

Dak Lak Department of Agriculture and Rural Development  
Research Project on Assessment Methods for Forest Land Allocation

# Local Impact Assessment of Forest Land Allocation:

## Manual



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**Department of Agriculture and Rural Development Dak Lak**  
**Research Project on Assessment Methods for Forest Land Allocation**

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**- Manual -**

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## **Note on translation:**

The English version of the guidelines excludes the practical tools included in the annex of the Vietnamese version. Please see Annex C for a list of the practical tools available from the authors in Vietnamese upon request.

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The authors



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## THE ASSESSMENT METHOD IN BRIEF

### **Objectives:**

This assessment method is aimed at providing decision-makers at all levels with information on the local outcomes of forest land allocation.

**Issues covered:** The assessment methodology generates information on five important issues:

1. the changes in forest resources after allocation, and potential changes in the future;
2. the changes in benefits from the allocated forest after allocation, and potential benefits in the future;
3. the likely causes producing observed changes in forest use;
4. the relations between local people's participation in forest land allocation and the local organization of forest management; and,
5. the relations between local conditions and the roles of households, groups of households, and community in forest management.

See Chapter 3 for a discussion of the five issues.

### **Resource requirements for one village assessment:**

1. Human resources: 14 labor-days for a team leader and 16 labor-days for two enumerators.
2. Non-personnel costs: VND 1.25 million.

See Annex B for the justification of required resources.

### **Assessment outputs:**

1. Each village assessment yields a report of 7-10 pages, focusing on the five main issues identified above.
2. The village reports inform a summary report of about 25 pages.
3. The collected data are made available for future use in a database.

### **Tools used in the assessment:**

1. Household questionnaire, interview forms, and instructions for users.
2. Instructions on the use of the database and data analysis.
3. Template for village assessment report.

The tools are available in Vietnamese (see Annex C for a detailed list).



## 1 INTRODUCTION

This manual has been developed for the assessment of forest land allocation in Dak Lak province. The two major goals of forest land allocation in Dak Lak are (1) to maintain and expand forest cover and forest stock, and (2) to facilitate economic development. Forest land allocation seeks to achieve these goals by taking a radically new approach to forest management. Unlike previous programs relying on protection contracts, such as those made under Decision 327, forest land allocation gives local people land use right certificates to existing forest. The 'Red Books' accord forest recipients the same rights as recipients of agricultural land, including the five rights stipulated in the 1993 Land Law.

Forest land allocation has been conducted in Dak Lak on an experimental basis. After three years of implementation (1999 - 2002), Dak Lak authorities have allocated a total area of around 16,000 ha. These include 5,000 ha allocated to households, another 5,000 ha given to groups of households, and 6,000 ha allocated to communities. Allocation has covered 18 villages in six districts, involving the transfer of land from six state forest enterprises. Most of the forest recipients have been members of ethnic groups home to the Central Highlands (1,270 households). Other forest recipients have included 193 Kinh households and 62 households from ethnic groups that have recently migrated into Dak Lak from Vietnam's northern mountains.

This manual describes a method for assessing forest land allocation that has been tested and applied in Dak Lak over the past year. The method has been designed to meet two primary objectives. First, the method serves to systematically compile and analyze information on the local outcomes of forest land allocation. It generates information urgently needed for a thorough evaluation of Dak Lak's experience with forest land allocation, an evaluation that the provincial authorities have requested in preparation for future work on forest land allocation. Second, and equally important, the method has to be feasible in terms of the human and financial resources available in Dak Lak. Dak Lak's authorities have emphasized the need for a method that can be applied by provincial staff with the finance appropriate to the provincial budget. Thus, the challenge has been to develop a method for local impact assessment that is effective and feasible at the same time.

Unlike other evaluations of state programs, this assessment focuses on the village level. The method presented in this manual accords priority to understanding the local outcomes of forest land allocation. By local outcomes it refers to changes in forest conditions (area and stock) and in the benefits derived from forest between the time of allocation and time of assessment. Nevertheless, the method goes beyond a mere description of changes in forest conditions and benefits by relating those to likely causes, local people's participation in the allocation process, and local conditions.

The development of the method has taken three main steps, involving decision-makers at provincial and ministerial levels as well as researchers from Dak Lak and Hanoi:

- Step one: The research team selected two villages with forest allocation for in-depth study. The findings of the village studies and meetings with provincial and national decision-makers on assessment priorities informed the design of a first draft method. The research team discussed the draft method with provincial and national decision-makers and researchers in Dak Lak and Hanoi.

- Step two: The research team applied the draft method in one village and evaluated the trial application together with decision-makers and researchers from Hanoi and Dak Lak. The researchers modify the method on basis of their experience and the comments received.
- Step three: The research team oversaw the application of the assessment method in ten villages located in diverse conditions. They discussed the method and findings of the assessment with decision-makers and researchers at workshops in Dak Lak and Hanoi.

This manual explains the method developed over the past year, elaborating the reasons underlying the choice of variables, indicators, and practical tools. It begins with the objectives of the assessment as defined by decision-makers in Dak Lak and proceeds to develop the assessment framework, identify variables, and designate techniques of data collection and data analysis. The large number of practical tools developed for the application of the method is listed in Annex C.

## 2 OBJECTIVES

As expected by decision-makers at all levels, forest land allocation program aims at two objectives: (1) forest is better protected and managed after being allocated to local people, and (2) forest recipients get benefits from allocated forest in order to improve their livelihood. Besides, local authorities expect that the experience of this program will show in what form forest land allocation can get best results. In other words, in what conditions forest should be allocated to individual households, groups of households, or to communities (villages).

With the above background, the assessment on forest land allocation aims at answering to the five questions as followed:

1. Are there any changes in forest resources after allocation, and how is the potential for future changes? The answer to this question will clarify if the goal of forest resource conservation and development of the forest land allocation program is achieved. Due to the fact that the forest land allocation program has been carried out only recently, the changes in forest resources up to date might not reflect the real situation. Therefore, attention should be paid to the potential changes in the future as well.
2. Are there any changes in the benefits from the forest after allocation, and how is the potential for changes in the future? To study the changes in benefits from the forest, three main comparison are needed: (1) comparison of benefits acquired before and after forest allocation, (2) comparison of current and future benefits, and (3) comparison among households. Thus, this question does not only address the benefits got from the date of forest allocation up to now but also evaluates potentials for benefits in the future, as the current benefits don't reflect full benefits brought by the forest land allocation program due to short period of its implementation.
3. What external factors that cause those changes? The aim of this question is to study the contributions of forest land allocation to the changes discussed in questions 1 and 2. The important thing is that we can't blame forest land allocation for negative changes caused by other factors, neither can't we praise the program for positive changes that caused by other factors. This means that the major aim of this question is not to identify factors that influence the changes in forest resources and benefits, but to find out at what level those changes are caused by forest land allocation, and at what level by other factors.
4. What are the relations between the participation of local people in forest land allocation and the organization for forest management after being allocated? The forest land allocation in fact can be implemented in different forms. The important thing is the participation of local people in this process. Efforts and money are needed to get local people participate; however, the participation itself is the key to the success of a program. Therefore, Dak Lak province pays much attention to the role of local people participation in forest land allocation program.

