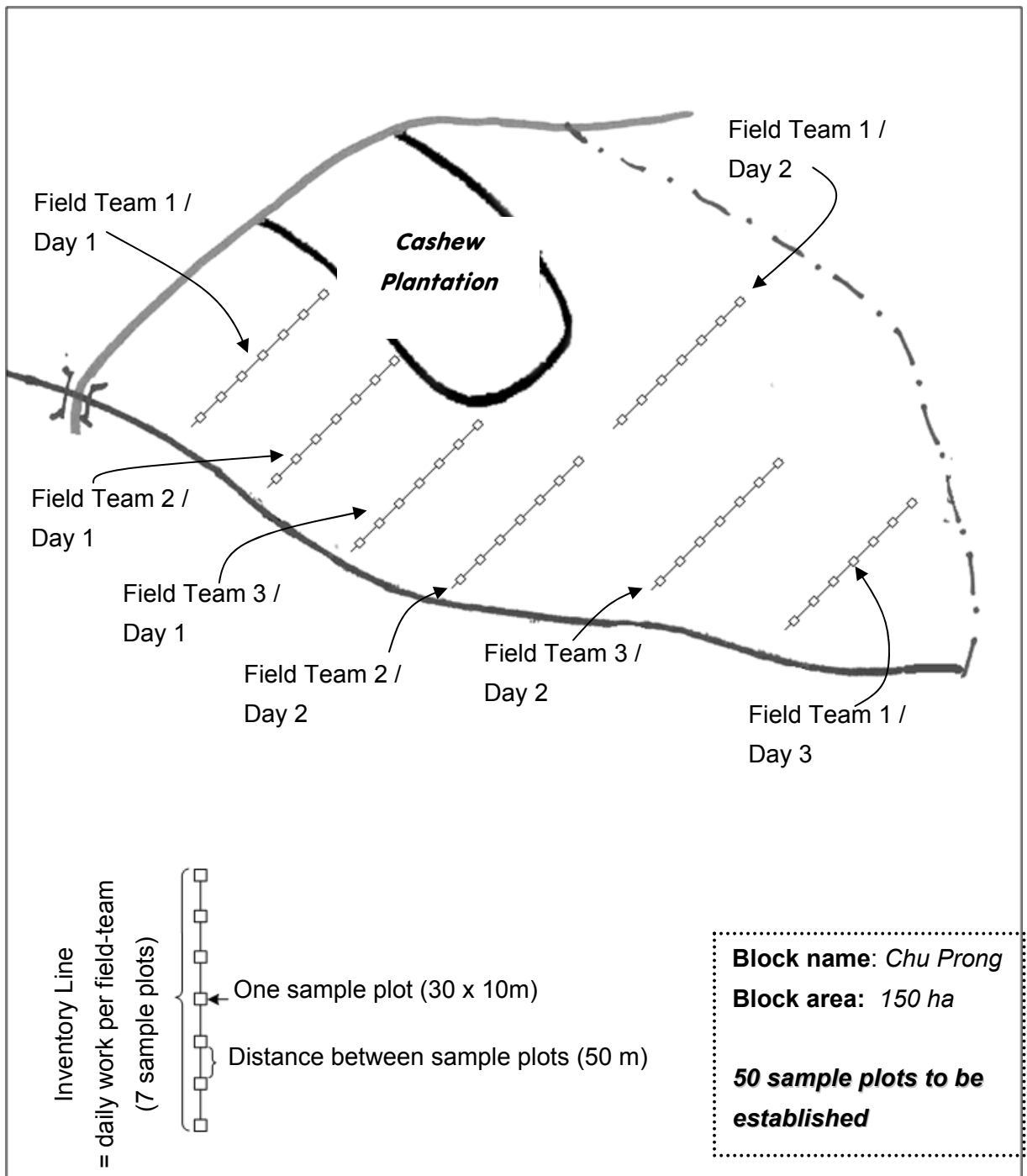
### **3.2.1. Number of sample plots**

The number of sample plots is defined by the size of the forest area (forest block). For CFM, a sampling area of approximately 1% of the total area is considered to be reasonable. The following number of sample plots is suggested for the respective size of the forest block:

<b>Block area</b>	<b>Number of sample plots (10 x 30 m each)</b>
< 4 ha	At least 2
4 - 10 ha	At least 5
10 - 30 ha	At least 7
30 - 70 ha	At least 15
70 - 120 ha	At least 25
120 - 200 ha	At least 40
> 200 ha	At least 70

### **3.2.2 Establishment of transect lines**

Based on number of sample plots needed in each forest block, the approximate distance between the transect lines can be identified. An appropriate organisation of the group work is necessary to make best use of time and labor. The illustration of an inventory design for one forest block – carried out with three inventory teams - is given on the next page.

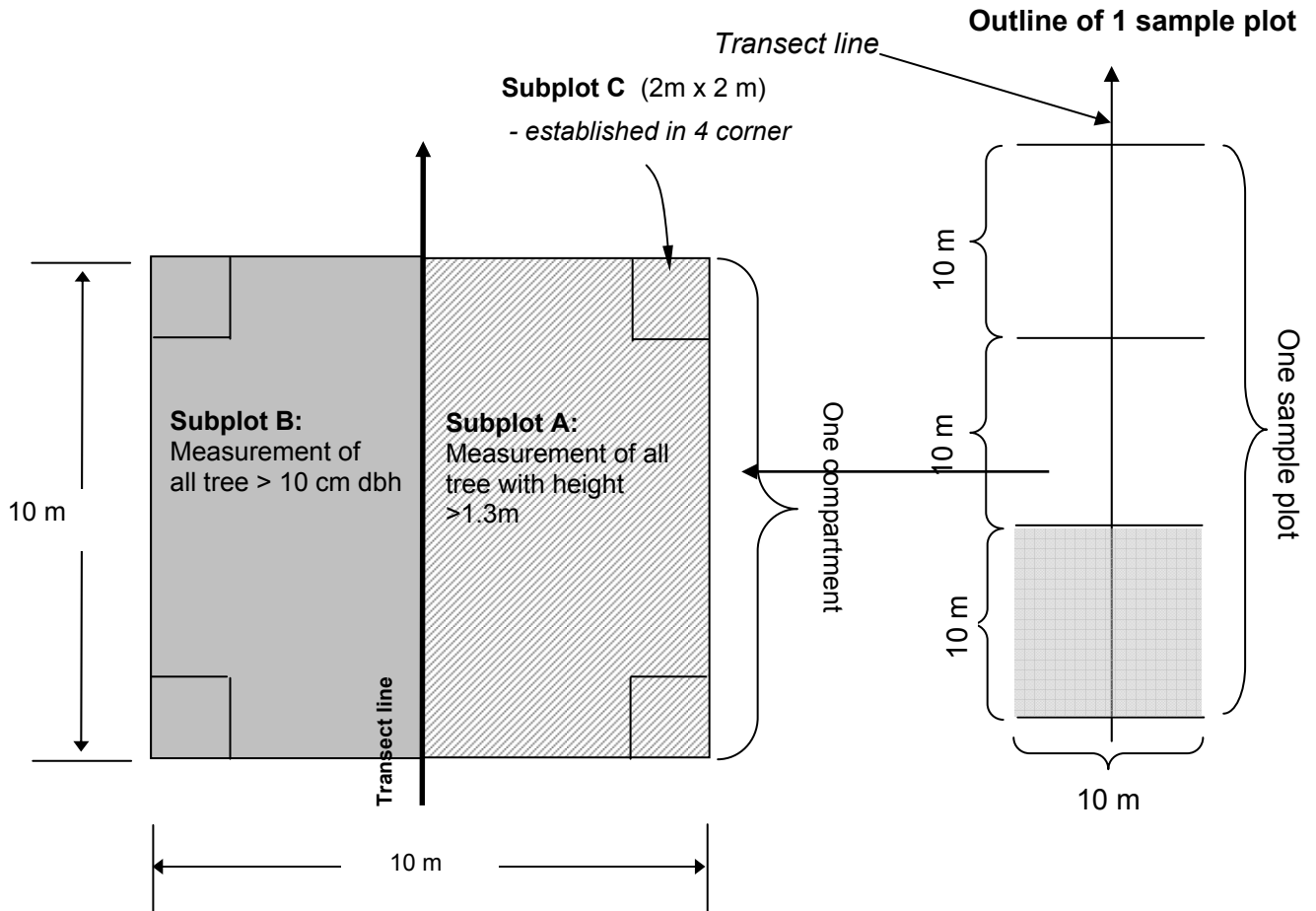


**Illustration 5:** Possible design of inventory field work including three inventory teams. The transect lines are marked on forest block map

### 3.2.3 Setting up sample plots and measurement

Each sample plot of 10 x 30 m is divided into 3 subplots of 10 x 10 m for easier measurement. In each plot, consider whether species are potential for timber or not and identify diameter classes by the use of the colored tape. Each sub plot is again divided into two separate parts to measure different aspects of the forest structure. On the right hand side of the sub plot (related to the transect line), the diameter at breast height of any tree taller than 1.3 m is measured (dbh), using colored tapes (see next page for explanation of color tape). On the left hand side of the sub plot only trees with diameter bigger than 10 cm dbh are measured.

Four small regeneration plots with the size of 2 x 2 m are set up in the corners of each sub-sample plot to measure natural regeneration (all trees with height between 0.2 m and 1.3 m). For natural regeneration, only the name of the species and the number of trees is recorded, and no diameter measurement is carried out. In case of intensive natural regeneration, the number of these regeneration sample plots can be reduced from 4 to 2 per sub sample plot to reduce the workload for the inventory team. All the inventory data, including information on the species, number of trees and information regarding natural regeneration should be carefully recorded in the respective form (*form 4 in part VI*).



**Illustration 6:** Outline of sample plot and inventory technique with division of subplot and regeneration plots in the four corners of the subplot.

In order to make the diameter measurement as simple as possible, the diameter is measured with a color tape. Different colors represent different diameter classes as shown in the following example.

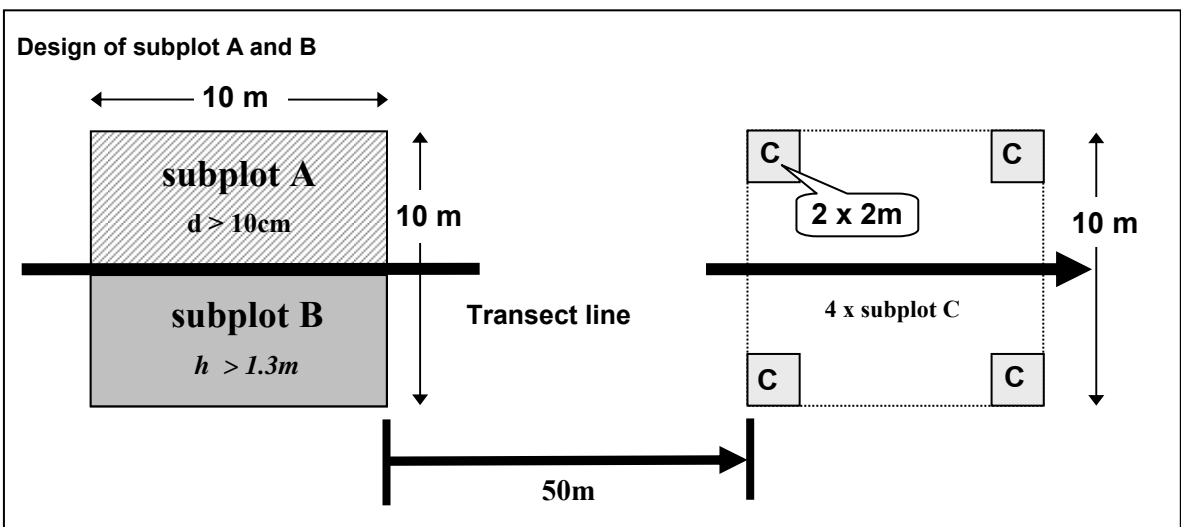
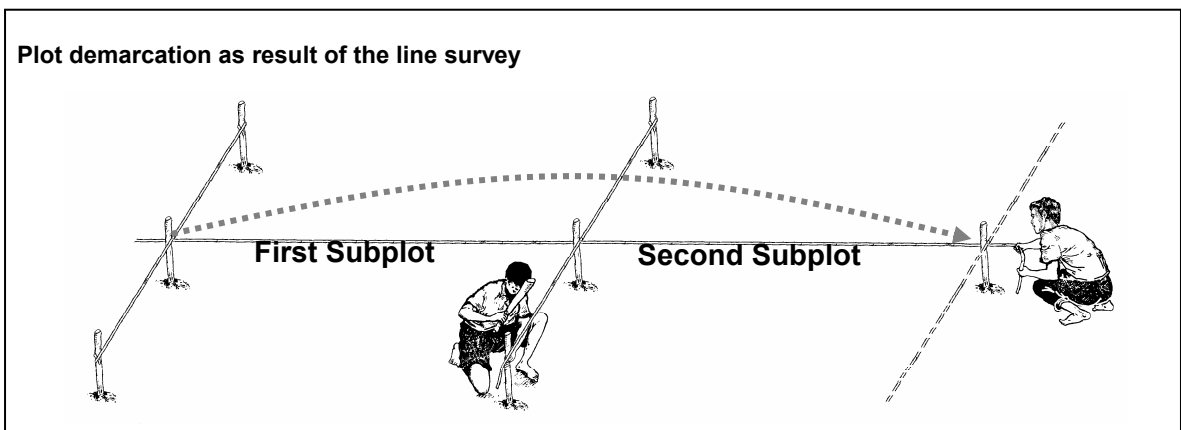
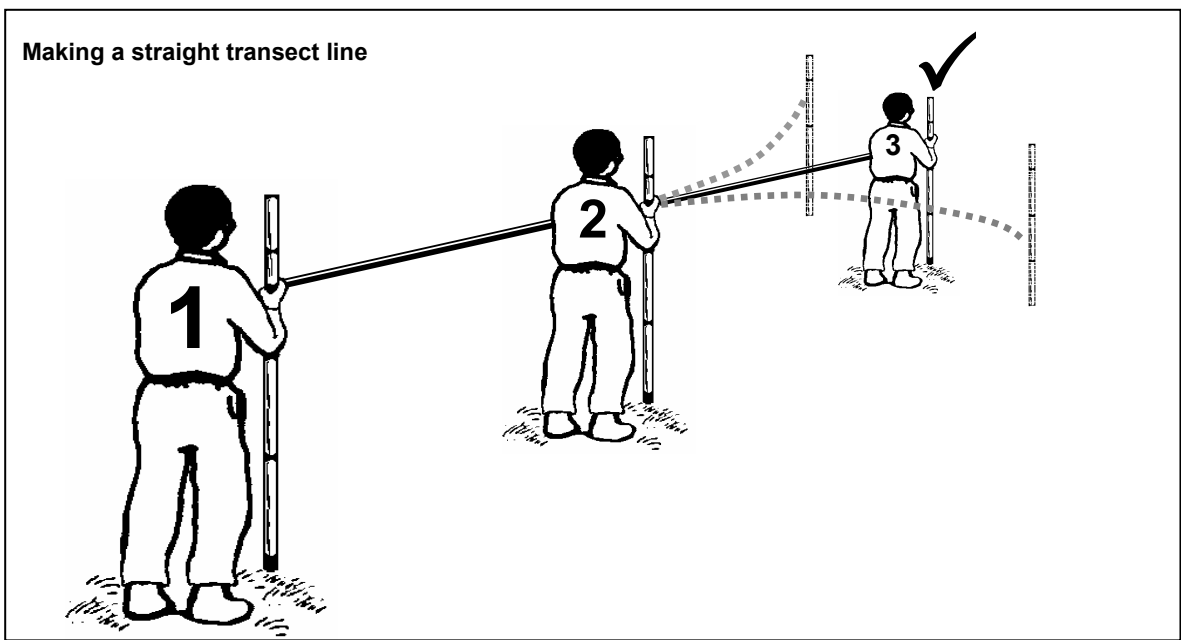
Diameter classes (cm)	< 4.9	5 – 9.9	10 – 14.9	15 – 19.9	20 – 24.9	25 – 29.9	30 – 34.9	35 – 39.9	40 – 44.9	> 45
Colors	White	Yellow	Black	Stripes	Green	Dot	Red	Orange	Waves	Purple



Diameter class width has to be defined prior to the forest inventory and is set according to the diameter increment rate of the forest resources (being site specific). The width of the diameter class in the example above was 5 cm, which has been assessed as the five-year diameter increment under these forest conditions. The idea behind this definition of the diameter class is that within the management period of five years, each tree grows into the next higher diameter class.

