



The United Republic of Tanzania

Ministry of Natural Resources & Tourism

**NATIONAL FORESTRY RESOURCES  
MONITORING AND ASSESSMENT  
OF TANZANIA (NAFORMA)**

**Field Manual  
Socioeconomic survey**

Forestry and Beekeeping Division | P.O. Box 426, Dar es Salaam, Tanzania  
Telephone (+255) 022 2126844 or 022 2130091 | E-mail: [naforma@mnrt.co.tz](mailto:naforma@mnrt.co.tz)

December 2010





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### NATIONAL FORESTRY RESOURCES MONITORING AND ASSESSMENT OF TANZANIA (NAFORMA)

# Field Manual

## Socioeconomic survey

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The NAFORMA methodology including the manuals, questionnaires, field forms and species lists, was developed during the inception phase of NAFORMA 2009-2010.

The methodology is the product of the joint efforts of the three parties of NAFORMA:

- Ministry of Natural Resources and Tourism of Tanzania,
- Food and Agricultural Organization of the United Nations,
- Ministry for Foreign Affairs of Finland.

**Compiled by**

J.F. Kessy, K. Anderson, and S. Dalsgaard

*Based on material provided by FAO-ILUA*

*With technical assistance from FAO-Finland Forestry Programme, Forestry Department, FAO*

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## ABBREVIATIONS

asl	Above Sea Level
FAO	Food and Agricultural Organization
FBD	Forestry and Beekeeping Division
FRA	Forest Resources Assessment
GHG	Green House Gas
GIS	Geographic Information Systems
GPS	Global Positioning System
HH	Household
ILUA	Integrated Land Use Assessment
NAFORMA	National Forestry Resources Monitoring and Assessment
NFI	National Forest Inventory
NGO	Non-governmental Organization
NWFP	Non-wood Forest Product
PSC	Permanent Sample Cluster
REDD	Reduced Emissions from Deforestation and Forest Degradation
RRA	Rapid Rural Appraisal
SU	Sampling Unit
TSC	Temporary Sample Cluster
TShs.	Tanzanian Shillings
USDA	United States Department of Agriculture
UTM	Universal Transverse Mercator

# 1. Introduction

In Tanzania, the state and trends of the forestry resources are largely unknown. The existing information is fragmented and outdated. Reliable information on Tanzanian forest resources is mainly constrained by the lack of institutional capacity. Under the National Forest Programme of Tanzania, the National Forestry Resources Monitoring and Assessment (NAFORMA) was identified as a priority activity for the Forest and Beekeeping Division (FBD). The results of NAFORMA are needed to support the national policy processes while at the same time addressing issues of Reduced Emissions from Deforestation and Forest Degradation (REDD) and Green House Gas (GHG) inventories for national and international reporting obligations.

The demand of the stakeholders in Tanzania for data and information on the state, governance and use of the forestry resources is continuously expanding. NAFORMA will develop complete and sound baseline information on the forest and tree resources, assist the FBD to set up a specialized structure and put in place a long term monitoring system of the forestry ecosystems. The inventory will eventually yield information about vegetation cover, forest resources, forest utilization, and importance of forests and forest products for communities in Tanzania. When the inventory exercise is based on statistically sound sampling design, careful field work, and advanced data analysis, the final inventory report will provide estimates for biomass and carbon in Tanzanian forest lands. This information will serve emerging demands when building up forest monitoring system and international carbon trade schemes.

Proper planning is crucial for the project to meet its goals. This includes preparation of field manual to enable field crews to collect relevant data for the project. NAFORMA collects biophysical as well as socioeconomic (interview-based) data. NAFORMA Document M01-2010 is the Biophysical Field Manual while the current NAFORMA Document M05-2010 is the Socio economic Field Manual.

The NAFORMA socioeconomic / interview-based field manual describes:

- Sampling design for socioeconomic survey;
- Socioeconomic data collection in the field
- Socioeconomic field forms and parameters
  - Household Survey
  - Key Informant survey;

Field forms are contained in Appendices 1 and 2.

This document therefore contains the fieldwork instructions for socioeconomic data collection which will take place alongside with biophysical data collection on clusters and concentric circular sample plots in NAFORMA Programme in Tanzania. The forest inventory system and this manual are based on experiences of Integrated Land Use Assessments (ILUA) advised by FAO. The concentric plot design to be used in the NAFORMA is adopted from several small scale inventories carried out in Tanzania (Malimbwi *et. al.* 2005).