5. What are the relations between the local conditions and the role of households, groups of households and village communities in forest protection/management? The first experiences of forest land allocation show that there are three forms of forest allocation, i.e. allocation to households, allocation to groups of households, and allocation to village communities. The question is to find out how the forest allocation form reflects the relations between the local conditions and the role of households, groups of households, and village communities in the protection and management of the allocated forests. This will provide bodies in charge of forest land allocation with reliable information on how local conditions best impact on the form of forest allocation.

### 3 ASSESSMENT FRAMEWORK

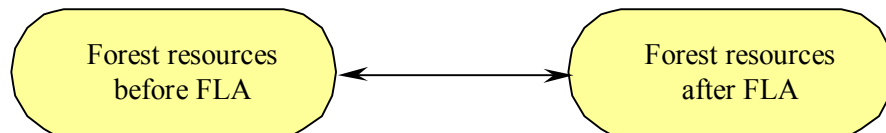
The assessment framework makes use of multiple analytical frameworks to generate insights into the five main issues outlined in the preceding section.

#### 3.1 Changes in forest resources

##### 3.1.1 Changes in forest resources from allocation to now

Forest conditions change over time. This analytical framework compares forest conditions before allocation (1999 in the case of Dak Lak) with those at the time of assessment (2002) (see Figure 1). The comparison distinguishes different kinds of forest resources, including land for cultivation, timber, and various types of other forest products.

**Figure 1: Comparison of forest resources**



##### 3.1.2 Potential changes in forest resources in the future

Forest land allocation has been very recent in Dak Lak. Changes in forest protection and management are therefore unlikely to have found their expression in changed forest conditions already. In addition, changes in the local organization of forest management in reaction to forest land allocation can be expected to happen gradually and take time. Correspondingly, this framework examines the current organization of forest management and explores its likely effects on future forest conditions (see Figure 2). The framework is based on the assumption that forest resources improve if forest tenure rights are secure, monitoring of forest use and sanctioning of violations exist, and conflicts are minimized through appropriate mechanisms for conflict resolution.

**Figure 2: Factors with potential influence on forest resources in the future**

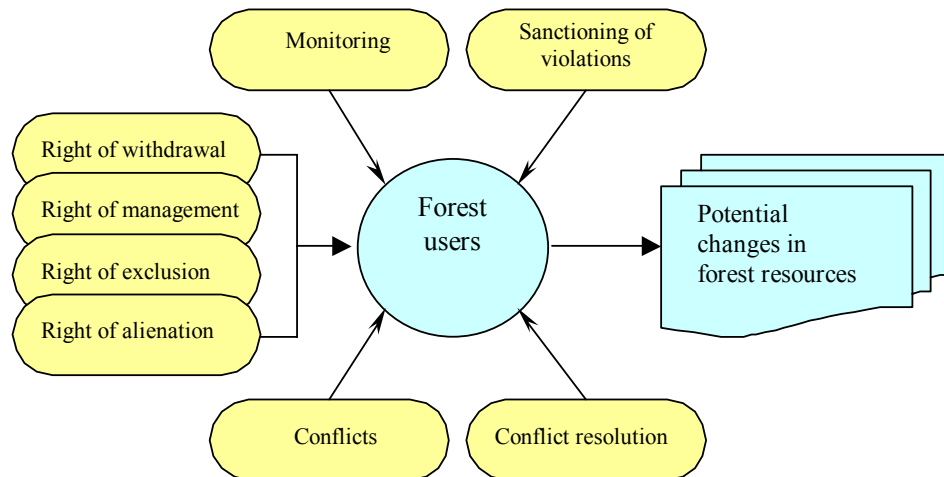


Figure 2 emphasizes the importance of forest tenure rights (rights of withdrawal, management, exclusion, and alienation) as main determinants of changes in forest resources. Secure rights motivate people to manage forest resources in a sustainable manner. In contrast, insecure tenure does not motivate forest protection and may even encourage exploitative forest uses for immediate benefits on cost of more long-term benefits.

Forest resources are also affected by the mechanisms in place for monitoring and sanctioning. Forest tenure rights gain force by way of people monitoring forest use and sanctioning violations. Similarly, forest recipients are more willing to fulfill their protection duties in the presence of appropriate mechanisms for monitoring and sanctioning.

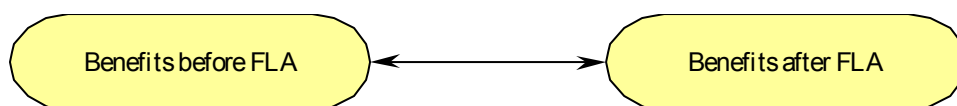
Conflicts are an indicator of insecure forest tenure and the absence of appropriate mechanisms to monitor forest use and sanction violations. Appropriate mechanisms for resolving conflicts can reduce the incidence of conflict, strengthening forest tenure security.

### 3.2 Changes in benefits from the allocated forest

#### 3.2.1 *Changes in benefits from allocation to now*

The benefits that forest recipients derive from allocated forest can make important contributions to household economic development. The expected benefits are therefore a primary motivation for forest land allocation. In addition, one can assume forest recipients to develop a stake in the forest if they derive material benefits from the allocated forest, resulting in better efforts in forest protection and management. The benefits considered here include those related to timber, land for cultivation, and various non-timber forest products, comparing the benefits derived from forest before allocation to those at the time of assessment (see Figure 3).