**Illustration 7:** Use of simple inventory tools as the colored diameter tape for resource assessment

The model can therefore be seen as a dynamic model that allows normative statements regarding the future forest structure. It has been assessed, that for natural forests in Viet Nam, the five-year growth increment ranges from 3 and 5 cm (up to 1 cm diameter increment per year).



**Illustration 8:** Participatory forest resource assessment: a) setup of transect lines, b) plot demarcation and c) setup of subplots

#### **Step 4: Data analysis and estimation of number of trees that can be harvested sustainably**

Based on the results of the participatory forest inventory, data analysis is carried out in order to provide the baseline for proposition of appropriate measures for sustainable forest management. This step helps the village to assess the information that was gathered during the forest inventory about the current status of each forest block. Later, the sustainable supply of timber that can be harvested from each forest block is estimated. Three main issues need to be considered in this step:

- i. Support for villagers in data analysis and drawing conclusions for each forest block is crucial.
- ii. The sustainable forest model is used as reference. This model has to be appropriate for the given ecological condition, the type of prevailing forest resources and the preliminary forest management objectives defined by the village.
- iii. Both quality and quantity of the forest resources will be assessed. This information is important to define the timber supply for the next 5 years and to propose specific technical measures that help to develop the forest structure towards the desired composition.

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<b>Expected results</b>	<ul style="list-style-type: none"><li>➤ Number of trees in diameter classes of forest blocks is summarised</li><li>➤ Number of trees for harvesting is estimated for each forest block (timber and fire wood) based on the sustainable forest model</li><li>➤ Specific technical management measures are proposed for each forest block. The forest management objectives are reconsidered</li></ul>
<b>Materials</b>	<ul style="list-style-type: none"><li>➤ Block summary form (<i>form 5 in part VI</i>)</li><li>➤ Calculator</li><li>➤ A0 posters, A0 transparencies</li><li>➤ Coloured pens and highlighter pens</li><li>➤ Large rulers (with scale)</li></ul>
<b>Participants</b>	<ul style="list-style-type: none"><li>➤ Key farmers (especially people who have good knowledge on the forest resources), village management board, Village Forest Management Board</li><li>➤ Commune extensionist, local forest ranger officer, commune land management officer, Commune Forest Management Board</li><li>➤ District forest ranger officers, forest technical staff</li></ul>
<b>Methods</b>	<ul style="list-style-type: none"><li>➤ Technical staff together with villagers compile data of sample plots to find out number of trees in each diameter class for each forest block (<i>Form 5 in part VI</i>). Present results of each forest block as histogram</li><li>➤ Technical staff present Sustainable Forest Model which is attributed to respective forest block on an A0 transparency</li><li>➤ Explain to villagers that the histogram presents the estimated</li></ul>

amount of timber per diameter class in each forest block

- Overlay the transparency histogram and the histogram showing the current forest status. Interpret the difference between them: If the number of trees under current conditions is higher than the number proposed by the Sustainable Forest Model (SFM), harvesting activities can be proposed. Otherwise, forest maintenance has to be given priority to ensure the sustainable development of the forest structure and the future provision of forest products
- Assess data on possible harvesting of trees in each diameter class per forest block. The result represents the supply potential of the forest block for a five-year planning period
- Based on the data from the forest inventory, discuss with the villagers to examine appropriate management objectives

- Time, location**
- In the village
  - About ½ day depending on the number of forest block

### 3.2.4 Guidelines for data analysis

#### a) Factors for calculation of the number of trees per diameter class

During the participatory forest resource assessment, only a small portion of the actual forest area of the village is assessed in detail. Not all of the trees within a forest block are measured, but only the trees that fall within the boundaries of the sample plots that are established along the defined transect lines. From the number of trees actually measured in this small portion of the block, the total number of trees is calculated by extrapolation of the sample. In order to ensure a significant prediction, minimal portion of the area is actually measured. The following example shows, how the number of sample plots that are necessary per forest block area (see chapter 3.2.1) has been defined. The size of one sample plot is 300m<sup>2</sup>, divided into three subblocks of 10 by 10 meters each.

Trees size (hight and diameter)	Area measured per sample plot (ha)
Regeneration (0.2 m < h < 1.3 m)	0.0048 ha
Diameter < 10 cm and h > 1.3 m	0.015 ha
Diameter ≥ 10 cm; baboo	0.030 ha

To calculate the number of trees in different diameter classes, the following formula is used:

$$N_{\text{block}} = n_{\text{s,plot}} \times \frac{\text{Area}_{\text{block}}}{(n_{\text{block}} \times \text{Area}_{\text{s,plot}})}$$

*In which:*

$N_{\text{block}}$  = Number of trees in the respective diameter class or regeneration trees per block

$n_{\text{s,plot}}$  = Number of trees in the respective diameter class or regeneration in all sample plots

$\text{Area}_{\text{block}}$  = Area of forest block

$\text{Area}_{\text{s,plot}}$  = Area for sampling of different tree size in one sample plot (see table above)

$n_{\text{block}}$  = Number of sample plots in the block



The result of this calculation is a number of trees in each diameter class. This information is recorded in the respective summary form (*form 5 in Part VI*). The result is then presented as histogram drawn on an A0 paper.

Data analysis, including the assessment of the total number of trees per sample block and then summarizing the data to have the total data for each forest block is often difficult for (some) of the villagers. Therefore, this step relies on the active support from technical staff that are used to this type of work. Taking the necessary patience, villagers will understand the steps and this will increase the ownership – with positive effects for the forest management in the long term.

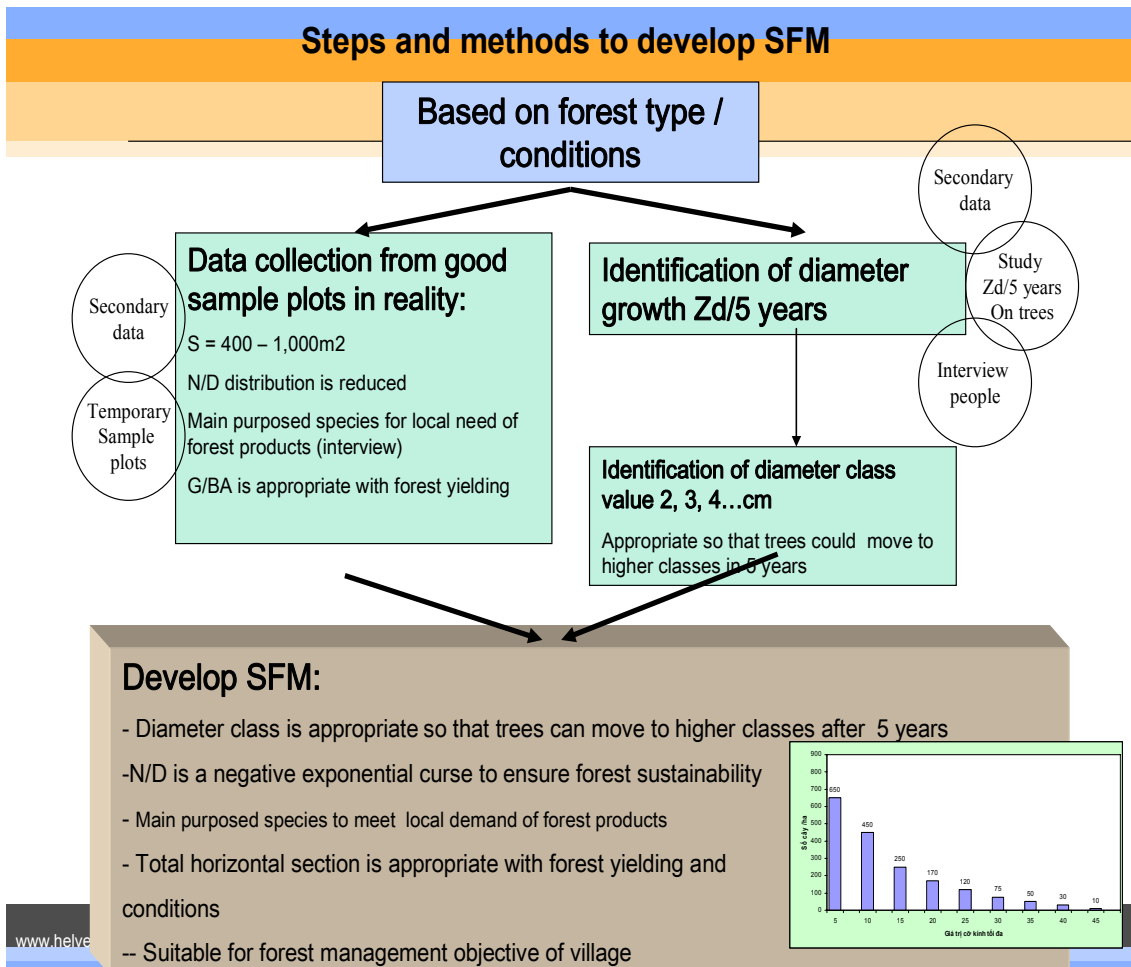
## **b) Sustainable Forest Model (SFM)**

The Sustainable Forest Model (SFM) is a very important standard against which the current forest status is compared. It is the reference that defines the sustainable harvesting quantity in different diameter classes and provides the information about what kind of silvicultural measures could improve the structure of the given forest.

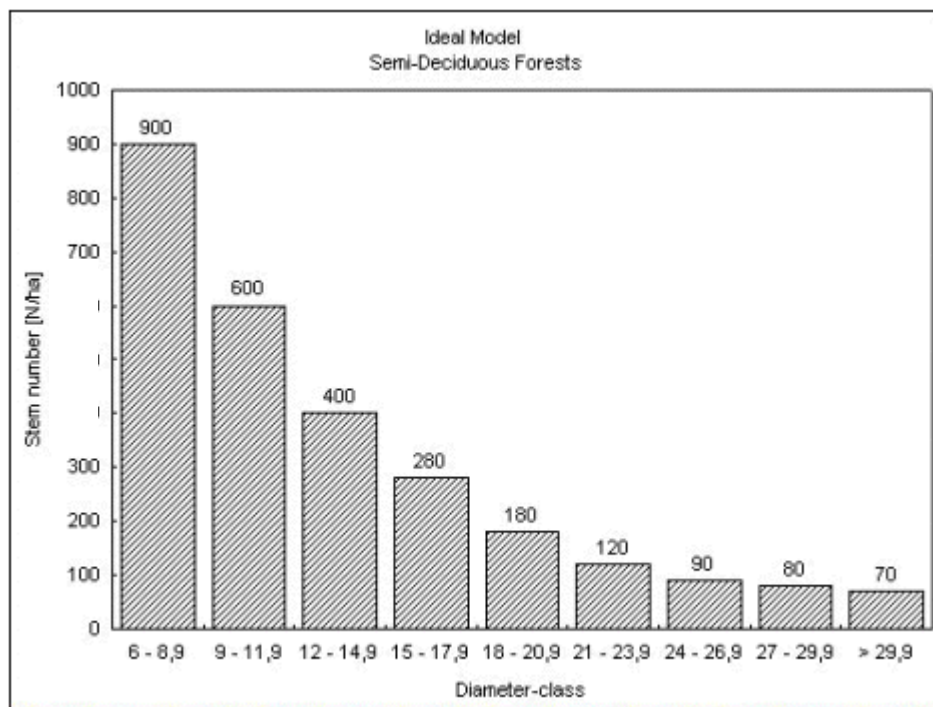
Despite the fact that many factors have an influence on the elaboration of the SFM (as for example the ecological zone), there are some principles that apply to the SFM – irrespective of these regional differences.

- The SFM is based on number of trees per diameter class instead of the unit cubic meters (m<sup>3</sup>): To work with the later is too complicated when working in remote places. The unit of number per diameter class is simple so that communities can participate in comparing the supply and demand situation and afterwards calculate the sustainable harvesting quantity. This again increases the amount of ownership that the local population develops, and which is most crucial for a successful implementation of the elaborated management plan.
- The SFM intends to achieve a sustainable use of the forest resources. They are defined based on the diameter increment of (natural) forests and set for a planning horizon of five years. With forests having low growth rate, the SFM does not try to achieve the desired forest structure within short time, but rather supports the achievements of a long term goal.
- The SFM is always a simplification and abstraction. Due to the difference in forest status, forest conditions etc. that change from one village to the other, the model will never represent the optimal model for the given situation in one village. It's advantages lie in the fact that it represents a reference that is valid not only for one specific situation, but for a whole (ecological) zone. This makes it possible to compare the situation in one village with the situation in another village of the same zone and to draw a conclusion.

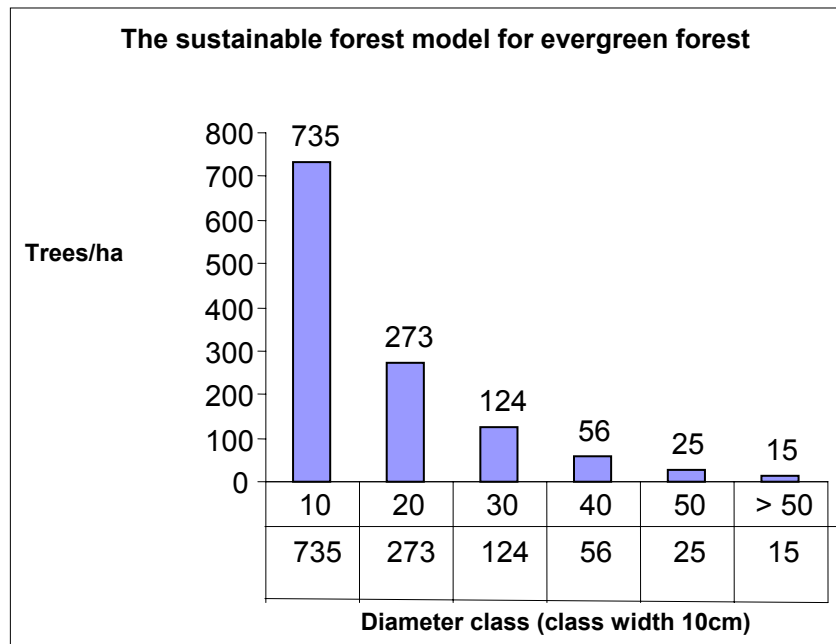
The use of the SFM includes two aspects that are important for sustainable use of forest resources: the natural factors and the human factor. Protection can only be ensured if the population is able to use and benefit from the forest resources – therefore a combination of ideal forest structure and forest management goal is considered crucial.