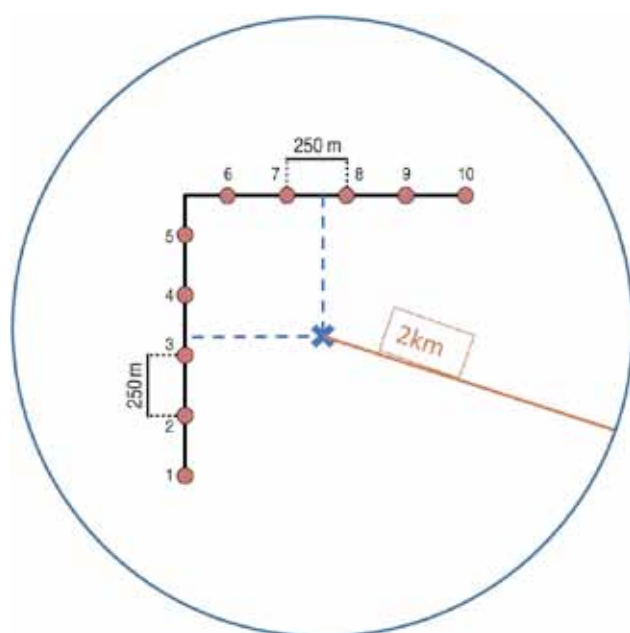
## 2. Sampling design for socioeconomic survey

### 2.1 Relationship with the biophysical survey design

NAFORMA’s sampling design for socioeconomic data follows the design for the collection of biophysical data because of two important reasons: First, it will allow for a close analytical link between biophysical and socioeconomic data, which in turn will strengthen the explanatory power and policy relevance of the data. And second, it will produce an unbiased sample of the population of interest since the biophysical sampling design is stratified according to predicted variability of biomass volumes (meaning that areas with forests will have more sample points). For description of the biophysical sampling design please refer to NAFORMA Document M01-2010, the Biophysical Field Manual.

Socioeconomic data (Household and key informant interviews) is collected in 50% of the clusters. (i.e socioeconomic data is collected in all permanent sample cluster (PSCs) and in 1/3 of the temporary sample clusters (TSCs). The field team management decide which TSCs to collect socioeconomic data in.

**Figure 1.** Relationship between Biophysical and Interview based components





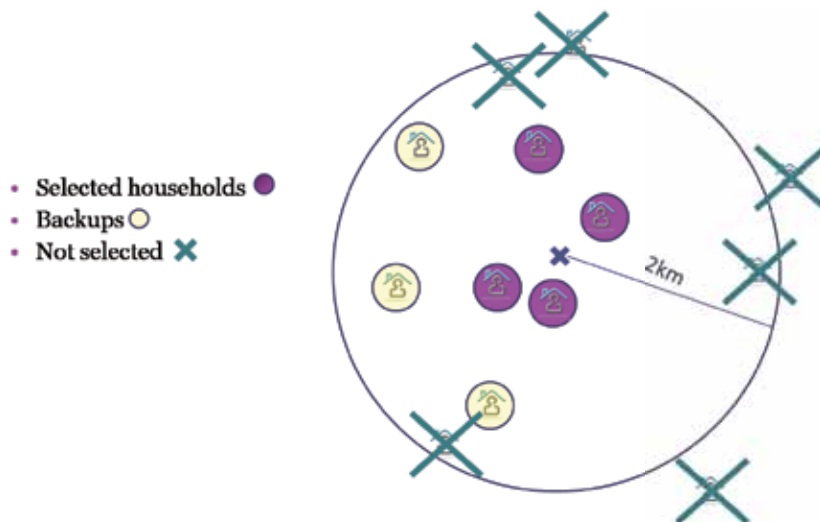
## 2.2 Identification of Households and Key Informants

### A. Identification of Households in SU

In each selected two-kilometer circle (Sampling Unit - SU), four households will be interviewed. Three more households will be selected as back-up households, in case field crews find that no one is home in one or more of the first four. These households will be identified and mapped out (as far as possible) before going to the field, using a combination of high-resolution imagery and key informants. The seven households are selected systematically in each sampling unit by selecting the households that are nearest the center of the two-kilometer circle. Figure 2 provides an example of such a selection process.

In case there are no households within the sampling unit, two households will be selected from the human settlement that is nearest the SU. Within the settlement, the two households whose dwellings are located within the shortest distance from the center of the SU should be selected for interviews. .

**Figure 2:** Household selection procedure for interviews



Once a household has been identified, a maximum of two people will be interviewed in each household, depending on the availability of interviewees. As a general rule, the head of the household *and* his/her spouse should be interviewed. Ideally, two interviewers one female and one male should work together to enable the team to conduct these interviews separately and at the same time. This is to ensure gender balance in the sample. Interviewees must be at least 18 years old.

### B. Identification of Key Informants

In addition to interviews with these sampled households in each SU, interviews will also be carried out with at least **two** key informants. Key informants may be village elders, local property owners, NGO representatives, district forestry officers, or other individuals with considerable knowledge about local forest use. These individuals will be selected with the help of the local forestry sector authorities, such as FBD personnel, forestry NGO representatives that work in the area, and district government authorities.