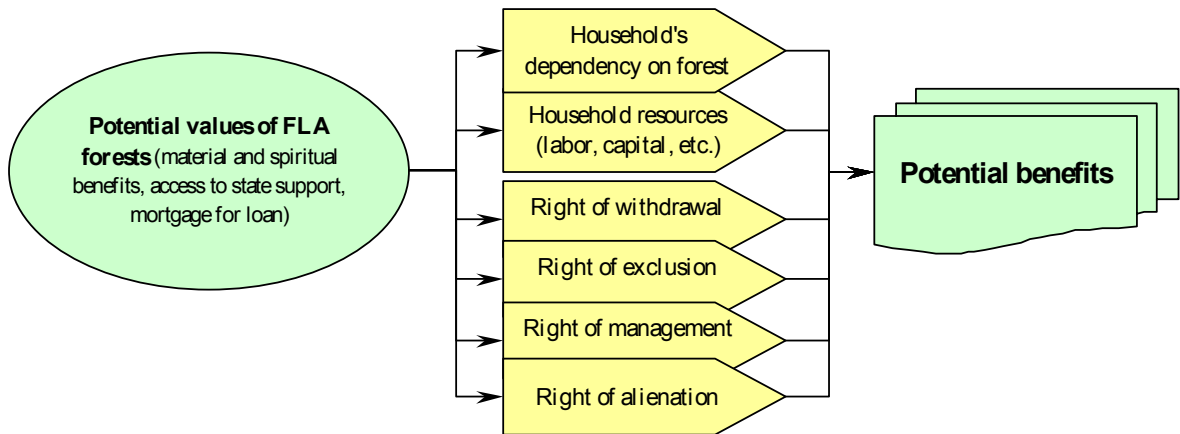
**Figure 3: Comparison of benefits**



#### 3.2.2 *Potential benefits in the future*

Although the benefits obtained from allocated forest up to the time of assessment are important, it would not suffice considering only those. In other words, the benefits derived from allocated forest are not only those reflected in current income, but also include those forest values expected to generate benefits in the future. The assessment considers both kinds of benefits, linking the immediate benefits to those expected in the future. Figure 4 describes the variables to be considered when assessing the potential benefits from the forest in the future.

**Figure 4: Factors with potential influence on future benefits**



The future benefits derived from allocated forest depend on a variety of variables. First, the potential values of the allocated forest itself (including material benefits, spiritual values, and entitlement to state support) shape the potential benefits to be derived in the future. Second, future benefits depend on the forest tenure rights enjoyed by households. Third, the ability of households to benefit from forest resources depends on their dependence on forest products and their resources in terms of labor capacity, capital resources, political position, skills, etc. Thus, the higher the potential values of the forest itself, the more secure people's rights to the forest, the better their resources, and the more extensive their dependence on the forest, the more likely they will benefit from allocated forest in the future.

### 3.3 Likely causes of observed changes in forest uses

Forest conditions and benefits may change for a large variety of reasons. This section introduces a simple check on the likely causes underlying observed changes in forest uses. Its objective is not to identify to exact cause(s) producing observed changes, but to understand the relative contribution of forest land allocation.

**Figure 5: Likely causes of changes in forest uses**

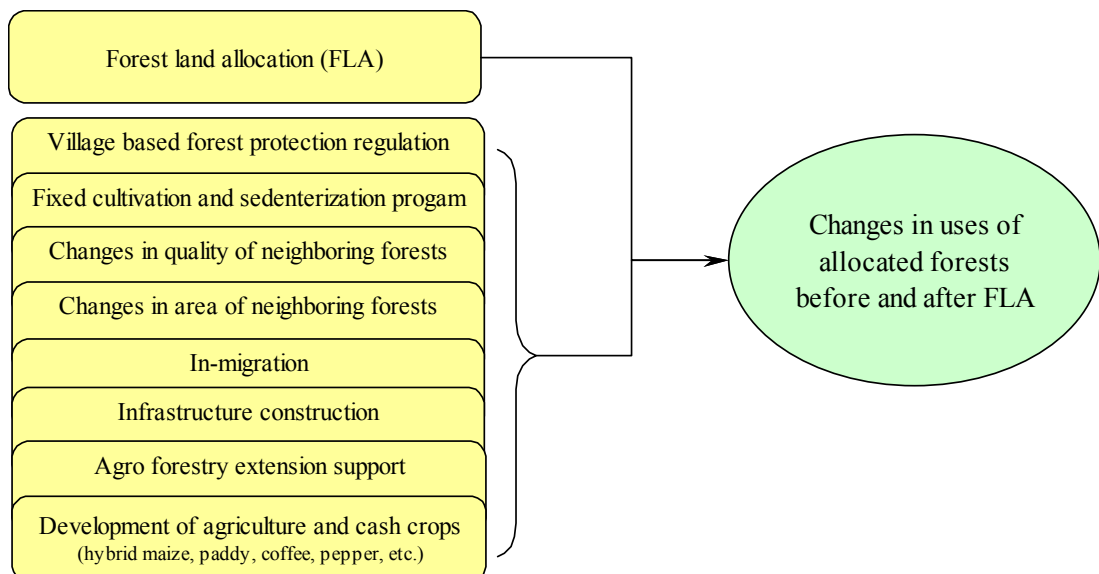
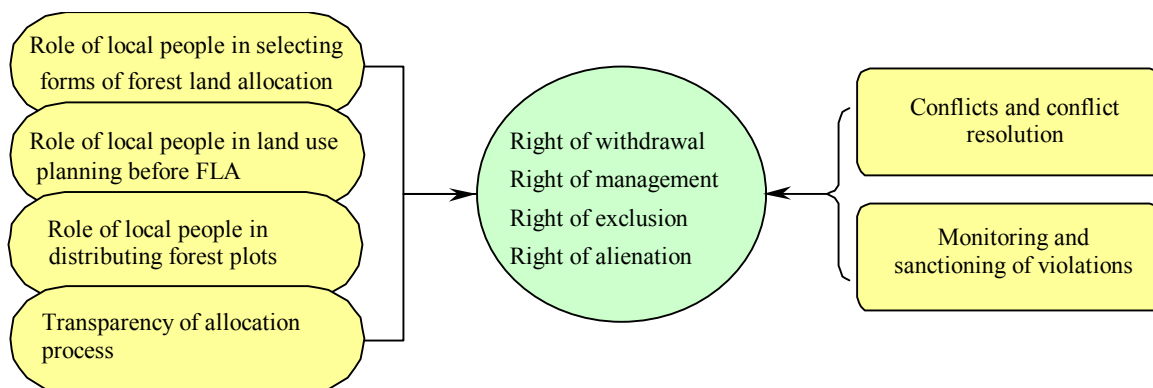


Figure 5 includes various factors that might cause changes in the use of forest resources in Dak Lak. As the figure illustrates, forest land allocation is only one among many factors that possibly cause changes in forest resources and benefits. In dynamic and rapidly changing conditions such as contemporary Dak Lak, it is actually extremely difficult to pin down one factor as the sole cause of observed changes in forest use. It is more likely that it is a combination of several factors that causes any observed change. The objective here is therefore to examine (1) if forest land allocation could have contributed to an observed change in forest use and (2) if forest land allocation was the only factor that might underlie the observed change.