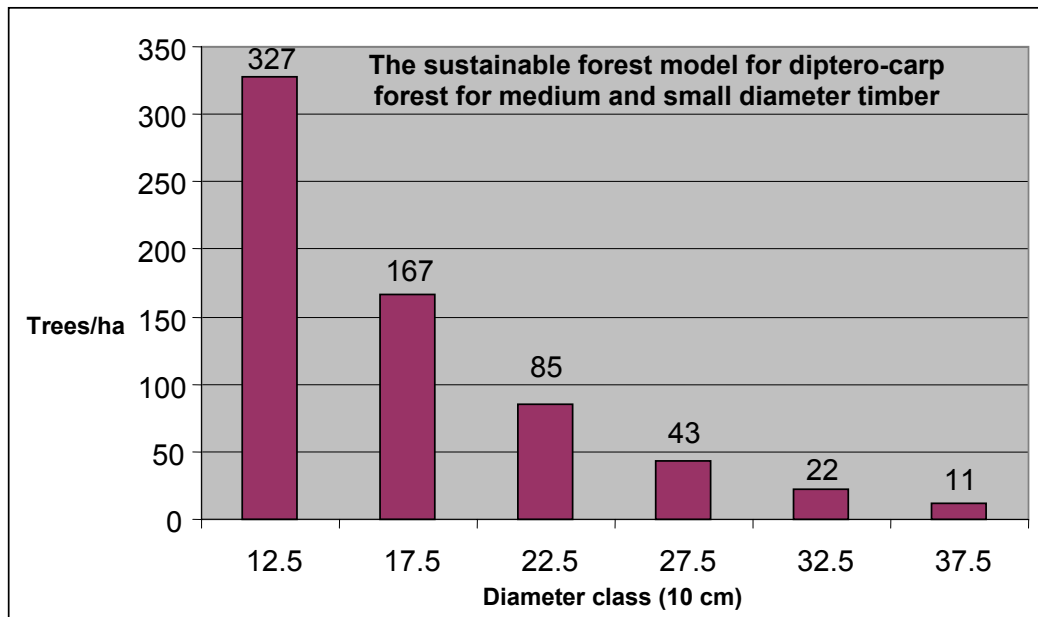
**Illustration 9:** The process of elaborating the Sustainable Forest Model (SFM), Source: Bao Huy (2005), RDDDL, Dak Lak



**Illustration 10:** Sustainable Forest Model for Semi-Deciduous Forests, Source: Philipp Roth (2005), RDDDL, Dak Lak



**Illustration 11:** Sustainable Forest Model for evergreen forest, source: Bao Huy, 2005 ETSP, Dak Nong



**Illustration 12:** Sustainable forest model for diptero-carp forest, source: Bao Huy, Ho Viet Sac (2005), RDDL project, Dak Lak

Above models have been tested in Dak Lak and Gia Lai provinces. However, they are still in an initial stage and need further improvement. In the national workshop on CFM in 2004, the elaboration of sustainable forest models for the seven ecological zones in Vietnam was considered an important action to be taken in the future. As these models are not available yet, above described models are used as reference in the CFM planning process for the time being. The number of trees in those models is calculated per ha. To assess the number of trees in a specific block, this number has to be multiplied with the area of the forest block (in ha).

### Sustainable forest model and the width of diameter classes

The sustainable forest model needs to be elaborated before conducting forest inventory – as the model provides information of diameter class width which is necessary for the preparation of colored tape for forest inventory.

The diameter class width depends on the five-year increment in centimeters, which differs according to the forest type and the forest conditions. This parameter must be available before forest inventory is conducted. As principle, the sustainable forest model should have diameter class width equal to the increment in 5 years. This ensures that trees in smaller diameter classes will grow into the next diameter class within the five years for which the management plan is elaborated.

The increment of width in 5 years in Vietnam varies roughly from 3 to 5 cm. This will result in many diameter classes which means very time-consuming forest inventory and data analysis afterward. Villagers might also encounter difficulties with many different diameter classes on the color tape. The solution to this problem is to establish the sustainable forest model with diameter classes equalling the increment rate and then to reduce the number of diameter classes by combining two neighbouring classes. For instance, if the diameter class width is 3 cm or 5 cm, it will be 6 or 10 for easy use. The color tape is prepared accordingly. This method simplifies, but creates an inaccuracy regarding the shift from one diameter class to the next. The fact that diameter classes have been combined needs to be considered for the next forest inventory after five years.

### 3.2.5 Comparing current forest status with SFM to estimate the sustainable timber supply of each forest block

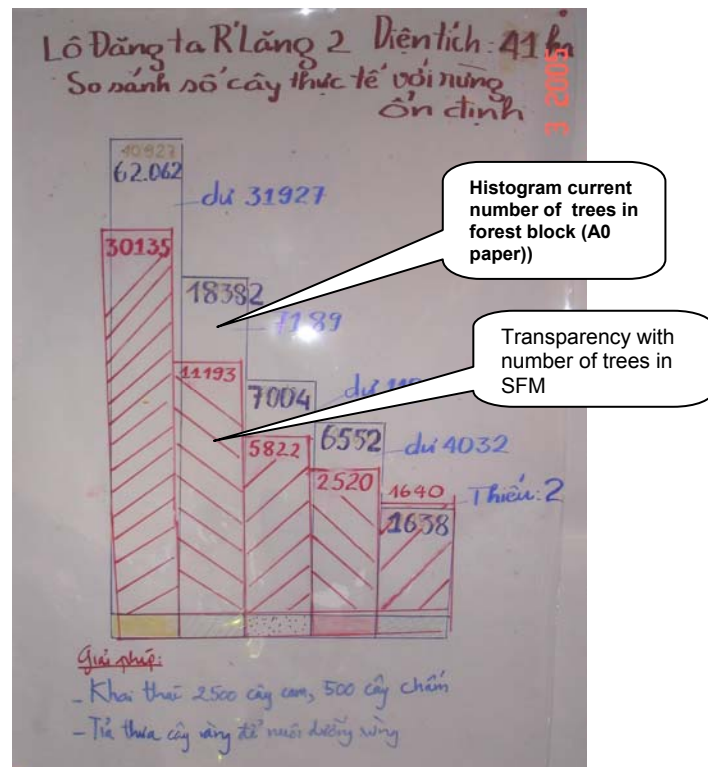
Draw two histogram:

- a) One for the actual number of trees in each diameter class of the block.
- b) The other for the suggested number of trees in each diameter class. Make sure that the scale of the two histograms is equal to enable overlaying them for comparison to obtain information on forest quality and the potential of harvestable forest products.

The SFM is prepared on a transparency with the respective number of trees according to the area of the forest block.

Overlay the histogram showing the current forest status with the histogram on the transparency showing the sustainable forest structure for the block.

**Illustration 13:** Comparing the current forest status data with the Sustainable Forest Model



The difference between the two columns indicates the management options that exist in the block for each diameter class. In case the column on the paper is higher than the column on the transparency, the number of trees that can be harvested sustainably can easily be identified and calculated. The visualisation of the situation is very important for the villagers to get an impression on what the data can reveal that they have collected during participatory forest inventory.

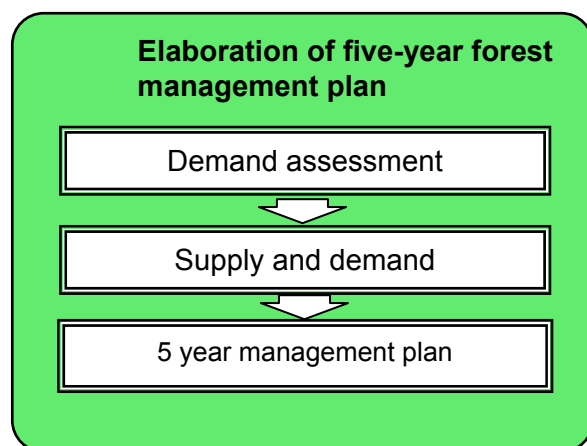
The histograms represent the base for discussing suitable silvicultural methods to be applied for the forest block to achieve a sustainable forest structure in the long term. It is during this step that the defined management goal of the forest block should be revised again, as this new information might reveal that the stated management goal is not appropriate. Most probably, some of the diameter classes can provide timber either for own consumption or for commercial purposes. In the diameter classes where the current number of trees is below the proposed number by the SFM, forest maintenance and additional planting to enrich the forest might be necessary. These measures however depend on the available human resources in the village.

**Comparison of the current forest structure with the structure proposed by the sustainable forest model (SFM)**

The comparison does not only serve the purpose to define the number of trees that can be harvested sustainably in different diameter classes. The comparison also provides the opportunity for the village and other involved stakeholders to discuss appropriate forest management options that will be implemented to further develop the forest resources.

A concern that can be raised when only referring to the number of trees in a diameter class, is that there is a risk that only valuable trees will be selected for harvesting, whereas disease trees remain. This would have an impact on the quality of the forest and on biodiversity in general. Therefore, the process of preparing timber harvesting is not finished with the calculation of the number of trees that can be harvested sustainably. Which trees will actually be harvested will then have to be discussed more in detail, by consulting (simple) silvicultural guidelines. These guidelines provide information on the criteria for the selection of trees, the species, as well as the aspects of canopy maintenance, density issues and aspects that are important for natural regeneration. This guidelines are being elaborated by consulting technical aspects from forestry experts and local knowledge and the needs of the local population to make sure that the term 'sustainably' matches the understanding of all the involved stakeholders and ensures that the forest will be managed accordingly.

**3.3. Elaboration of the five-year forest management plan**



**3.3.1. Objectives**

The five-year forest management plan (as well as the annual forest management plan that is derived thereof) are developed based on the village forest product demand which is compared with the supply of the village forest resources for each forest block. The sustainable forest model (SFM) is further considered as important reference for the long term development of the forest structure.

**Illustration 14:** Steps for the elaboration of the five-year forest management plan

Activities in the five-year forest management plan are elaborated individually for each forest block, and the plan includes and lists all the forest areas (including natural forest and bare land areas that do not provide any forest products in the short term). The activities are defined based on the current forest status, the village timber demand, the agreed forest management objectives and the resources (labor and finances) that the village has at its disposal. The five-year forest management plan represents the summary of all activities that are carried out on the forest land for the following five years.






## Step 5: Village timber demand assessment

One of the (primary) purposes of CFM is to provide enough timber for the own consumption in the village through sustainable use of the forest resources. This ensures that the community is also able to benefit from the various other functions that a forest provides. CFM is furthermore expected to improve the livelihoods of the local population. Only an accurate management plan can ensure that the demand is met and that the forests are used in a sustainable manner. The timber need assessment is therefore a very important part of the management planing, as it provides the information needed from the demand side.

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<b>Expected results</b>	<ul style="list-style-type: none"><li>➤ A chart listing the main forest products used by villagers and showing the estimated quantities needed by the village per year and for five years</li></ul>
<b>Materials</b>	<ul style="list-style-type: none"><li>➤ A0 paper, color pens</li></ul>
<b>Participants</b>	<ul style="list-style-type: none"><li>➤ Key farmers, Village Forest Management Board (VFMB)</li><li>➤ Commune extensionist, local forest ranger officer, commune land management officer, Commune Forest Management Board (CFMB)</li><li>➤ District forest ranger officers, technical forest staff</li></ul>
<b>Methods</b>	<ul style="list-style-type: none"><li>➤ Organise group work</li><li>➤ Farmers list all items they need timber for</li><li>➤ Estimation of the amount of timber for each item (house, kitchen, etc.)</li><li>➤ Estimation of the total number of trees needed for the whole village in one year. Calculate and discuss the amount that is needed for five years</li></ul>
<b>Time, location</b>	<ul style="list-style-type: none"><li>➤ At the village</li><li>➤ About 1 hour</li></ul>

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Product	Unit requirement	Annual number of units per village	Annual Total	Total for 5 years
 <b>Living house</b>				
 <b>Cowshed</b>				
 <b>Fence</b>				
 <b>Furniture</b>				
 <b>Firewood</b>				

**Illustration 15:** Matrix for forest product demand assessment

### **Step 6: Comparison of demand and supply**

The timber supply and the supply of fuelwood that the local forest resources can provide is assessed during the fourth step when the current forest structure of each block is compared with the ideal forest structure proposed by the SFM. The village timber demand is then assessed in step 5, and together these two steps form the basis for balancing the demand and supply situation in the village.

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<b>Expected results</b>	<ul style="list-style-type: none"> <li>➤ The balance between demand and supply of timber and bamboo is done</li> <li>➤ The quantities that are harvested in different diameter classes from the forest blocks in five years are determined</li> </ul>
<b>Materials</b>	<ul style="list-style-type: none"> <li>➤ Supply and demand comparison form</li> <li>➤ A0 paper, color cards, color pens</li> </ul>
<b>Participants</b>	<ul style="list-style-type: none"> <li>➤ Key farmers, Village Forest Management Board (VFMB)</li> <li>➤ Commune extensionist, local forest ranger officer, commune land management officer, Commune Forest Management Board (CFMB)</li> <li>➤ District forest ranger officers, technical forestry staff</li> </ul>
<b>Methods</b>	<ul style="list-style-type: none"> <li>➤ Organise group work, use form 6 (<i>Form 6 in part VI</i>)</li> <li>➤ Compile data on forest product demand of the village from the previous step. Note demand according to diameter classes</li> <li>➤ Note number of trees that can be harvested in each diameter class (from comparing current forest structure with SFM)</li> <li>➤ Discuss alternatives or substitutes for cases where supply does not match the village demand</li> </ul>
<b>Time and location</b>	<ul style="list-style-type: none"> <li>➤ At the village</li> <li>➤ About 1 hour</li> </ul>

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**Balance between village demand and supply**

The timber supply varies from area to area and depends on the current forest status in the village forest. The dependency of local people on forest resources also differs and usually depends on the socio-economic situation of the village.

Finding the balance between demand and supply does not mean that the village demand must be met at any cost – it has to be seen rather as a chance for village to assess its forest resources and propose appropriate measures in the forest management plan.

The first priority when balancing demand and supply is to meet the demand for local household consumption. Commercial use of timber is only considered if all household needs are covered.

**Step 7: Elaborating five-year forest development plan**

Based on the results from step 6, the five-year forest management plan is elaborated for each forest block and the summary thereof compiled as the five-year forest development plan of the village.

Based on the current status of the village forest resources, the balance between demand and supply and the forest management objectives – activities for forest management and protection are proposed. This plan not only consists of harvesting activities but also contains measures to further develop the village forest resources. They include:



**a) Measures that can be considered in natural forests:**

- Selective cutting to obtain timber for own consumption and (if the quantity exceeds the village demand) for commercial purposes. Forest maintenance is then carried out
- Forest enrichment by additional planting in forest blocks that have a poor forest structure
- Propagation of non-timber forest products (NTFP)

**b) Measures that can be considered for bare land areas:**

- Afforestation, agroforestry or forest improvement
- Thinning, pruning
- Plantation

Not all of these methods will be applied and the village needs to decide based on the available limited resources (labor and finances).