When identifying potential individuals to serve as key informants for a particular sampling unit, the team leader should make sure that the individuals represent different interest with regards to the forest resource. For example, a local forestry official will have a different perception of forest use than a village elder and they will have a different interest associated with their perspectives. The idea of interviewing two individuals with different interests and perspectives is to be able to increase reliability of the data by comparing and interpreting their answers.

Finally, the interviews with the key informants will always be carried out with the aid of maps, aerial photographs or high-resolution satellite imagery of the SU area so that each question is spatially explicit. For example, when asking the informant about the most important forest products harvested in the area, the informant will be asked to limit his/her answer to the area of the sampling unit (the two-kilometre circle). For more detailed descriptions of the interviews with key informants please refer to Section 4.1.B and Appendix 2

### 3. Data collection in the field

#### 3.1 Introduction of the project to local people

If the cluster area is inhabited, the crew must establish contacts with local people and on arrival to the site, meet with contacted persons and others, village representative, closest government institution in place, owners and/or people living in the cluster area. In many cases, it will be necessary to contact the local population before visiting the area in order to inform them about the visit and request permission to access the property. An introductory meeting may also be organized.

The crew must briefly introduce and explain the aim of the visit and study. A map or an aerial photograph/satellite image, showing the target inventory area, may be very useful to facilitate the discussion. Such imagery should be used as a point of reference during the interviews with the key informants.

It is important to ensure that both local people and the field crew understand which area will be studied. The aim of NAFORMA must also be clearly introduced to avoid misunderstandings or raise false expectations. Cooperation and support from local people are essential to carry out the fieldwork. It is easier to achieve this support if the first impression is good. Nevertheless, it must be stressed that the fieldwork consists only in data collection and not local development project. Some key points about the project are mentioned in Box 1.

**Table 1:** Key points to be stressed during the presentation of the project to the local people

- An objective of this study is to collect data on land uses to support national decision making by interacting with the local users. The collected land use information will be used by the country and the international community. The objective is to generate reliable information for improved land use policies that takes into account people's reality and needs. Hopefully, this can lead to natural resources being managed in a sound and sustainable way. It could help also in the mitigation of the poverty.
- This project is part of a programme for land use data collection over the whole world.
- The data are collected from two sources: (1) Measurements of the forests and trees outside the forests and other land use practices and (2) Interviews with local forest users who interact with natural resources locally and other people who are knowledgeable of the area. Measurement examples to be mentioned may be: tree diameter and height, as well as forest species composition. Data on agricultural cropping system, water, pest, power source and livestock will be collected by interviews. The field crew should equally be interested in the local people's perception on land use changes, the main products extracted from land, land use related problems, and will therefore interview land users.
- The clusters where the data will be collected are distributed throughout the country.
- The results from the study will be shared with the local community.
- Some or all of the clusters/plots surveyed in the country will be monitored in the future, with the aim of assessing land use changes.

## 3.2 Interviews for socioeconomic and governance parameters

### A. Sources of data

Two main sources of interview data will be used for socioeconomic and governance parameters:

- Interviews with households living within the 2 km sample unit
- Interviews with key informants;

In the absence of local inhabitants within the 2 km sample unit, many of the variables related to local forest use will be collected from interviews with households in a nearby settlement, from interviews with key informants, as well as through direct observations. Table 2 shows an overview of people/groups of people that may provide information.

**Table 2:** Sources of socioeconomic data

<b>Groups/ individuals to be interviewed</b>	<b>How to contact, identify them?</b>	<b>Where?</b>	<b>When?</b>	<b>Information</b>
<b>Key external informants:</b> village elders, property owners, local forest services, organizations and local administration representatives etc.	By phone, correspondence or visit	In the field, or at their office	During the planning phase of the fieldwork or/and before reaching the site	<ul style="list-style-type: none"> <li>- Logistics; Background information on the cluster</li> <li>- Information on the people living in the cluster or in the surroundings</li> <li>- land use/forest type section, ownership, protection status, management, ecological problems)</li> <li>- Forest products and services</li> </ul>
<b>Four households within 2 km from the center of the Sampling unit</b>	The four households that are closest to the center of the SU	At the household	During the biophysical field work – for efficiency reasons	<ul style="list-style-type: none"> <li>- Household composition and activities, forest products and services, production system, involvement in governance</li> </ul>
<b>Two households in nearest settlement*</b>	The households in the settlement whose dwellings are the nearest to the center of the SU	At the household	During the biophysical field work – for efficiency reasons	<ul style="list-style-type: none"> <li>- Same as household interview for HH within SU (see above). <b>Note:</b> these interviews are conducted only in cases in which no households are present within the SU</li> </ul>

\* Conducted only if there are no households located within the SU

## B. Interviews with key informants

Field form **M04-2010** of NAFORMA includes data to be collected through interviews with so-called key informants. These are individuals who are especially knowledgeable when it comes to forest use in the area of the sampling unit. Examples include the property owners themselves, local village authorities, and elders. In interviews with these individuals, questions will be asked about issues such as property rights, environmental conditions and trends, and historical land uses.