### 3.4 Relations between local people's participation in forest land allocation and the organization of forest management

Local people's participation in the implementation of forest land allocation is considered a key determinant of the ultimate effects of allocation on the local organization of forest management. The presumption is that the more actively local people participate in forest land allocation the better will be the local organization of forest management once allocation is completed. People who take an active role in the implementation of allocation are more likely to recognize forest tenure rights and institute appropriate mechanisms for monitoring, sanctioning, and conflict resolution. Figure 6 identifies four concrete elements by which local people participate in forest land allocation, four elements that have proven crucial in Dak Lak's forest land allocation program.

**Figure 6: Relations between local people's participation and forest management**

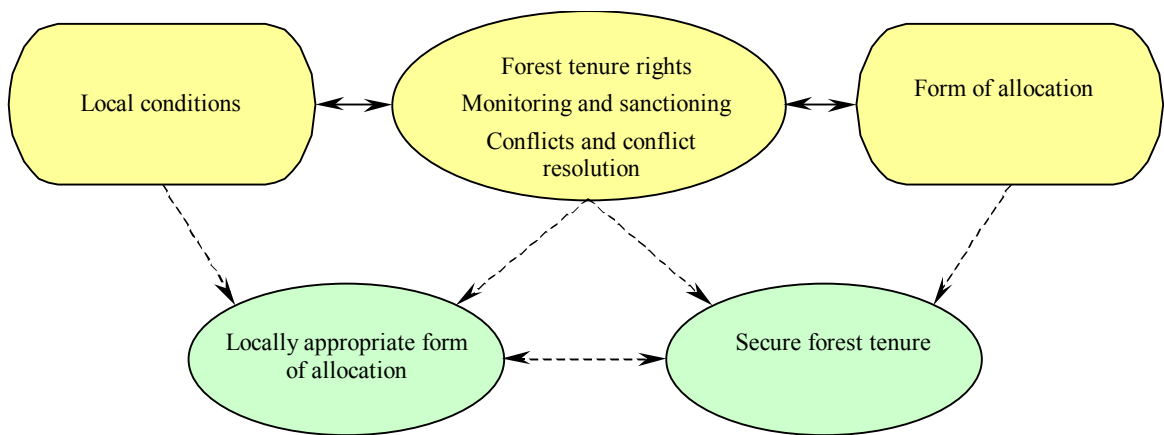


### 3.5 Relations between local conditions and the roles of households, groups of households, and community in forest management

The last issue is about the roles of various social entities in forest management. The assessment framework includes two interrelated parts. The first part is about the match between the official form of allocation and the actual roles played by households, groups of households (lineage), and community in forest management (see the right side of Figure 7). It compares the forest tenure rights enjoyed by these social entities and their roles in monitoring, sanctioning, and conflict resolution to their officially designated functions. The assumption is that forest recipients have secure forest tenure if the official form matches the actual distribution of rights and functions in forest management.

The second part is about the local conditions that shape the relative roles of households, groups of households (lineage), and community in forest management (see the left side of Figure 7). It relates differences in the actual organization of forest management to differences in local conditions. In Dak Lak, the local conditions considered to have the strongest influence on the local organization of forest management include the village population, area of allocated forest, local forest tenure before allocation, degree of market integration, experience from previous participation in forestry programs, the social cohesion of villages, and presence of migrants. The assumption is that these local conditions differentiate the effectiveness of different forms of organizing local forest management. The challenge is to find the organization of forest management that is most appropriate to local conditions.

**Figure 7: Relations between local conditions and the roles of households, groups of households, and community in forest management**



The two parts of Figure 7 are interconnected. Forest tenure is secure in villages where the organization of forest management is appropriate to local conditions. Vice versa, forest tenure security is an indication for an locally-appropriate organization of forest management.



## **4 VARIABLES AND INDICATORS**

This section briefly discusses the indicators used for each variable introduced in the analytical frameworks in Section 3. The indicators will be listed by topic instead of by key questions to avoid overlap and to relate variables to the techniques of data collection, which are the subject of the following section.

### **Forest conditions and benefits from the forest**

- Changes in forest resources after allocation: increase/decrease of forest area (% ha) and forest stock (% m<sup>3</sup>) after allocation.
- Benefits from the allocated forest before and after allocation: how people in the study area used timber, land for cultivation and non-timber products in the allocated forest in 1999 (before allocation) and 2002 (after allocation)? What supports do forest recipients get from agro-forestry extension programs?
- Potential benefits from the allocated forest: what products can be withdrawn from the allocated forest in the future, what volume?
- Potential values of the forest: what values does the allocated forest have (timber, non-timber products, land)? For what can forest recipients use the allocated forest and forest land use certificates?

### **Forest users and uses**

- Forest users: status of forest resource usage by forest recipients and by people who don't receive allocated forest and live in neighboring villages.
- Forest uses:

### **Forest tenure rights**

- Right of withdrawal: how are forest products extracted? Who has the right to withdraw what product?
- Right of alienation: who according to the regulations has the right to transfer, sell, or exchange products from the allocated forest (including timber, land, and non-timber products)? Who does not have the right? What product can be alienated, what is not? What is the actual situation?
- Right of exclusion: how the people who violate the regulations, e.g. exploit the forest illegally, are punished? What basis is used for punishment? How the violating people accept the punishment?
- Right of management: What are the regulations on the usage of forest land and forest resources?

### **Local organization of forest management**

- Status of organization for forest protection/management: what is the current situation? What is the situation of control, monitoring and violation punishment? What is the level of violations?
- Types of conflicts: what main conflicts happened after FLA? Type of conflicts and objects causing conflicts?

- Mechanism of conflict solving: How can conflicts be settled when they happen? Who and what level to settle the conflicts?