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<b>Expected results</b>	<ul style="list-style-type: none"><li>➤ Five-year forest development plan for the village</li><li>➤ Activities, detailed in content, quantity, time and responsibility</li></ul>
<b>Materials</b>	<ul style="list-style-type: none"><li>➤ A0 paper and pen</li><li>➤ Form for five-year management plan for each forest block</li><li>➤ Form for five-year forest management plan of the village</li></ul>
<b>Participants</b>	<ul style="list-style-type: none"><li>➤ Key farmers, Village Forest Management Board (VFMB)</li><li>➤ Commune extensionist, local forest ranger officer, commune land management officer, Commune Forest Management Board (CFMB)</li><li>➤ District forest ranger officers, technical forestry staff</li><li>➤ Representatives of village households</li></ul>
<b>Methods</b>	<ul style="list-style-type: none"><li>➤ Group discussion with key farmers to develop five-year management plan for each forest block (<u>Form 7 in part VI</u>)</li><li>➤ Compile five-year management plan for the whole village (<u>Form 8 in part VI</u>)</li><li>➤ Village meeting in which key farmer present the village forest development plan</li><li>➤ Facilitation of discussion and common agreement among the village community regarding the established plan</li></ul>
<b>Time and location</b>	<ul style="list-style-type: none"><li>➤ In the village</li><li>➤ 1 day for preparatory work with planning group</li><li>➤ ½ day for village meeting</li></ul>

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### **3.4. Intergration of NTFPs in the forest management plan**

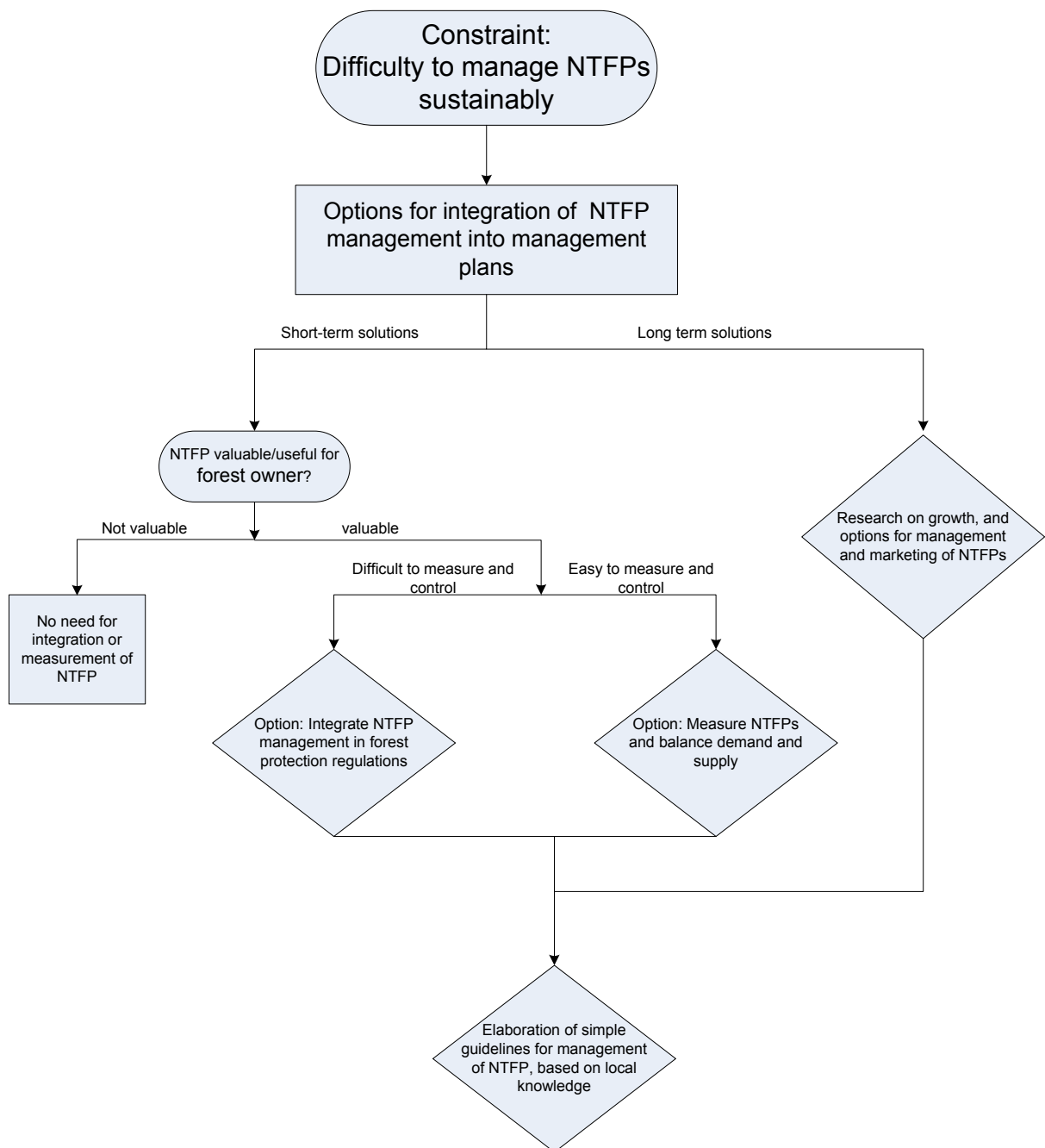
Up to this moment, the village forest management plans focus on the determination of sustainable harvesting levels solely for timber, respectively trees. This focus on timber is justified by the importance of trees for the forest ecosystem as well their economic importance for the villagers. However, the later is often an important aspect of non-timber forest products (NTFP) that are managed by local communities. Besides economic importance, NTFP can be a valuable resource for (traditional) local medicine, serve as construction material, or provide additional fodder for livestock – just to mention a few possible benefits from NTFP.

Thus, the management of NTFP should be an element of the forest management and development plan, but the question remains how best to achieve this, given the vast range and diversity of NTFP. The flow chart on the following page aims to provide some options on how to include NTFP in community forest management. They are divided into options that are applicable in the short term and others that can only be applied in the long term. While long term options are generally research-based (scientific data on growth and yield needed), the identification of short-term options is crucial to determine immediate calls for action. Regarding the later, the most important principle and starting point of whether to include a particular NTFP into management plans is the assessment of willingness and commitment of the local forest users. If there is no interest in the management of a particular NTFP, there is no need to include it in the management plan.

The next question is whether the particular NTFP can be measured and assessed effectively by applying a simple methodology and tools. Simplicity is of importance, considering the principle that management plans are to be elaborated in a participatory way to increase the ownership (and thus commitment to implement them accordingly). The aspect of simplicity is furthermore important regarding the common local restrictions of resource and labour availability.

In case that the particular NTFP cannot be assessed in a simple way, the only option for the short-term is to regulate its use in the village forest protection and development regulations (FPDR). The definition of sanctions regarding the uncontrolled use by outsiders is a central element in many cases. Making use of available local knowledge to determine management options (e.g. suitable seasons for harvesting, etc.) is an important aspect of such restrictions.

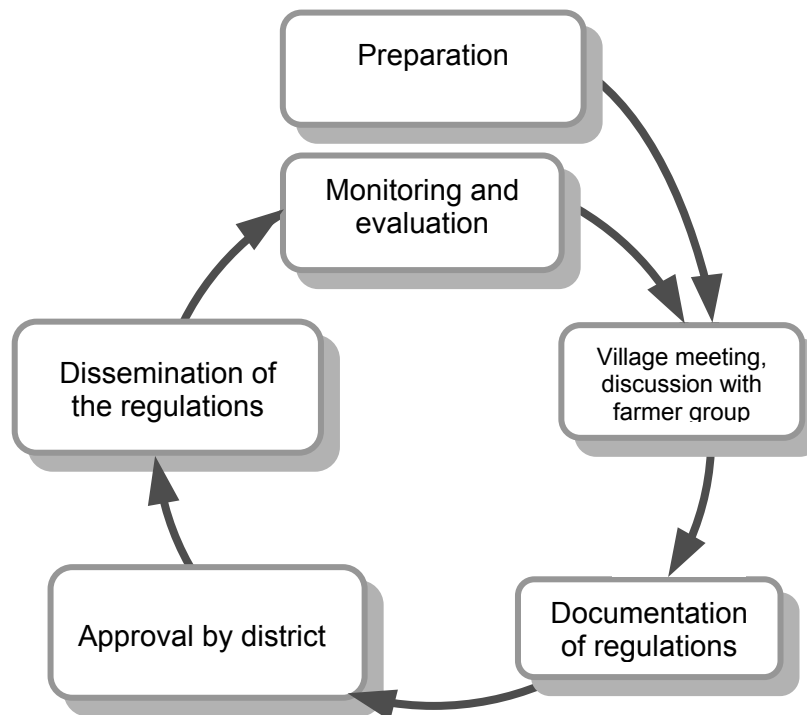
If the particular NTFP can be measured with the help of local tools, the supply can be compared to the demand in a similar way as done for timber. However, one has to consider whether the potential outcome can justify the time and effort needed to undertake the respective assessment.



**Illustration 16:** Flowchart on possible approaches to include non-timber forest products (NTFP) in the forest management plan

## Part IV: Design of forest protection and development regulations (FPDR)

The six steps depicted in the chart below are proposed to develop, implement, monitor and evaluate the local forest protection and development regulations (FPDR).



**Illustration 17:** Cycle to develop forest protection and development regulations (FPDR)

### 4.1. Objectives

To develop the regulations of forest protection and development based on local traditional customs in natural resource management and current policies to meet the requirement of forest protection and development of both local people and the government.

The development of the regulations with appropriate tools and skills helps farmers to analyse forest resources themselves, to develop the content of their own regulations that later on support the implement to their management plan. Only if the regulations are prepared by the forest users, they have a motivation to stick to the rules as they are the ones that have imposed these measures themselves.

### 4.2. Procedure for establishment

#### 4.2.1. Step 1: Preparation

The first step in designing forest protection and development regulations (FPDR) with the active participation of the local population, is a thorough preparation. Documents related to previous management regulations need to be collected, the information about the

current legal framework needs to be studied and methods and material needed for village meetings and group discussion has to be prepared.

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<b>Expected results</b>	<ul style="list-style-type: none"><li>➤ Land use maps, forest allocation plans, forest protection and management policies are available</li><li>➤ Data on forest resources and economic situation of the village has been reviewed</li><li>➤ Village Forest Management Board (VFMB) is aware about:<ul style="list-style-type: none"><li>• The process of the development of regulations, the objectives and the methods used therefore</li><li>• Who will participate in the meetings (important to include both men and woman)</li><li>• Agreement about the date of the first village meeting</li></ul></li></ul>
<b>Materials</b>	<ul style="list-style-type: none"><li>➤ A4 paper, pens</li></ul>
<b>Participation</b>	<ul style="list-style-type: none"><li>➤ Technical forestry staff from district and commune level, forest protection officers</li></ul>
<b>Methods</b>	<ul style="list-style-type: none"><li>➤ Collection of secondary data</li><li>➤ Summary of important legal documents related to (local) forest management</li><li>➤ Field visits</li></ul>
<b>Time, location</b>	<ul style="list-style-type: none"><li>➤ 1 day (either in the commune or at the village).</li></ul>

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#### **4.2.2. Step 2: Village meeting and group discussion to draft the regulations**

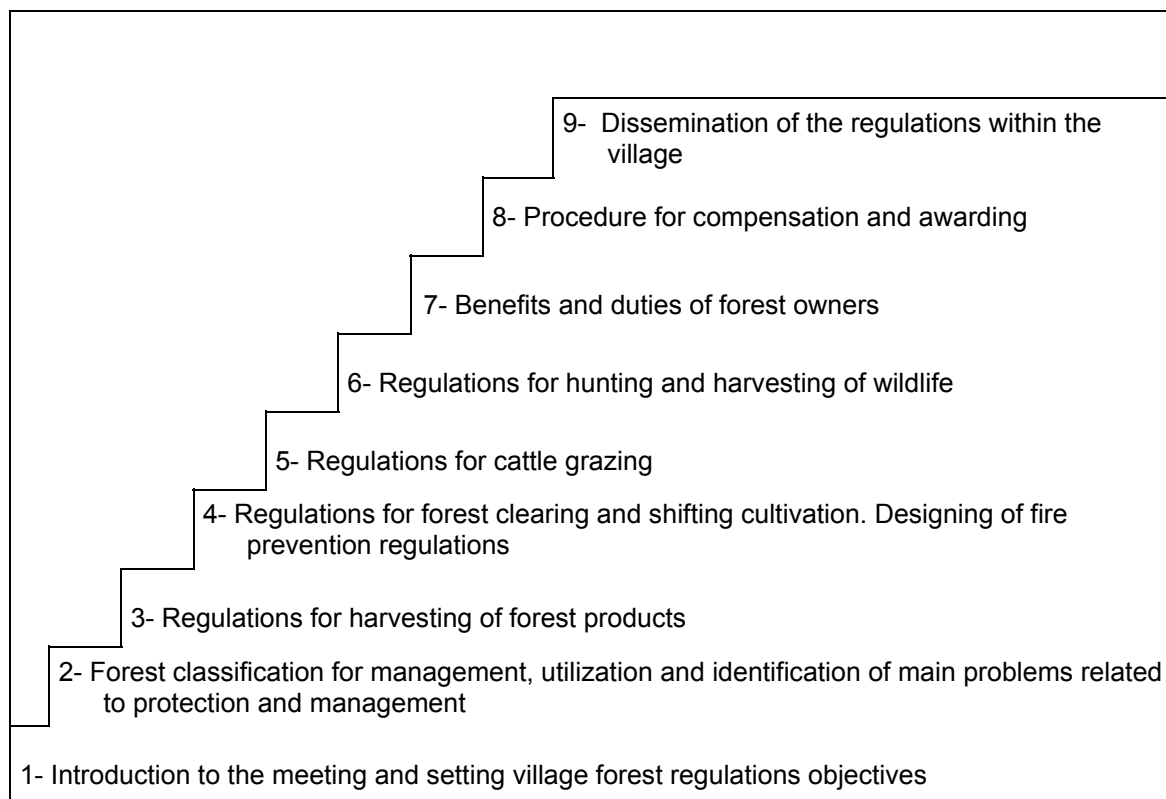
This is the main step in developing the forest protection and development regulations (FPDR). Facilitation skills are needed to facilitate the village meeting and the group discussions. The task of the facilitator is to foster the active participation of the villagers in drafting the regulations. Traditional customs need to be considered and all the issues that are proposed need to be agreed by the whole village community. The facilitator should not get involved in the discussion, but should only provide information on the policy level such as giving information on the legal framework and circulars and decrees that are related to forest protection. This is important, as the villagers need to adjust their regulations to the current legal framework.

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<b>Expected result</b>	<ul style="list-style-type: none"><li>➤ Village members agree on regulations for forest protection and development</li><li>➤ At least 20% of the participants are women</li><li>➤ Commune and district staff facilitate the village meeting</li></ul>
<b>Materials</b>	<ul style="list-style-type: none"><li>➤ A0 paper, pens</li><li>➤ Village forest map</li></ul>
<b>Participation</b>	<ul style="list-style-type: none"><li>➤ Technical forestry staff, local forest rangers, commune leaders, Commune Forest Management Board (CFMB), village leaders, partriarch association, women association, key farmers</li></ul>
<b>Methods</b>	<ul style="list-style-type: none"><li>➤ Plenary discussion to clarify objective of the development of the regulations</li><li>➤ Group discussion to develop the regulations topic by topic</li><li>➤ Village meeting to get community agreement on the regulations</li></ul>
<b>Time, location</b>	<ul style="list-style-type: none"><li>➤ In the village, about 3 days</li></ul>

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## Overview or the tentative village meeting schedule



**Illustration 18:** Tentative village meeting schedule to discuss forest protection and development regulations

<b>Discussion with farmer group on each topic of the regulations</b>	
<b>Topics of the regulation</b>	<b>Guideline for discussion</b>
1. Introduction of the regulations	<ul style="list-style-type: none"> <li>➤ Plenary discussion to clarify objectives and role of farmers in the regulation development process</li> </ul>
2. Identification of key issues related to forest management	<ul style="list-style-type: none"> <li>➤ List issues discussed by farmers related to their understanding of forest protection and development</li> <li>➤ Group the issues and prioritize them to discuss them structured</li> </ul>
3. Forest product harvesting regulations	<ul style="list-style-type: none"> <li>➤ Discuss the practical implementation of the forest management and development plan. Farmers identify and agreed on regulations that they think are appropriate to ensure sustainable harvesting of forest products</li> <li>➤ Harvesting of forest products includes the topics of timber harvesting for construction, collection of NTFP, fire wood collection. Each forest block needs special protection measures, so this discussion has to be done forest block by forest block</li> </ul>
4. Regulations on cultivation on forest land and forest fire prevention	<ul style="list-style-type: none"> <li>➤ Farmers discuss regulations for forest clearing for cultivation purposes: Possible locations, appropriate season, fire hazards</li> <li>➤ Farmers discuss and agree on the strategy to prevent forest fires</li> <li>➤ Farmers agree on individual responsibilities for forest fire prevention, compensation and fining levels for disregarding the regulation</li> <li>➤ Farmers discuss establishment of forest fire prevention group and its tasks</li> </ul>
5. Regulations on grazing	<ul style="list-style-type: none"> <li>➤ Explain the negative impacts of free grazing of livestock in natural forests and its effects on the natural regeneration</li> <li>➤ Facilitate farmers to discuss and agree on regulations that are applied for grazing in each forest block: <ul style="list-style-type: none"> <li>- Which areas are defined as grazing area?</li> <li>- Which forms of grazing are allowed?</li> </ul> </li> <li>➤ Farmers identify and agree on the levels of fining and compensations for disregarding the regulation</li> </ul>
6. Regulations on hunting wildlife	<ul style="list-style-type: none"> <li>➤ Farmers are provided with information on endangered species that depend on special protection efforts (as defined by the law – ‘Red List’ of endangered species)</li> <li>➤ Farmers discuss the situation of wildlife in the village forest area</li> <li>➤ Farmers identify the species and the number of animals that can be hunted</li> <li>➤ Farmers agree on the level of fining and compensations for disregarding the regulation</li> </ul>

<b>Discussion with farmer group on each topic of the regulations</b>	
7. Rights and duties of forest owners and protection groups	<ul style="list-style-type: none"> <li>➤ Farmers identify rights and duties (benefits and obligations) of forest owners and forest protection groups</li> <li>➤ Farmers define the level of compensation for the village forest protection group and identify financial sources for this expenditure</li> </ul>
8. Procedures for fining, compensation and rewarding	<ul style="list-style-type: none"> <li>➤ Farmers identify the institutional body that is entitled to impose fines, compensations and rewarding. They also define the power of the village leader and the village forest management board (VFMB) related to the FPDR</li> <li>➤ Farmers agree on the procedure and levels for fining, compensation and rewarding</li> <li>➤ <i>A fining form for violation cases is presented in form 9 <u>in part VI</u></i></li> </ul>
9. Agreement on draft of forest protection and development regulations (FPDR) within the village	<ul style="list-style-type: none"> <li>➤ All the topics mentioned above are presented to the rest of the village community during a village meeting</li> <li>➤ Comments and proposed changes are noted for further changes. The agreement of the village community regarding the FPDR has to be recorded in an appropriate form</li> <li>➤ Election of the village forest management board (VFMB) and definition of their responsibility, working principles and compensation (ensuring highest possible transparency)</li> <li>➤ <i>Forms to define the tasks and principles of the VFMB are presented in form 2 <u>of part VI</u></i></li> </ul>

#### **Issues related to regulation development**

It is clear that not all of the issues mentioned above form part of the regulations in each village. Issues selected for regulation development should be based on the current condition in the given situation. The discussion of the main issues related to forest management and protection forms a good starting point to define the topics that will then be discussed more in detail. It is important to base on the local perception, as only this ensures sufficient ownership. This ownership is the crucial point when it comes to the implementation of the FPDR – which can only be done by the village community.

In addition, the specific local condition of the village need to be considered when proposing issues for development of forest protection and development regulations. For instance in Dak Nong, the sale of agriculture land represents a big problem that has effects on the forest management, so this issue needs to be discussed as additional point in the forest protection and development regulations

#### **4.2.3. Step 3: Elaboration of the document and village consultation**

After finishing the regulation draft, forest officers should help the village forest management board (VFMB) to complete the regulations. They have to be written in a simple manner using the local language so that all the village members can understand. Finally, the adapted regulations have to be presented to the villagers in a final village meeting on this topic to get the village approval for the final version.

#### **Expected results**

- Regulations are written down as a simple and easy-to-understand form so that the local population has no problem understanding the content
- The revised forest protection and development regulations are presented to the village community in a second village meeting



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	<ul style="list-style-type: none"> <li>➤ Village leader and the village forest management board (VFMB) support during the completion of the regulations and the following process of submission to the Commune Peoples Committee (CPC)</li> </ul>
<b>Materials</b>	<ul style="list-style-type: none"> <li>➤ A4 paper, pens</li> </ul>
<b>Participants</b>	<ul style="list-style-type: none"> <li>➤ Local forest protection officers, village forest management board (VFMB), village leader, Commune Forest Management Board (CFMB), women association etc.</li> </ul>
<b>Methods</b>	<ul style="list-style-type: none"> <li>➤ Support the Village Forest Management Board (VFMB) to finalize the regulation document</li> <li>➤ Organise a village meeting to present regulations to villagers before submitting to the commune authorities for approval</li> </ul>
<b>Time and location</b>	<ul style="list-style-type: none"> <li>➤ About 1 day, at the village</li> </ul>

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#### 4.2.4. Step 4: Official approval of regulations

The regulations need to be approved by the Commune Peoples Committee (CPC) and the District Peoples Committee (DPC) to become officially recognized and binding.

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<b>Expected result</b>	<ul style="list-style-type: none"> <li>➤ Regulations are approved by the District Peoples Committee (DPC) so that village can implement consider them as binding</li> </ul>
<b>Materials</b>	<ul style="list-style-type: none"> <li>➤ Regulations</li> </ul>
<b>Participants</b>	<ul style="list-style-type: none"> <li>➤ District Peoples Committee (DPC), Commune Peoples Committee (CPC) and Forest Protection Station</li> </ul>
<b>Methods</b>	<ul style="list-style-type: none"> <li>➤ Commune Peoples Committee (CPC) approves and then sends to the document to the District Peoples Committee (DPC) for approval. DPC consults forest protection unit and legal unit on district level before approving</li> </ul>
<b>Time, location</b>	<ul style="list-style-type: none"> <li>➤ Commune People Committee (CPC), District Peoples Committee (DPC) and Forest Protection Station. The process of consideration takes roughly one month</li> </ul>

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#### 4.2.5. Step 5: Dissemination of approved regulations in the village

After approval by the Commune Peoples Committee (CPC) and the District Peoples Committee (DPC), the regulation document will be sent back to village and is ready for implementation. Dissemination of the regulations can be done either through distribution of a hard copy during a village meeting, or by other appropriate forms that ensure that all villagers will have a document that becomes binding from this moment.

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<b>Expected results</b>	<ul style="list-style-type: none"> <li>➤ Regulations are disseminated to all village members</li> <li>➤ Changes in the regulations made by the District Peoples Committee (DPC) are clarified with villagers</li> <li>➤ Monitoring and evaluation plan is prepared</li> <li>➤ Method of dissemination is agreed</li> </ul>
<b>Materials</b>	<ul style="list-style-type: none"> <li>➤ Approved regulations (written on A0 paper in case there is a village</li> </ul>

	meeting)
<b>Participants</b>	➤ Forest protection officers, commune leaders, Village Forest Management Board (VFMB), representatives from all households in the village
<b>Methods</b>	<ul style="list-style-type: none"> <li>➤ Forest protection officers organise village meeting to inform villagers about the result of the approval process</li> <li>➤ Approved regulations are disseminated to the local inhabitants through a clearly planned strategy</li> </ul>
<b>Time, location</b>	<ul style="list-style-type: none"> <li>➤ ½ day meeting at the village</li> <li>➤ The topic of the new forest protection and development regulations can be brought up regularly during other meetings in the village to make villagers aware of the new legal situation</li> </ul>

**Dissemination of forest protection and development regulations in the village**

Regulations have to be available in the local language, as every person needs to be aware of the content and the possible consequences of disregarding regulations.

Dissemination methods can be diverse and flexible and include the possibilities of using public communication means, village meetings, and other meetings taking place in the village (youth union, farmers union, womens union).

#### 4.2.6. Step 6: Implementation, monitoring and evaluation of regulations

Whether the forest protection and development regulations (FPDR) become effective or not very much depends on the monitoring and evaluation system that allows to take action in case they are not strictly enforced. This important task can only be done by joint efforts of the Village Forest Management Board (VFMB) with support from the commune authorities and local forest rangers.

In addition, regulations can be changed in the long term to fit changing local conditions. Checking the appropriateness of regulations therefore represents an important aspect of the evaluation that has to be done after (several) years of implementation. Changes in the legal framework might make necessary adjustments anyway.

<b>Expected results</b>	➤ Decentralized responsibility for implementation, monitoring and evaluation of forest protection and development regulations (FPDR)
<b>Materials</b>	<ul style="list-style-type: none"> <li>➤ Approved regulations</li> <li>➤ Sample of violation report</li> <li>➤ Regulations on A0 paper</li> </ul>
<b>Participants</b>	➤ Village Forest Management Board (VFMB), village community, Commune Forest Management Board (CFMB), local forest protection officers, district forest protection officers, commune leaders
<b>Methods</b>	<ul style="list-style-type: none"> <li>➤ <b>District level:</b> Forest Protection Station is main supporting partner for District Peoples Committee (DPC) in monitoring the implementation of the regulations on village level</li> <li>➤ <b>Commune level:</b> Local forest protection officer and Commune Forest Management Board (CFMB) check and monitor settlement of violation cases at commune level</li> </ul>

➤ **Village level:**

- Village Forest Management Board (VFMB) is responsible for disseminating regulations to all the households in the village
- Villagers are responsible for compliance with the regulations they developed
- Appropriateness of regulations will be periodically reviewed (every second or third year) and changes proposed for revision

**Time and location**

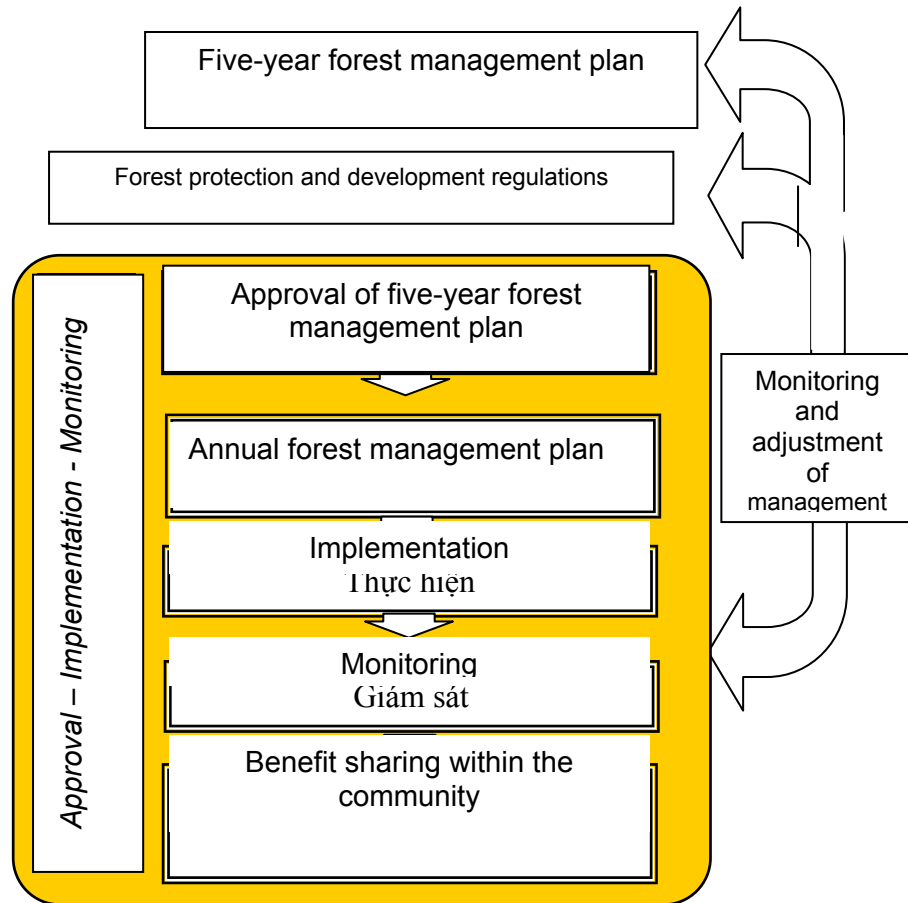
- District, commune and village
-

# Part V: Approval process of the forest management and development plan – CFM implementation and monitoring

## 5.1. Objectives

The elaborated five-year forest management and development plan on the village level has to be submitted to the Commune Peoples Committee (CPC) and the District Peoples Committee (DPC) for official approval. This approval is the precondition for a legally recognised implementation afterward.

For the successful implementation of community forest management (CFM), monitoring methods and evaluation mechanism need to be prepared to support the village and commune authorities in implementing the five-year management plan and the annual management plan.



**Illustration 19:** The role of monitoring in the CFM process

In CFM, forest products and other benefits gained from the common forest resources have to be shared equally among the village community. Agreed sharing mechanisms on the village level and towards the commune, district and the national level have to be defined and agreed among all the involved stakeholders.

## 5.2. Approval of the five-year forest management and development plan

According to the revised Law on Forest Protection and Development from 2004 and the decision 245/1998/QĐ-TTg from the Prime Minister dated 21/12/1998 about the ‘administrative management responsibility of different levels of land and forest land’, the District Peoples Committee (DPC) has the responsibility and the power to approve the forest management and development plan of villages. Therefore, these plans have to be submitted to the District Peoples Committee (DPC), which is done through the official channel through the Commune Peoples Committee (CPC).

The approved forest management and development plan forms the basis for the village to establish the annual forest management plan, which defines more in detail the activities related to sustainable forest management for one year. The approved annual plan needs to be disseminated in the village for discussion, implementation and as basis for monitoring activities.