### **Household attributes**

- Level of household's dependency on the forest: What sources of income does the household have? What is the ratio of consumers and laborers within the household? What is the area of different types of land for cultivation?
- Potential capacities of the household: What is the economic capacity of the household? How is the labor source of the household?

### **Likely causes of observed changes in forest uses**

- Implementation of forest land allocation: Does the household participate in FLA? How many households in the village participate in the program? What is the form of participation?
- State program on fixed cultivation and settlement: Was there any state program on fixed cultivation and settlement in the village after FLA? What program? In what field? Who in the village participated in the program?
- Changes in resources in the non-allocated forest (including timber and land): What is the current status of forest resources in the non-allocated forest and potential of their usage? What are changes in resources in those non-allocated forest after FLA?
- In-migration: How many migrants are there in the village at the time of assessment? What is the situation of in-migration to the village and neighboring villages after FLA?
- Rural infrastructure development: Is there any new infrastructure project related to the allocated forest after FLA? What project? Where?
- Situation of agricultural crops: Are there any changes in the crop composition after FLA? What are the reasons of those changes? What are the consequences of those changes?
- Regulations on forest protection/management at village level: Are there any regulations on forest protection/management in the village at the moment? Are there any changes in those regulations after FLA?
- Agro-forestry extension support after FLA: Was there any program of agriculture/forestry extension (including rural credits) related to the allocated forest or forest recipients after the allocation? What is the scale and scope of the program activities?

### **Local people's participation in forest land allocation**

- Choice of allocation form: Who proposes the form of FLA? Who decides? Is the form of FLA discussed and decided by local people themselves or introduced or regulated by external factors (forest enterprises).
- Land use planning: Was land use planning conducted before FLA? Was LUP participatory? How conflicts in land use and encroachment were solved?

- Transparency in FLA process: Did local people participate in the implementation of FLA process? Do villagers understand clearly the rights and responsibilities of forest recipients?
- Forest distribution: How were forests distributed? Was the distribution based on local traditions or regulated by state forest enterprise? Was it equal?

### **Local conditions**

- Land tenure before FLA: under which form were forest land and forest resources managed before FLA? Community-based, clan-based or individual household-based?
- Impacts of market economy: what are the changes in the price for agricultural products at the local market? Does the increase/decrease in the market price have any influence on the local land and forest use?
- Experiences from participating in the previous programs: in what state programs (327 program, 661 program, or others) did forest recipients participate? In what form did they participate in those programs (as groups of households or individual households)? What are successes and failures? What are the reasons?
- Social structure of local community: Are the traditional customs related to forest use/management still existing? What is the role of village elder and village headman? What is the role of the heads of clans?
- Ethnic composition and in-migrants: What is the population of the location? What is the number of migrants? What is the ratio of indigenous people and migrants?



## 5 TECHNIQUES OF DATA COLLECTION

The techniques described below serve to collect the data required to generate insights on the five major issues identified at the beginning of this document. Annex A relates the techniques of data collection to the variables, describing in detail what techniques are used for collecting data on what variable. Annex B includes a time table for one village assessment, providing practical instructions on how to organize the different techniques of data collection. Annex C lists a number of practical tools available in Vietnamese to be used for the implementation of the techniques, including questionnaires, data collection forms, and instructions for users.

Forest walks: Preliminary investigation in the allocated forest can help to overview the degree of changes in forest resources, topography, sloping degree, forest type and accessibility to the forest. The map of forest allocation is used for comparison of changes in the forest conditions. This technique does not show the exact increase/decrease, therefore it should be combined with the results of group discussion and participatory mapping in order to know the quantitative data of changes in forest resources. Besides, when walking in the forest, it is better to go with a knowledgeable villager who can tell about interesting things on the way. To take an example of a piece of upland field in the allocated forest. It is needed to write down the on-spot feelings on the status of exploitation and usage of forest resources in general and the forest resources in the allocated forest in particular. Data recording sheet for forest walk and guideline for filling in the form are available in Vietnamese (see Annex C for list of tools).

Village walks: This is to find out the level of usage of forest products in the villagers' livelihood as well as the socio-economic situation in the village. Similar to forest walking, it is better walk in the village with a knowledgeable villager so as to get as much information as possible. Questions on village situation can be integrated in village walking, which is listed in Annex C.

Participatory mapping: this is a very simple but useful technique in collecting data on the situation of land and forest use. A group of 4-5 villagers will be invited for mapping of the allocated forest. During the mapping process, the researchers can discuss with the villagers to find out about the increase/decrease of forest resources after forest allocation; the reasons of those changes; local regulations; and conflicts that impacting the use and management of allocated forest. Mapping is one step in group meetings in the village. Details of form for group meetings and guidelines for filling in the form are available in Vietnamese (see Annex C for list of tools).

Group discussion: this technique helps to study the villagers' awareness on the factors that impact on forest resources. A group of five or more villagers will be invited for discussion on selected number of important issues. Prior to a group discussion, the assessment team should be well prepared about the main topics in order to keep the discussion focused. During group discussions, pebble-sorting can also be used so that villagers can tell more exactly about the level of impacts or level of changes in the forest resources. For efficient group discussions, the assessment team should encourage and give equal chance to talk to all participants. It is also important to have discussions with different groups. Information from these discussions will be recorded in a form for group discussion, which, along with the guideline for filling this form, is available in Vietnamese (see Annex C for list of tools).

Interview with state forest enterprise staff: In Dak Lak province, the organizations in charge of forest land allocation at the spot are local-based forest enterprises, who managed the forest before the allocation and who understand the situation of forest resource usage in the location. Therefore, the interview with forest enterprise staff is aimed at two major objectives: 1) to find out about the allocation process in the location, and 2) to find out about the general situation of forest usage/management in the commune. Even if FLA has been carried out in many villages of the commune, it is needed to interview forest enterprise staff only once. Questionnaire for forest enterprise interview and guideline for filling this form are available in Vietnamese (see Annex C for list of tools).

Key informant interviews (village elder, village headman, a knowledgeable villager of the assessed village, and a villager from other village who also uses the allocated forest): this technique helps to collect more in-depth information on the issues identified above. The most important thing is to create an open atmosphere where the interviewees are comfortable to answer the questions. However, orientation is needed from time to time to lead the interview to the set target and collect the necessary information. Information from interviews with different sources will be recorded in separate questionnaires, which are all available in Vietnamese (see Annex C for list of tools).