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<b>Expected results</b>	<ul style="list-style-type: none"> <li>➤ The combined documents of the forest management and development plan and the forest protection and development regulations (FPDR) are approved by the Commune Peoples Committee (CPC) and District Peoples Committee (DPC)</li> <li>➤ Disseminate the approved forest management and development plan in the village (appropriate form of dissemination)</li> </ul>
<b>Materials</b>	<ul style="list-style-type: none"> <li>➤ Form for approval of the five-year forest management and development plan of the village</li> <li>➤ A4 paper, pens</li> </ul>
<b>Participants</b>	<ul style="list-style-type: none"> <li>➤ Village Forest Management Board (VFMB)</li> <li>➤ Commune Forest Management Board (CFMB)</li> <li>➤ District forest protection officers, technical forestry staff</li> </ul>
<b>Methods</b>	<ul style="list-style-type: none"> <li>➤ Technical staff supports the Village Forest Management Board (VFMB) to develop a procedure for the approval process of the above mentioned documents (<i>see form 11 in part VI</i>)</li> <li>➤ Plans are sent to the Commune Peoples Committee (CPC) for consideration and submission to the District Peoples Committee (DPC)</li> <li>➤ District Peoples Committee (DPC) approves and gives feedback to the commune. The commune then passes on feedback to the village</li> <li>➤ Village Forest Management Board (VFMB) organises a village meeting to inform about the approval of the plan and takes necessary steps for implementation</li> </ul>
<b>Time, location</b>	<ul style="list-style-type: none"> <li>➤ At village, commune and district</li> <li>➤ 1 month for the whole process</li> </ul>

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### **5.3. Development and approval of annual forest management plan**

Based on the approved five-year forest management plan, the annual forest management plan is elaborated by the Village Forest Management Board (VFMB) and then submitted to the Commune Peoples Committee (CPC) for approval.

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<b>Expected results</b>	<ul style="list-style-type: none"> <li>➤ Annual forest management plan is approved by Commune Peoples Committee (CPC)</li> <li>➤ Dissemination of approved annual forest management plan in the village for implementation</li> </ul>
<b>Materials</b>	<ul style="list-style-type: none"> <li>➤ Forms for approval of annual forest management plan</li> <li>➤ A4 paper, pens</li> </ul>

<b>Participants</b>	<ul style="list-style-type: none"> <li>➤ Village Forest Management Board (VFMB)</li> <li>➤ Commune Forest Management Board (CFMB), local forest protection officer</li> </ul>
<b>Methods</b>	<ul style="list-style-type: none"> <li>➤ Commune Forest Management Board (CFMB) and local forest protection officer support Village Forest Management Board (VFMB) to develop a procedure for the approval of the yearly plan (<i>Form 12 in part VI</i>)</li> <li>➤ Plan is sent to Commune Peoples Committee (CPC) for approval. A feedback should be given to the village, and the district should be informed about the content of the annual plan by the commune authorities</li> <li>➤ Village Forest Management Board (VFMB) organises village meeting to inform about the approval of the annual forest management plan and takes necessary steps for implementation</li> </ul>
<b>Time, location</b>	<ul style="list-style-type: none"> <li>➤ At the village, commune</li> <li>➤ 1/2 month for the whole process</li> </ul>

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## 5.4. Implementation of annual forest management plan

Once the annual forest management plan is approved by the commune authorities, the village will implement the defined silvicultural techniques to protect and develop their forest resources and harvest forest products for own consumption and - if available – for commercial purposes.

The main silvicultural techniques used in CFM are:

- **For natural forest:**
  - Harvesting
  - Selective cutting
  - Pruning and thinning
  - Forest enrichment by means of additional planting
  - Promotion of natural regeneration
- **For bare land:**
  - Afforestation
  - Promotion of natural regeneration
  - Promotion of agroforestry

Concurrent with the elaboration of this document, simple guidelines for silviculture techniques are being developed to support local technical staff to guide and discuss with local villagers the selection of the most appropriate silvicultural technique. In this context, it is an important task of technical staff to support the farmers by providing trainings to enhance their capacity and provide them with applicable new techniques to manage their forest in a sustainable manner.

In the context of CFM, there is no need to make a difference between thinning activities and timber harvesting. For both activities, the principle is that individual trees are selected based on the sustainable forest model. With the intensity of cutting being low, harvesting

can be carried out throughout the year and mainly depends on the peak season of high local timber demand.

#### **5.4.1. Selective cutting**

##### **a) Identification of harvesting location, track to move timber out of the forest block and identification of log-yard**

Blocks in which harvesting activities are carried out are listed in the five-year and the annual forest management plan. In case the block is very large and the defined harvesting can not be carried out in one year, the village first has to identify the exact harvesting activity location within the block. For getting out large quantities of timber and avoiding negative impacts on the remaining trees, it is important to identify suitable tracks to get the timber out. Many forests allocated to communities have a harvesting history and may still have tracks that can be used to reduce the impact. In case they have to be newly designed, they should be based on the topographic conditions and consider the experiences and recommendation of the local population regarding road construction.

##### **b) Select and mark trees for cutting**

The number of trees that can be harvested sustainably bases on the comparison of the data on the current forest status and the sustainable forest model. The harvestable amount for each forest block is stated in the annual forest management plan. Based on this information, the villagers select the trees in the forest and mark them. Apart from trees that are harvested to meet a specific demand, other individual trees might have to be cut to reduce competition among individual trees or to reduce the density for natural regeneration and the promotion of *target trees*. Trees that are removed therefore are characterized by a low potential (economic) value. Marking trees is therefore not only based on the number, but also on criteria such as: The aspect of the remaining forest canopy, the fact that a sufficient number of mother trees has to be sustained, the aspects of promoting natural regeneration, the principle of low impact logging etc. All of these issues are discussed more in detail in the guidelines on silvicultural techniques. It is important to actively discuss these aspects with the villagers and commonly decide which trees are marked for harvesting and which ones need to be kept to ensure a stable forest system.

##### **c) Felling**

Felling in CFM is mainly done by manual tools, as only few village communities have available a chain saw or other technical gear. During felling activities, special attention needs to be practiced regarding safety for all involved persons. Cutting of large diameter trees often causes damage to other trees. Using appropriate felling techniques avoids damaging other trees and reduces the impact on the natural regeneration in the immediate surrounding. This is particularly important on steep slopes.

##### **d) Pulling trees out to the log yard**

Trees that are harvested for domestic consumption are moved directly to the respective household. Timber that is harvested for trading has to be moved to the log yard in order that the responsible forest ranger can check it. It will then be sold directly from this place. The means of transportation bringing the timber there can vary depending on means available in the village: buffalos, cows, elephants etc., but use of animals to pull out timber is encouraged as it reduces damages. In case the use of machinery is considered (due to difficult topography or big quantity of timber that is harvested), the village might directly contract external service providers for the task.

### e) Use of byproducts and forest cleaning

After felling the tree and moving it out, a large quantity of branches is left behind. Bigger branches can be used as small timber or cut and used as firewood. Small branches need to be cut into small pieces and evenly distributed to avoid negative impacts on natural regeneration.

## 5.5. Monitoring and management system for implementation of forest management and development plan

The concept, methods and tools of CFM are still new for forestry organisations and staff. Therefore, it is important to set up a monitoring and management system for implementation of the CFM plan, especially for harvesting activities. This monitoring system needs to be organised appropriately according to the village capacity, with a focus on improving self reliance and internal self monitoring at grassroot level. In this new system, the roles and tasks of local authorities and related stakeholders in CFM process need to be clearly determined to support the process.

An administrative management system and CFM guiding mechanism are being developed by the National Working Group on Community Forestry (NWG CFM). This step is the starting point and an important precondition to create the basis for implementation of village forest management plans. In principle, the new management mechanism encourages decentralised decision making and promotes monitoring at local and grassroot levels. It facilitates the link from the village to the district level and reduces complex procedures existing for communities managing and monitoring their forest resources. The monitoring mechanism should distinguish between two types of timber harvesting:

- A) Harvesting for domestic consumption of village households
- B) Harvesting for commercial purposes

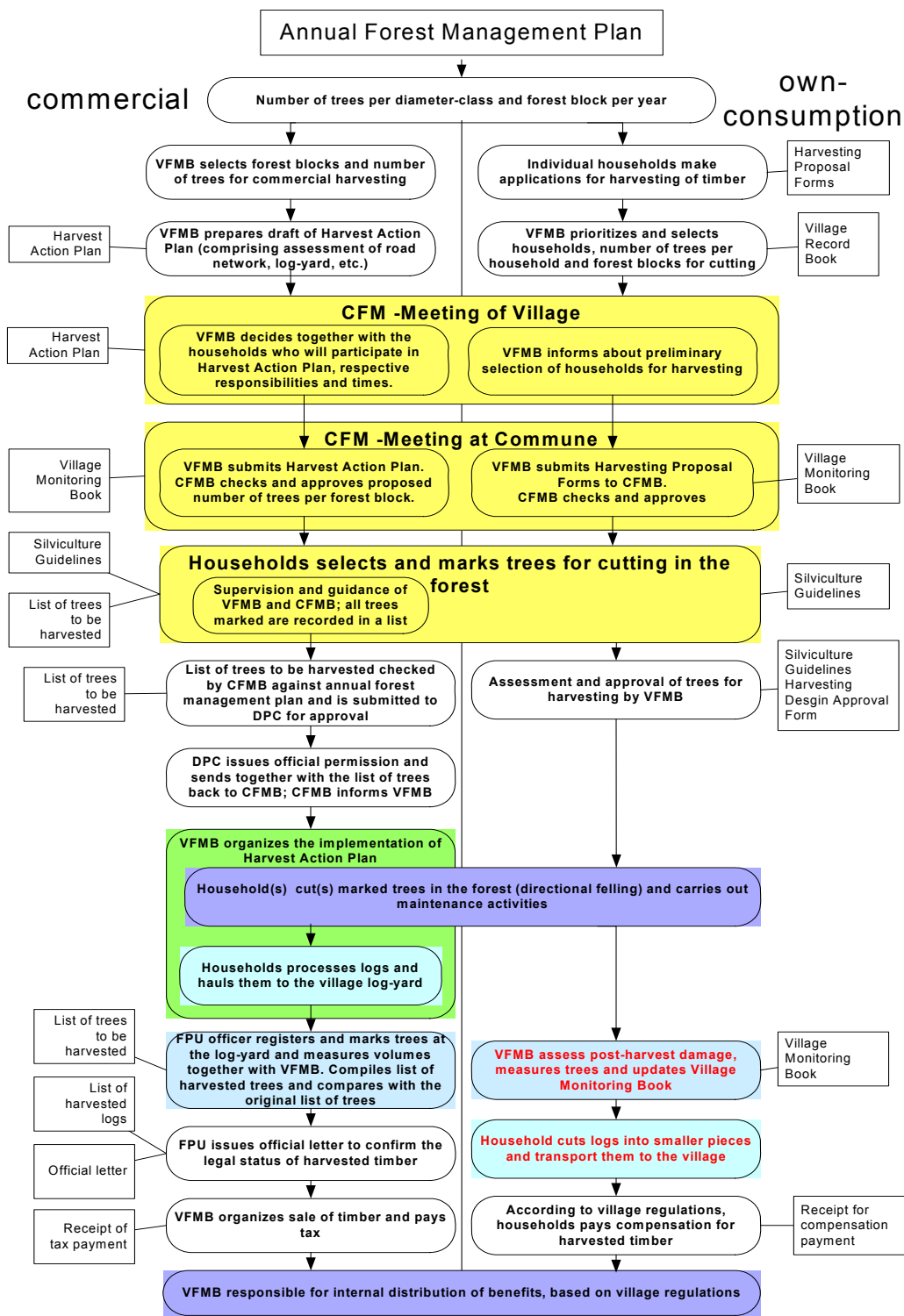
### A) Proposed steps and monitoring mechanism for timber harvesting for own consumption at village level

Activity	Implementation	Submission and monitoring	Approval
Submit harvesting form	Household writes and submits form to the Village Forest Management Board (VFMB)	VFMB collect and selects households and submits the forms to the commune authorities	Commune Forest Management Board (CFMB)
Selection of exact location and specific tree for harvesting	Household marks trees location in the forest block	VFMB checks the location of the trees marked	
Harvesting and moving timber to the assembly place	Household	VFMB and local forest ranger	
Cleaning	Household	VFMB	
Checking the forest after harvesting	Household	VFMB	



**B) Proposed steps and monitoring mechanism for harvesting for commercial purposes**

<b>Activity</b>	<b>Implementation</b>	<b>Submission and monitoring</b>	<b>Approval</b>
Select forest blocks for harvesting, prepare skidding and log-yard	Village Forest Management Board (VFMB) and households	Commune Forest Management Board (CFMB)	
Preparing a list of trees to be harvested with diameter classes and location. Submission of the list to the commune authorities for approval  Select and mark the trees for harvesting	VFMB and households	Forest rangers  Commune Forest Management Board (CFMB)	
Approve harvesting form	VFMB makes a list of trees for harvesting mentioning exact location and submits it to the commune	CFMB collects harvesting forms from villages and submits them to the district authorities	District Peoples Committee (DPC) approves harvesting forms
Felling	VFMB and household	CFMB, forest rangers at commune and district level	
Transportation of timber to the log-yard	VFMB, household/groups of household, (evt. external service providers)	CFMB	
Forest maintenance after harvesting	VFMB, household/ groups of household	CFMB	
Check forest block after harvesting	VFMB	CFMB	
Count the trees and calculate cubic metre (m <sup>3</sup> ) in log-yard  Give official stamp on timber for transportation	VFMB calculates the amount of harvested timber (in cubic metres - m <sup>3</sup> )	VFMB	Forest protection unit
Sell timber and pay resource tax	VFMB	CFMB	
Benefit sharing among village community (according to agreed mechanism)	VFMB and all households of the village	CFMB	



**Illustration 20:** Flowchart depicting implementation and monitoring of timber harvesting procedures in CFM, distinguishing between harvesting for own consumption (village households) and harvesting for commercial purpose

In order to simplify these matters, it is important to have available simple forms that cover all steps described above and that are appropriate for the management levels involved in the process (village to district level) (see forms 13 – 17 *in part VI*).

## **5.6. Benefit sharing mechanism at village level**

### **Principles to calculate benefit sharing for forest owners at village level**

- To ensure that CFM can be implemented by the communes and villages in a financially sustainable manner (e.g. without or with only little financial inputs/subsidies from the state budget), the sharing of benefits from forest activities has to be arranged primarily among forest user, village authorities and the commune.
- Base on the harvestable amount of trees in five years to calculate the tentative benefit for forest owners.
- The comparison of the actual number of trees with the number of trees proposed by the Sustainable Forest Model (SFM) for each diameter category shows the number of trees that are redundant and can be harvested sustainably. The sustainable forest model can therefore be seen as a control tool for monitoring of forest development and growth, using the simple indicator 'number of trees' in various diameter classes. It acts as a simplified growth rate measure.

### **Implementation guidelines**

- Participatory forest resource inventories are carried out every five years to identify the growth in terms of number of trees. This allows to calculate the number of trees that can be harvested sustainably in the next five-year period.
- Sticking to the number of trees defined, the village is free to choose the appropriate time for harvesting, which might depend on the availability of labor or market demand.
- During the first five years, forest owners can harvest the surplus compared to the sustainable forest model. This is not yet the natural forest growth, but should be seen as an kind of 'advance'. After five years, forest owners repeat the inventory and again identify the surplus compared with the sustainable forest model, which is then actually the natural forest growth.