Household survey: This is an important tool in collecting detailed data on the use of forest resources, tenure rights, household resources, and its main sources of income. The survey should include about 20 households in a village, which are interviewed by means of a questionnaire. The households are selected in a three-step process:

1. Evenly select households that received and did not receive the forest (about ten households in each group)
2. With the support from village headman, carry out classification of household economy into three groups: rich, medium and poor (a list of households in the village is needed beforehand). From each group of villagers that received and did not receive the forest, select about three households belonging to each economic group (the tenth household can be freely selected).
3. Among those households that are selected for household survey, it is advisable to select several households whose heads are on some recognized positions in the village, such as the village headman, deputy headman, secretary of village Communist Party cell, and secretary of the Youth Union.

## **6 TECHNIQUES OF DATA ANALYSIS**

This section discusses the key techniques used in data analysis. Annex C lists a number of practical tools available in Vietnamese to be used in the analysis.

### **6.1 Changes in forest resources**

#### ***6.1.1 Changes in forest resources from allocation to now***

A simple comparison is used to describe changes in forest resources from the time of allocation to the time of assessment. The analysis compares current forest conditions to those reported for the time of allocation. It uses information gained from group discussions, which is cross-checked with the opinion of key informants and direct observation on the forest walks. The comparison is conducted for each specific type of forest resource, including forest land and various kinds of forest products.

#### ***6.1.2 Potential changes in forest resources in the future***

The analysis proceeds in two steps. The first step consists of a description of actual forest tenure rights and the local organization of forest management. The description seeks to answer the following questions. How do legal rights correspond with actual practice? Do forest recipients enjoy the rights accorded to them by the state? Who can use what forest resources in practice? What differences exist between the state regulations and the rules in use by local people? How do forest recipients organize forest monitoring? Are there any violations of forest management regulations? Have any violations been prosecuted and fined? What conflicts exist over the use of forest resources? What mechanisms exist for resolving forest-related conflicts?

The second part compares the described situation to an ideal one. The underlying assumption is that forest conditions will improve if forest recipients' rights are generally recognized and backed up by state enforcement. Also, forest conditions will improve if forest recipients monitor forest use, sanction violations together with the responsible state agencies, and have ways of resolving forest-related conflicts. The comparison therefore helps to illuminate potential changes in forest resources in the future and to identify problems and opportunities with respect to forest tenure rights and the local organization of forest management.

A necessary preparatory step in this analysis is to synthesize the results from the key informant interviews, group meetings, and household survey. Triangulation is an important principle in data synthesis. For example, if one is interested in forest tenure rights, one can describe them on the basis of the information provided by key informants. This information needs to be triangulated with the information contained in the household questionnaires, however, to verify that stated rights correspond with actual practices in the village. The reason is that there is often a discrepancy between stated rights and actual practice. The more sources of data one uses, the better the quality of the reported results.

## **6.2 Changes in benefits from the allocated forest**

### ***6.2.1 Changes in benefits from allocation to now***

Changes in forest benefits are analyzed by way of two comparisons: 1) changes in benefits from the allocated forest (timber, non-timber forest products, land for agricultural cultivation) accrued by forest recipients and non-recipients from the time of allocation to the time of assessment; 2) comparison of benefits from the allocated forest accrued by forest recipients and non-recipients at the time of assessment. The comparison of households explicitly checks for the influence of economic wealth and political position.

For the first aspect, the comparison of changing benefits between recipients and non-recipients is conducted by way of a t-Test Paired Two Sample for Means. This test is commonly used to test the difference in mean values of a sample group at two separate points in time. For the second aspect, i.e. the comparison between recipients and non-recipients in terms of current benefits, t-Test Two Sample Assuming Equal/Unequal Variances is used. Unlike t-Test Paired Two Sample for Means, t-Test Two Sample Assuming Equal/ Unequal Variances is applied to test the means of two different sample groups. Depending on whether the variance of these two groups is equal or unequal, t-Test with equal variances or unequal variances is applied. Analysis on the second aspect also includes a table comparing current forest benefits for households falling into different categories of economic wealth and political position.

### ***6.2.2 Potential benefits in the future***

This analysis proceeds similar to the analysis of potential changes in forest resources in the future (see 6.1.2). It presumes that potential benefits from the forest depend on: (1) the degree to which forest recipients hold the legally-accorded four forest tenure rights in practice; (2) household forest dependence and resources; and (3), the potential values of the forest. The more secure forest recipients' rights, the higher their dependence on the forest and better their resources, and the higher the potential forest values, the more are forest recipients likely to enjoy significant benefits from the forest in the future. The analysis therefore proceeds through a comparison between the actual situation and an ideal one. It also includes a table that correlates the potential values of the allocated forest with households' economic wealth and political position.

## **6.3 Likely causes of observed changes in forest uses**

The analysis of likely causes of observed changes in forest uses has a simple goal: make sure that forest land allocation is not considered the only possible cause of changes in forest uses. If forest uses change, they may do so in reaction to a large variety of factors. It is therefore crucial that one checks the likelihood that other factors have caused an observed change. The goal is not to identify the specific cause, but to understand if forest land allocation is a likely cause of the observed change at all, if allocation may have contributed to the change together with some other factors, or if the change is due to some other cause.

In a single village, the analysis consists of three main steps:

- identify external factors that have changed since the time of allocation
- estimate impacts of those factors on the uses of allocated forest

- compare the estimated impacts with observed changes in forest uses

Analyzing many villages, the main steps are:

- identify external factors that have changed since the time of allocation for all villages
- describe changes in forest uses since the time of allocation in all villages
- compare the changes of external factors and changes in observed forest uses.

Both analyses make use of tables for cross-tabulating likely causes and observed changes in forest use.

#### **6.4 Relations between local people's participation in forest land allocation and the organization of forest management**

The analysis begins with a description of local people's participation in forest land allocation by way of the four variables identified above. As a next step, one ranks local people's participation in each of the four aspects by degree, using 0 for 'no consultation', 1 for 'information and consultation', and 2 for 'decision-making role'. The sum of the four individual scores gives the participation score for the village (between 0 and 8). The single-village analysis stops here. The multi-village analysis relates the participation score to selected indicators for the effectiveness of the local organization of forest management. Possible indicators include the match between officially-designated forest tenure rights and actual rights (e.g., right of exclusion), effectiveness of monitoring and sanctioning, and incidence of forest conflicts.