### **Benefit sharing within the village and with the commune**

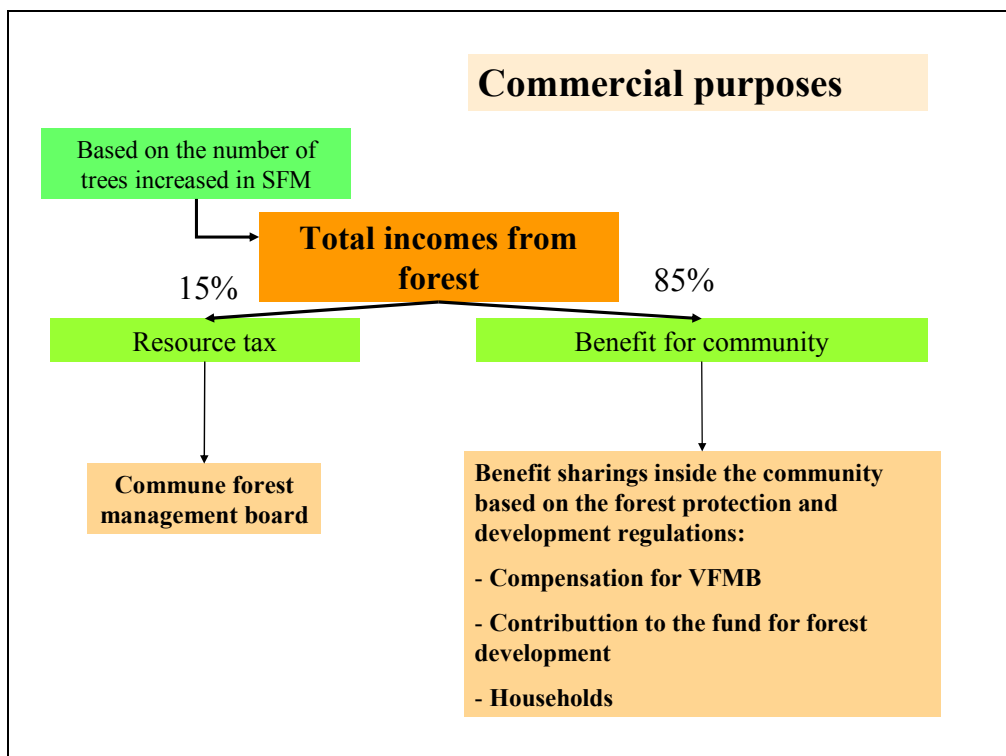
Benefits for village are divided into two categories:

- Harvesting timber for own consumption (village households)
- Harvesting timber for commercial purposes

The income from timber harvested for commercial purpose will be shared among the village and the commune. The reason therefore is that some CFM activities require compensation for rendered services – this especially applies to forest protection groups, the Village Forest Management Board (VFMB) and the Commune Forest Management Board (CFMB). As CFM is considered as '*subsistence forestry*' - CFM being done mainly in poor upland communes - income from selling timber can be seen as direct benefit from forest resources that compensates the communities for their careful management of an important natural resource. The income can be used to implement activities that are defined in village and commune development plan and that are of benefit for the entire village community (comparable with commune and village development funds).

It is recommended to find an agreement that allows that all the income from selling timber can be shared among the commune, the village and the households participating in forest management. Suggestions are:

- A resource tax of 15% is transferred to the commune to compensate the Commune Forest Management Board (CFMB) for their supervision of management activities and the monitoring related to the management of village forest resources.
- The remaining 85% are kept in the village and shared as agreed in the Forest Protection and Development Regulations (FPDR). Typical compensations that need to be paid out of this amount are:
  - o Compensation for the Village Forest Management Board (VFMB).
  - o Sharing among individual households as per involvement in forest protection and development activities.
  - o Keeping the rest of the funds for forest development activities which might include: buying seedlings, establishment of nursery, plantations, forest enrichment, awarding, contribution for local school building, development of irrigation channels and other village development activities (VDP)

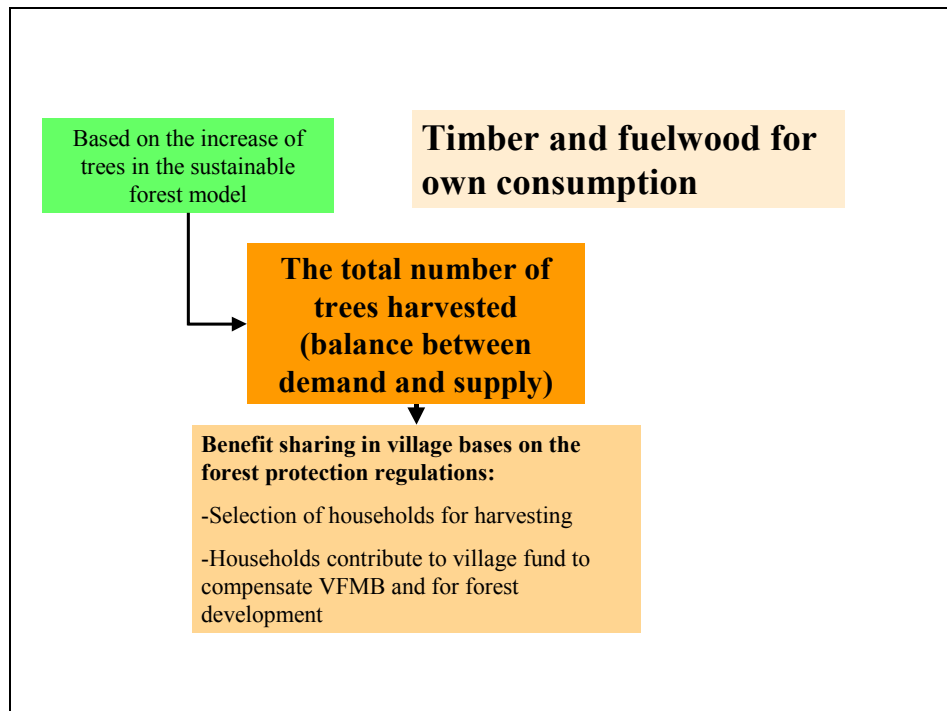


**Illustration 21:** Benefit sharing within society (harvesting timber for commercial purposes)

In case of harvesting timber for own consumption of households, benefit sharing becomes simpler. Based on the increase of number of trees, the community can harvest and share these trees among the households according to their needs. The benefit sharing can be done as follows:

- Based on the total number of trees that can be harvested in five years, the VFMB selects the households that are allowed to harvest. This selection should be carried out according to a fixed set of criteria developed by the village community.

- Households are allowed to harvest the agreed amount of timber as soon as they have the application form approved by the Commune Peoples Committee (CPC).
- It can be agreed, that households that harvest timber from the communal forest pay a small compensation to the VFMB for each piece of timber taken from the village forest. This compensation can be seen as a compensation for the privilege to harvest good quality products from a sustainably managed forest. The money is used for compensating all the stakeholders that have been involved in the implementation of the forest resource management (VFMB, protection group, ...).



**Illustration 22** : Benefit sharing mechanism CFM – harvesting timber for own consumption

## Part VI: Forms

### Form 1: Forest block description form

Name of the village:

Direction from village centre



Name of the forest block:

Area (ha):

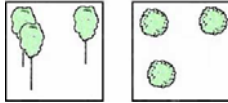
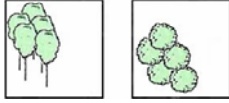
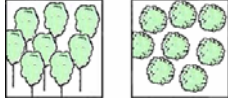
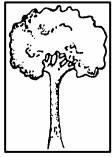
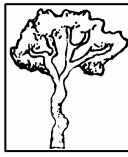

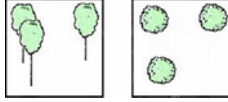
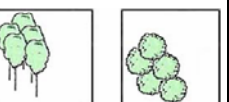
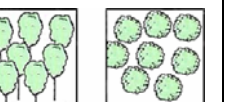
<b>Access</b>	<b>How long do you walk from the village to reach the forest block?</b>		
	Less than 1 hour	1-2 hours	More than 2 hours
<b>Forest Type / Age</b>			<b>Age</b>
			mature middle young
<b>Forest products</b>	<b>Can you harvest any timber from this block in the next 5 years?</b>		<b>yes</b> <b>no</b>
	<b>If no, why?</b>		
	<b>Please list 3 main forest products which we can harvested from this block?</b>		
<b>Weed Invasion</b>	<b>How is the situation with weeds?</b>		
	More than 50% of ground covered	Less than 50% of ground covered (but common)	No weeds

<b>Fire hazard</b>	<b>When did a fire last time occur in this forest block?</b>			
	Every year	In the last 5 yrs	In the last 5 - 10 yrs	Never

<b>Grazing</b>	<b>What is the grazing pressure in the block?</b> (check signs like cattle manure, trampled areas, very short grass, browsed shrubs and herbs etc.)			
	high	medium	low	None

<b>Logging History</b>	<b>When was the last timber extraction carried out?</b>	<b>About 2 month ago</b>
	Other special products (NTFP) harvested? Timber for house construction, lồ ô, bamboo	
<b>Degree of closure of the forest stand</b>	Open – lack of big trees, under storey only scattered, ground infested with bamboo and / or weeds	
	Big gaps – bigger trees spaced more than a crown-extent away, no regeneration or under storey	
	Light – crowns not more than one crown extent away from each other	
	Closed – crowns of the trees are touching each other	

## Forest block description form (continued)

<b>Biggest trees in the upper layer</b>			<b>Possible Use</b>	
<b>What are the dominant species?</b>	1)			
	2)			
	3)			
	4)			
<b>How are big diameter trees distributed?</b>	<i>Scattered or single</i>	<i>In groups</i>	<i>Evenly or closed</i>	<i>Remarks</i>
				
<b>How do most of big diameter trees look like?</b>	<i>Straight</i>	<i>Crooked / twisted</i>	<i>Infected / diseased</i>	<i>Remarks</i>
				
<b>Trees under the canopy</b>			<b>Possible Use</b>	
<b>What are the dominant species?</b>	1)			
	2)			
	3)			
	4)			
<b>How are medium diameter trees distributed?</b>	<i>Scattered or single</i>	<i>In groups</i>	<i>Evenly or closed</i>	<i>Remarks</i>
				
<b>Seedlings for natural regeneration (0,2 m - 1,30 m)</b>				
<i>How much natural regeneration is growing in the forest block?</i>				
<i>A lot</i>		<i>Medium</i>		<i>Poor</i>

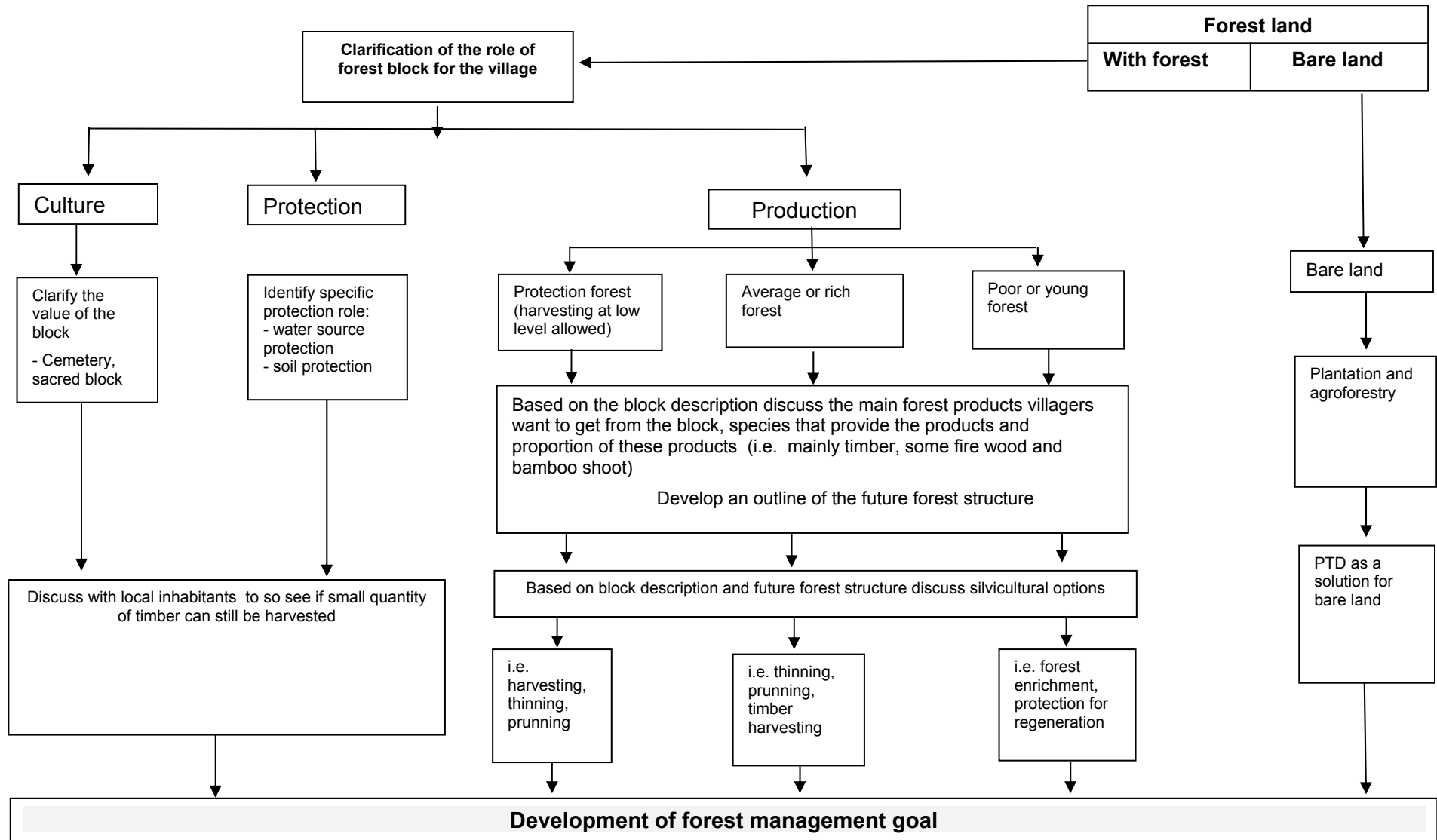
## Form 2: Forest block management goals

(Example taken from Bu Nor village)

<b>Block name Forest type Area</b>	<b>Issues</b>	<b>Opportunities</b>	<b>Management goal</b>
<i>Lâm lo Poor 47 ha</i>	<i>- Far from village, difficult to protect  - Illegal harvesting often happens</i>	<i>- Flat topography  - There are still some big timber trees and medicine trees left</i>	<i>- Evergreen forest  - Harvesting timbers by cutting surplus trees in diameter classes</i>
<i>Đông bay Mature 69 ha</i>	<i>- Near stream, near agricultural fields - easy for villagers to cut timber for field preparation</i>	<i>- Provides timber and other forest products  - Flat topography, advantageous for forest protection and monitoring</i>	<i>Evergreen forest  Harvesting timber by cutting surplus trees in the respective diameter classes and promotion of natural regeneration</i>



### Form 3: Line chart for identification of forest block management goal



### Form 4 : Sample plot recording form

Recorder..... Date..... Soil color.....

Name of the village..... Forest block #..... Local name of inventory area..... Sample plot number.....