#### **6.5 Relations between local conditions and the roles of households, groups of households, and community in forest management**

The analysis proceeds by way of two comparisons conducted through cross-tabulation. The first comparison relates the roles of individual households, groups of households (e.g., lineage), and village community in the local organization of forest management to the official form of allocation for individual villages. The comparison includes both the distribution of forest tenure rights and the functions in monitoring, sanctioning, and conflict resolution. A good match between official form (e.g., household allocation) and the actual role played by the relevant social entity (e.g., individual households) indicates the presence of secure forest tenure.

The second comparison relates the identified set of local conditions to selected indicators describing the local organization of forest management. Possible indicators include the primary holders of forest tenure rights (individual households, groups of households, or the village community), effectiveness of monitoring and sanctioning, and incidence of forest conflicts. The comparison seeks to identify systematic associations between particular local conditions and the local organization of forest management, indicating the form of allocation most appropriate to specific local conditions.



## ANNEXES

### A. Variables, indicators, and techniques of data collection

<i>Major variables</i>	<i>Indicators</i>	<i>Techniques of data collection</i>
<b>Forest conditions and benefits from the forest</b>		
1. Forest resources	Area (ha) & forest stock (m <sup>3</sup> )	Observation in field, group meetings
2. Benefits from the forest	Area of land under cultivation, agricultural output, timber, and non-timber products	Household survey
	Support received through programs targeted at forest recipients	Household survey
	Stated spiritual relation with the forest	Household survey, key informant interview
3. Potential benefits from the forest	Timber stock, area of land for cultivation, stock of important non-timber products	Group meetings, key informant interviews
	Current value of the allocated forest	Household interview
4. Potential values of the forest	Timber stock and area of forest at the time of allocation	Survey data from the time of allocation (secondary data)
	Entitlement to state support	Key informant interview
	Stated spiritual relations with the forest	Key informant interview
<b>Forest users and uses</b>		
5. Forest users	Villagers and other people with material and spiritual interest in forest	Key informant interview, group meetings, interview with forest enterprise staff
6. Forest uses	Main kinds of forest use by type of agricultural crops and forest product	Key informant interview, group meetings, interview with forest enterprise staff
<b>Forest tenure rights</b>		
7. Right of withdrawal	To what forest products do people have a right of exploitation? Who has such a right, who does not? Who grants the permission?	Key informant interview, household survey
8. Right of alienation	Who can sell forest products? What products can be sold, what products can not?	Household survey, group meeting, key informant interview
9. Right of exclusion	Can forest recipients stop others from entering the allocated forest? If yes, in what case and for what kind of forest resources?	Key informant interview, household survey
10. Right of management	Who has the right to clear fields, intercrop trees with agricultural crops, and conduct thinning? Is a permission needed? Who issues the permission?	Key informant interview, household survey

<b>Local organization of forest management</b>		
11. Monitoring and sanctioning of violations	Number of violations against forest protection regulations  Organization of forest protection in teams, groups, or households  Frequency of patrolling, number of violations reported and prosecuted	Key informant interview, household survey
12. Types of conflict	Type of conflict by actors involved (within village, between forest recipients and non-recipients, villagers and state agency, etc.)  Severity of conflict	Key informant interview, household survey
13. Mechanisms for conflict resolution	How are conflicts solved? What roles of village elders, the village headman, and commune people's committee play?	Key informant interview, household survey
14. Form of allocation	Allocation of forest to individual households, groups of households, or whole village	FLA records, interview with forest enterprise staff
<b>Household attributes</b>		
15. Household dependence on the forest	Land area under cultivation and income from crops	Household survey
	Off-farm income, including remuneration from employment	Household survey
	Average income per capita	Household survey
	Number of members/number of laborers	Household survey
16. Household resources	Number of laborers	Household survey
	Official position and special skills	Household survey
	Education level of household head	Household survey
<b>Likely causes of observed changes in forest uses</b>		
17. Implementation of forest land allocation program	Number of households/groups of households who receive forest	Key informant interview, FLA documents
	Area of forest allocated to households/groups of households	FLA documents
	Has the household received forest? Area and stock of the allocated forest	FLA documents, household survey
18. Implementation of program for fixed cultivation and settlement	Number of households who have participated in the program over the past 5 years	Key informant interview
	Number of households planned to participate in the program in the next 3 years	Key informant interview
19. Development of forest protection regulations	Has the village developed forest protection regulations in the past 3 years?	Key informant interview
20. Changes in forest resources (timber and forest land) of neighboring forests	Comparison of land quality on allocated and neighboring forest	Group meeting, key informant interview, direct observation

	Comparison of quantity and quality of timber products of allocated and neighboring forest	Group meeting, key informant interview, direct observation
	Changes in resources of neighboring forest between 99 and 02	Group meeting, key informant interview
21. Migrants	Number of migrants to the village and neighboring villages in the past 5 years	Key informant interview
22. Infrastructure construction	Quantity and types of infrastructure related to the allocated forests that have been constructed in the past 5 years	Key informant interview, direct observation
23. Agriculture and forestry extension	Presence of extension project, contents of support, form of support, number of households covered	Key informant interview, interview with forest enterprise staff, direct observation
24. Situation of agricultural crops	Changes in price of major crops in the past 5 years	Group meeting
	Changes in the area of major crops in the past 5 years	Group meeting
<b>Local people's participation in forest land allocation</b>		
25. Decision-making on form of forest allocation	What organization or individual decides on the form of forest allocation? (forest enterprise, village elder, village headman, or villagers)  Procedures applied for deciding the form of forest allocation	Key informant interview, household survey
26. Land use planning (LUP) before forest land allocation	Was LUP conducted before FLA? How did local people participate in LUP? Has LUP resolved land use conflicts? What solutions have been developed?	Key informant interview
27. Transparency of FLA process	Forms of participation in FLA Attendance at meetings (number of people) Stated knowledge of FLA policies	Key informant interview, household survey
28. Role of local people in forest distribution	Forest area allocated to households/groups of households  Who decides about distribution (state forest enterprise or local people)? What criteria are applied in the distribution? How do local people evaluate the distribution? Is it considered equitable? Why? Why not?	Key informant interview, household survey
<b>Local conditions</b>		
29. Population	Number of village inhabitants	Secondary data
30. Forest tenure before FLA	What were the roles of the community, lineage, and individual households in forest management before FLA?  Types of recognized rights	Key informant interview, household survey
31. Integration into markets	Frequency of market visits Are products kept for home consumption or	Key informant interview, household survey

	for sale?	
32. Experiences with government programs	What government programs exist in the locality? In what form do local people participate in those programs (community, groups, individual households)?	Key informant interview, household survey
33. Social structure of the community	Are traditional laws and customs on forest management still recognized in the community? What is the current role of village elders, village headman and lineage heads?	Key informant interview, household survey
34. Ethnic composition and ratio of migrants	Number of migrants Distribution of villagers by ethnicity	Key informant interview, secondary data

## **B. Time table, staff requirements, and costs for assessment of one village**

**Total time:** 14 days

**Personnel:** 14 labor days for one team leader and 16 labor days for two enumerators, excluding training time (2 days for all team members)

**Costs:**

<b>Items</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit cost</b>	<b>Amount</b>
Payment to team leader	14	labor day		
Payment to enumerators	16	labor day		
Transportation	4	round	150,000	600,000
Interpretation, supports at the village	10	labor day	20,000	200,000
Gifts for interviews	35	persons	10,000	350,000
Stationery, color-photocopy of questionnaires, sweets for meetings	1	village	100,000	100,000
<b>Total costs excluding personnel costs:</b>				<b>1,250,000</b>

### **Steps of the assessment in one village:**

#### **1. Preparation**

**Time:** 2 days

**Personnel:** 1 person (team leader)

**Working agenda:**

Day 1:

- Preparation of documents in Buon Ma Thuot: compilation of secondary data related to the assessed village
- Preparation of introduction letter for meetings with forest enterprises, commune and village levels.

Day 2: Pre-assessment field trip to commune and village

- Meeting with commune and village: 1) present introduction letter, 2) make appointment for meetings on the first day of assessment, 3) make a list of households in the village to be assessed, 4) conduct wealth ranking of households in the village (together with village headman)
- Contact local state forest enterprise and its sub-units (at commune/group of communes): make appointments

## 2. Field work at the village

**Time:** 5 days, including transportation

**Personnel:** 3 persons (1 team leader and 2 enumerators)

### **Working agenda:**

	Team leader	Enumerator 1	Enumerator 2
Field work day 1:			
07h – 10h	Going from Buon Ma Thuot to commune/village		
10h – 11h	Meeting with commune authorities and completing procedures for provisional stay		
14h – 16h	Walking in allocated forests together with local people	Interview with local forest enterprise staff	Walking in allocated forests together with local people
16h – 17h	Finish the walking and interview the accompanied people	Walking in the village together with village headman	Finish the walking and interview the accompanied people
Evening	Team discussion on the work results of the day and plan for the next day, including: 1) select people living in neighboring villages but participate in using the allocated forest for interview, 2) assign interviewers, 3) select several households to be invited to group meeting the next day (support from village headman is needed)		
Field work day 2:			
07h – 10h	Interview the village headman (key informant 1)	Interview village elder (key informant 2)	Interview neighboring villager who also uses the allocated forest
10h – 11h	Team discussion: 1) agenda for morning session, 2) agenda, objectives, process and task assignment for group meeting with villagers in the afternoon		
14h – 16h	Group meeting with forest recipients (facilitate the discussion)	Group meeting with forest recipients (take notes or support team leader)	Group meeting with forest recipients (take notes or support team leader)
Evening	Team discussion: 1) results of group meeting; 2) working agenda for the next day: select villagers to invite to next morning group meeting		
Field work day 3:			
07h – 10h	Group meeting with people who don't receive allocated forest (facilitate the discussion)	Group meeting with people who don't receive allocated forest (take notes or support team leader)	Interview a knowledgeable villager (key informant 3)
10h – 10h30	Team discussion		
14h – 17h30	Household interview (2 HHs)	Household interview (2 HHs)	Household interview (2 HHs)
Evening	Team discussion: review the work in the day and prepare for the next day		

Field work day 4:			
07h – 10h	Household interview (2 HHs)	Household interview (2 HHs)	Household interview (2 HHs)
10h – 10h30	Team discussion		
14h – 17h30	Household interview (2 HHs)	Household interview (2 HHs)	Household interview (2 HHs)
Evening	Team discussion: review the work in the day and prepare for the next day		
Field work day 5:			
07h – 08h	Household interview (1 HH)	Household interview (1 HH)	Household interview (1 HH)
08h – 10h30	Contingent	Contingent	Contingent
10h30 – 11h30	Team discussion: lessons learned in the field work		
13h	Going back to Buon Ma Thuot		

### 3. Documentation of survey findings

**Time:** 3 days

**Personnel:** 3 persons (team leader and 2 enumerators)

**Working agenda:**

- Encoding of survey data (if needed)
- Data input into computers: 21 questionnaires of household survey; information collected from key informant interviews (village elder, village headman, villager with education background, people from neighboring villages that also use the allocated forest), group meetings, forest walks, etc...
- Photocopy of data that cannot be entered into computers for storage, e.g. maps...

### 4. Data analysis and report writing

**Time:** 4 days

**Personnel:** 1 person (team leader)

**Working agenda:**

- Perform data analyses
- Write report on the assessment findings at the village: present and discuss the results of data analyses, the overview of FLA program and the village assessment.



## **C. List of practical tools available in Vietnamese**

- C.1 Data entry forms and questionnaires
  - C.1.1 Questionnaire for interview with state forest enterprise local staff and instruction for data entry
  - C.1.2 Data recording sheet for forest walk and instruction for data entry
  - C.1.3 Questionnaire for interview with village elder and instruction for data entry
  - C.1.4 Questionnaire for interview with village headman and knowledgeable person in the village and instruction for data entry
  - C.1.5 Questionnaire for interview with user of allocated forest living in other village and instruction for data entry
  - C.1.6 Questionnaire for interview with village elder and instruction for data entry
  - C.1.7 Data recording sheet for group meetings and instruction for data entry
  - C.1.9 Questionnaire for household interview and instruction for data entry
  - C.1.10 List of households in the village
  - C.1.11 Basic data of the village
  - C.1.12 History of the village and allocated forest
  - C.1.13 Factors with potential influence on uses of allocated forests
- C.2 Household survey database and instruction for user
- C.3 Guidelines for data analyses
  - C.3.1 Analysis of changes in benefits from allocated forests from allocation to now
  - C.3.2 Analysis of potential changes in benefits from allocated forest in the future
  - C.3.3 Analysis of factors with potential influence on uses of allocated forests
- C.4 Template for village assessment report

**Note:** Please contact us if you are interested in the tools listed in this annex.