Canopy coverage

⇒ Open

⇒ Normal

⇒ Dense

Local Tree Name <small>(mark timber species with asterisk)</small>	Regeneration (B)	(A)		☺ Timber Potential (A)							☹ No Timber Potential (A)						
	Under chest height	white	yellow	black	stripes	blue	dots	red	orange	wave	black	stripes	blue	dots	red	orange	wa ve
Total number of bamboo culms per plot																	






### Form 5: Inventory forest block summary form

1) Village		Bon Bu Nor				2) Block name		Lem lo						3) ) Block area in ha		47 ha					
4) Number of plots[z]		10		5) Factor a = Block area/ z x 0.03				156		6) Factor b = Block area/ z x 0.015				313		6) Factor c = Block area/ z x 0.0024				1958	
Species	Regeneration (< 1.3 m)		White (< 5 cm)		Yellow ( 5 – 9.9 cm)		Timber potential	Black ( 10– 14.9 cm)		Stripes (15 – 19,9 cm)		Blue (20 – 24,9 cm)		Dots (25 - 29,9 cm)		Red (30 – 34,9 cm)		Orange (35-39,9cm)		Wave (> 40 cm)	
Timber species (signed with*)	Total in all plots	Per Block (x c)	Total in all plots	Per Block (x b)	Total in all plots	Per Block (x b)		Total in all plots	Per Block (x a)	Total in all plots	Per Block (x a)	Total in all plots	Per Block (x c)	Total in all plots	Per Block (x b)	Total in all plots	Per Block (x b)		Total in all plots	Per Block (x a)	Per block (x a)
	223	436634	398	124574	105	32865		☺	72	11232	63	9828	32	4992	25	3900	9		1404	5	380
							☹	17	2652	4	2624	3	468	3	468	0	0	0	0	0	0
Other trees	93	182094	198	61974	48	15024		33	5148	12	1872	8	1248	1	156	0	0	0	0	0	0
Potential trees for timber		436634				157439					21060				8892				1784		468

Number of bamboo in sample plots		Total number of bamboo of forest block (number of bamboo in sample plot x (a))	
----------------------------------	--	---	--

## Form 6: Village timber supply and demand - Five year planning period

(Example taken from Bu Nor village)

Diameter classe	Yellow 		Stripes 		Dots 		Orange 		Wave 	
	(< 10cm)		(10 – 20cm)		(20 – 30cm)		(30 – 40cm)		(> 40cm)	
<b>Village demand</b>	<b>6460</b>		<b>60</b>		<b>100</b>		<b>510</b>		<b>25</b>	
<b>Supply and harvest per block</b>	Supply	Harves t	Supply	Harves t	Supply	Harves t	Supply	Harves t	Supply	Harves t
<i>Lem Lồ</i>	122.83 4	50.000	8.229	4.000	3.064	1.000	0	0	0	0
<i>Đặng Rlâm</i>	76.962	0	1.365	0	4.088	0	1.509	1.000	684	400
<i>Đông Bay</i>	109.36 5	0	3.243	0	3.634	0	1.996	800	1.610	800
<i>Yông Đông</i>	163.28 3	*	3.136	0	0	0	0	0	1.985	1.200
<i>Đặng Kră</i>	35.615	*	435	0	0	0	176	100	589	500
<i>Đặng Ta Rlăng (1)</i>	61.638	*	9.059	0	4.204	1.000	8701	6.000	0	0
<i>Đặng Ta Rlăng (2)</i>	21.082	*	4.569	0	1.452	500	2.988	2.500	0	0
<i>Đặng N'ho</i>	1.365	*	0	0	0	0	165	0	876	0
<i>Lũ Ấke</i>	30.720	*	0	0	0	0	0	0	1.080	200
<b>Total</b>		<b>50.000</b>		<b>4.000</b>		<b>2.500</b>		<b>10.400</b>		<b>3.100</b>
<b>Demand and supply balance</b>	<b>Surplus: 43.540</b>		<b>Surplus: 3.940</b>		<b>Surplus: 1.400</b>		<b>Surplus: 9.890</b>		<b>Surplus: 3.075</b>	

### Remarks:

- The unit in the table is number of trees
- Surplus (Supply minus Demand) can be harvested sustainably and used for commercial purpose

## Form 7: Five year activity plan for specific forest block

(Example taken from Bu Nor village)

Block name	Forest type	Area (in ha)	Management goal and silvicultural system	Remarks						
Đông Bay	Mature	69	Timber harvesting	Evergreen forest; selective cutting of surplus trees in different diameter classes in order to keep a sustainable forest structure						
Activities	Description			Quantity per unit	Year					Responsibility
					05	06	07	08	09	
<b>Harvesting, thinning</b>	<ul style="list-style-type: none"> <li>- Measuring and marking trees</li> <li>- Cutting, cleaning of forest</li> <li>- Transportation to log-yard</li> </ul>			800 trees in orange diameter class  800 trees in orange diameter class			800 800			<ul style="list-style-type: none"> <li>- Villagers</li> <li>- Forest Protection Unit</li> </ul>
<b>Additional planting</b>	Additional planting of local species: Sao, Dầu			500				250	250	<ul style="list-style-type: none"> <li>- Villagers</li> <li>- ETSP supports seedlings</li> </ul>
<b>Forest protection</b>	Villagers are assigned to monitor management on rotating basis			69 ha	x	x	x	x	x	Villagers organised in forest protection groups

## Form 8: Five-year forest management and development plan

(Example taken from Bu Nor village)

Village name	Bu Nor A & B	Area [ha]	582 ha	Area of protection forest [ha]	33 ha	Area of spiritual forest [ha]	15 ha	Period	From 2005 to 2010
--------------	--------------	-----------	--------	--------------------------------	-------	-------------------------------	-------	--------	-------------------

Block name	Forest type	Area [ha]	Management goal	Responsibility	Activities	Implementation (year)				
						'05	'06	'07	'08	'09
<b>Lem Lọ</b>	Poor	47	Timber production	Village	Thinning of small trees Protection/additional planting of local species: Sao, Dầu		x	x	x	x
<b>Đông Bay</b>	Mature	69	Timber production	Village, related stakeholders	Thinning of large trees Forest protection			x		
<b>Bóch Tông Tầng</b>	Poor	15	Spiritual forest, used as cemetery	Village	Strict protection	x	x	x	x	x
<b>Lũ ăke</b>	Poor	48	Timber production	Village, related stakeholders	Thinning of large trees Protection/additional planting of local species: Sao, Dầu			x	x	
<b>Đặng N'ho</b>	Poor	33	Protection forest	Group 1	Thinning of small trees Protection/additional planting of local species: Sao, Dầu		x			
<b>Đặng Ta Rlăng 1</b>	Mature	79	Timber production	Village, related stakeholders	Thinning of large trees Protection/additional planting of local species: Sao, Dầu		x	x		
<b>Đặng Ta Rlăng 2</b>	Mature	41	Timber production	Village, related stakeholders	Harvesting of large trees Forest protection					x

## Form 9: Forest protection and development regulations (FPDR) – Minutes violation case

Commune Peoples Committee of  
.....

**Socialist Republic of Vietnam**  
Independence – Freedom – Happiness

Village:.....

No:...../.....

### Minute taken on violation case of forest protection and development regulations

Date .....

At the location of : .....

Representatives of forest protection group including:

.....

Person that discovered (or witnessed).....

The minutes are taken on the violation of forest protection and development regulations by the following individuals:

Names	Age	Occupation	Address

Description of violation:.....

.....

Evidences:

.....

Tools:

.....

Finning as defined in the regulation (amount of money):

.....

All the evidences and tools will be kept and taken to the village to solve the case as defined in the forest protection and development regulations of the village.

Three forms are completed, the content is read loudly and all involved parties confirm the correctness of the content by signature.

**Violator/group of violators:**

**Discovering person(witness):**

**VFMB:**

## Form 10: Village Forest Management Board (VFMB) and its responsibilities

Village Forest Management Board (VFMB) - Village Forest Development Plan (Five-year planning horizon)							
Commune		Village		Number of household		Planning period	From.....to.....
VFMB members [Name, position]		Compensation		Duties			
Head	Village head						
Vice head	Villager						
Member	Villager						
Member	Villager						
<b>Approval of VFMB composition</b>							
The composition of the VFMB as elected by village members for the period from ..... to ..... has been reported to the Commune Peoples' Committee and has been approved.							
Commune Peoples' Committee							
<i>Date</i>		<i>Signature</i>					
Working principles							
I							
II							
III							
IV							



**Form 11: Form to submit five-year forest management plan of the village for approval**

**PEOPLES COMMITTEE OF COMMUNE.....**  
**Village Forest Management Board (VFMB) of village.....**

**Five Year Forest Management Plan**  
**Village.....**

**COMMUNE.....DISTRICT.....**

*Year from ..... to .....*

**Including:**

- Table of village forest product demand in the next 5 years (1 copy)
- Histograms to compare SFM with current status (1set/block)
- Supply and demand balance chart in the next 5 years (1 copy)
- Table of planned activities for forest blocks in the next 5 years (1 table/block)
- Table of 5 year management plan of the village (1 set)

Date.....

**Peoples Committee of COMMUNE.....**

Date.....

**Village Forest Management Board**

.....

Date .....

**Peoples Committee of DISTRICT.....**

**Form 12: Annual forest management plan (example taken from Bu Nør village )**

	Activities	Forest block	Areas (ha)	Quantity	Responsibility	Approval of the commune (Location and quantity approved)
1	<b>Thinning for timber harvesting</b>	Yông Đông	88	1.200 trees at wave diameter class (>40cm)	VFMB All households	
		Đặng Kră	17	100 trees at orange diameter class (30 – 40cm)  500 trees at wave diameter class (>40cm)	Supporting stakeholders	
2	<b>Restoration oriented protection and promotion of natural regeneration</b>	Đồi trọc Đấng Ta Rlăng	19	19 ha	Group 3	
3	<b>Forest protection</b>	17 blocks	630	630 ha	VFMB  8 household groups  Stakeholders	

..... Date.....

**Head of Village Forest Management Board**

**Peoples Committee of commune .....**

### Form 13: Approval form - harvest proposal for domestic consumption

Proposal – Harvesting Amount		
Village:		
Household name:	Household size:	
Please choose and mark (☑) the products you want to use the timber for:		
New House <input type="checkbox"/>	Repair House <input type="checkbox"/>	
New Kitchen <input type="checkbox"/>	Repair Kitchen <input type="checkbox"/>	
New Animal Stall <input type="checkbox"/>	Repair Animal Stall <input type="checkbox"/>	
Other (please specify):		
Why do you want to build the products?		
-----		
-----		
-----		
When do you want to harvest timber (please give a time-frame):		
-----		
Village Forest Management Board completes the following section:		
Products approved : -----		
Period for permission of harvesting: From ----- to -----		
Number of trees and forest blocks approved:		
<b><i>Diameter class</i></b>	<b><i>Number of trees</i></b>	<b><i>Name of forest block for harvesting</i></b>
Wave [27 – 29,9 cm]		
Orange [24 – 26,9 cm]		
Red [21 – 23,9 cm]		
White [18 – 20,9 cm]		
Blue/Dots [12 – 17,9 cm]		
<b>Harvest proposal approved by Village Forest Management Board:</b>		
-----	-----	
<i>Date</i>	<i>(Village Forest Management Board)</i>	
<b>Harvest proposal approved by Commune Forest Management Board:</b>		
-----	-----	
<i>Date</i>	<i>(Commune Forest Management Board)</i>	

## Form 14: Approval form - harvesting design for domestic consumption

Approval - Harvest Design (to be kept by the household)		
Household name: _____		
Trees are to be harvested until: _____		
Number of trees and forest blocks approved: _____		
<i>Diameter class</i>	<i>Number of trees</i>	<i>Name of forest block for harvesting</i>
Wave [27 – 29,9 cm]		
Orange [24 – 26,9 cm]		
Red [21 – 23,9 cm]		
White [18 – 20,9 cm]		
Blue/Dots [12 – 17,9 cm]		
<b>Harvest design approved by VFMB:</b>		
Date _____		(VFMB)
OPTIONAL: Confirmation of payment for timber harvested		
Household name: _____		
Trees are to be harvested until: _____		
Number of trees and forest blocks approved: _____		
<i>Diameter class</i>	<i>Number of trees</i>	<i>Amount to be paid for compensation</i>
Wave [27 – 29,9 cm]		
Orange [24 – 26,9 cm]		
Red [21 – 23,9 cm]		
White [18 – 20,9 cm]		
Blue/Dots [12 – 17,9 cm]		
<b>Total amount to be paid by the household :</b>		
It is hereby certified that the household has paid the due amount for timber harvesting to the Village Forest Management Board (VFMB).		
Date: _____		<b>Village Forest Management Board)</b>

**Form 15: Village record book (monitoring sheet for the 1<sup>st</sup> cutting period) - to be used by the village forest management board (VFMB)**

<b>Village</b>		<b>Planning period</b>	From.....to.....	
<b>Forest Block</b>		<b>Management goal</b>		<b>Area [ha]</b>

<b>Diameter classes</b>	<b>Wave</b> [27 – 29,9]	<b>Orange</b> [24 – 26,9]	<b>Red</b> [21 – 23,9]	<b>White</b> [18 – 20,9]	<b>Dots</b> [15 – 17,9]	<b>Blue</b> [12 – 14,9]	<b>Stripes</b> [9 – 11,9]	<b>Black</b> [6 – 8,9]	<b>Product Tax</b>	<b>Date</b>	<b>Signature CFMB</b>
(A) Annual allowable cut (= Number of trees allowed according to annual management plan)											
<b>Name of household</b>	<b>Number of trees harvested per household</b>										<b>Household signature</b>
(B) 1 <sup>st</sup> harvest amount = $\Sigma$ harvested trees / diameter class									<b>Total Product Tax:</b>		
(C) Balance after 1 <sup>st</sup> period C = A – B											Date: Signature (VFMB)

### Form 16: Village monitoring book - to be used by the commune forest management board (CFMB)

<b>Village</b>		<b>Planning period</b>	From.....to.....		
<b>Forest Block</b>		<b>Management goal</b>		<b>Area [ha]</b>	

<b>Diameter classes</b>	<b>Wave</b> [27 – 29,9]	<b>Orange</b> [24 – 26,9]	<b>Red</b> [21 – 23,9]	<b>White</b> [18 – 20,9]	<b>Dots</b> [15 – 17,9]	<b>Blue</b> [12 – 14,9]	<b>Stripes</b> [9 – 11,9]	<b>Black</b> [6 – 8,9]	<b>Date</b>	<b>Signature</b>	
										<b>CFMB</b>	<b>VFMB</b>
(A) Annual allowable cut											
(B) Amount harvested in 1 <sup>st</sup> period = $\Sigma$ harvested trees / diameter class											
(C) 1 <sup>st</sup> balance C = A – B											
(D) Amount harvest in 2 <sup>nd</sup> period = $\Sigma$ harvested trees / diameter class											
(E) Annual balance E = C – D											

**Form 17: List of trees for commercial harvesting**

Name of village: \_\_\_\_\_ Name of forest block: \_\_\_\_\_

Sub-Block : \_\_\_\_\_

Name of recorder: \_\_\_\_\_

Suggested time period for harvesting: *from* \_\_\_\_\_ *to* \_\_\_\_\_

<b>No.</b>	<b>Species</b>		<b>Diameter-class (color)</b>
	<b>Local Name</b>	<b><i>Kinh</i> Name</b>	