There are three reasons for adding interviews with key informants as a second type of collection of socioeconomic data. First, it complements the data that households provide. Second, it allows for triangulation of data collected in household interviews. And finally, because these interviews are spatially explicit, they strengthen the link between socioeconomic and the biophysical data in NAFORMA.

All of the questions on form **M04-2010** (Key informants) and **M03-2010** (biophysical) that correspond to key informants are asked after making sure that the key informants are aware of where the boundaries of the SU are. An aerial photograph, satellite image, or map should be used to make the interview as spatially explicit as possible. By asking questions about forest use in the SU in particular, rather than forest use in general as is the case for the household interviews, the key informant interviews would provide critical data about the location of resource use.

### Interview organisation

First, data collection from interviews may be collected from external key informants before going to the field (planning / preparation phase). Data collected will mainly refer to the cluster (Form 1).

In a second phase, the data may be collected **in the field**, in two different sets:

- Some variables related to the cluster may be collected from external key informants and cross-checked with the household interviewees;
- Variables related to the use of forest (products and services) in each cluster.

The data collection in the field may start during the introductory meeting with the key external informants and the local people or during the first introductory meeting.

At the end of the field work in the cluster all data collected about the cluster from the various interviews should be interpreted and synthesized onto the field forms.

### Content of Key Informant Survey

- **Background information on the cluster**

Administrative divisions *“What are the names of the administrative unit/district/region/ village and the local name of the area?”*

- **Information on the people living in the cluster or in the surroundings**

- Population in cluster *“How many people live in this area?”*
- Population since: *“How long (from what year) have people lived here?”*
- Population dynamics: *“Have most people in the area been living here for the past 5 years?”* or *“Have you seen a lot of changes during the last 5 years of people coming or going?”* If there have been changes *“Why?”*

- Main activity: *“How would you describe the livelihood of the majority of the people living in the area surrounding the cluster?”* Cross-checking of direct observations and information provided by the interviewees may provide a good overview.
- **General information on the distance and access to the cluster:**
  - Distance to the permanent road, seasonal road, inhabited area, school, market, hospital : *“What is the distance from the cluster to the closest permanent road, etc.?”*
- **General information on the land use/forest type section:**
  - Designation/protection status: *“What is the legal designation of the forest? Is it state forest, a community [communal] Forest, a village forest, National Park, etc.?”*
  - Ownership: *“Who is the legal owner of the land (forest) in the sample area? Is it public; is it private”* If private *“Do people have land titles?”*
- **Spatially explicit data on forest use.** Using imagery and maps questions are asked about forest use within the sampling unit. One should keep in mind that in the absence of local people, the information will be provided mostly by the key informants. Moreover, even when the information is provided by the focus groups, it must be cross-checked with the data provided by the key informants and observations.
- **Other questions** for key informants:
  - Legislation and forestry incentives awareness: *“Are there any laws/ incentives concerning this product/service? If yes, which one?”* *“Are the local people aware of this legislation”*
  - Compliance: *“Is the legislation concerning this product/activity respected?”*
  - Application to forestry incentive: *“Have the people applied for incentives concerning this product/service?”*

### C. Household surveys

Data from the household survey is recorded in the designed questionnaire (M02-2010) (See full form in Appendix 1. The procedure for selecting individual households within each Sampling Unit is explained in section 2.2 of this manual.

#### Codes of conduct for household surveys

Before taking to the field, there are several important guidelines that should be followed. In sum, interview crews should:

- Be punctual and respect appointments
- Socialize and build the trust of the communities they will be working with
- Give enough introduction about the assignment and him/herself
- Make sure that the respondent is at ease and give expected interview time
- Explain the purpose of the survey to the respondent and show him/her that he/she is important for the success of our national programs.
- Respect respondent’s ideas need not to pressure the respondent
- Avoid guiding the respondent to specific answers

- Be time conscious and when the respondent gets tired cheer him/her up (jokes)
- Observe decency in dressing that is culturally acceptable
- Avoid raising false expectations to possible future benefits
- Promise confidentiality since some of the information is sensitive.

The last point about guaranteeing confidentiality of the survey responses should be emphasized by field crews. It is absolutely imperative that the interviewees feel at ease and not worried about possible trouble with the authorities because of their responses. It is the duty of the interviewer to inspire confidence and trust by exhibit professionalism and show utmost respect for the interviewed individuals. The interviewer should always point out that their identities will not be recorded on the field forms so as to protect their anonymity.

## Content of Household Survey

There are eleven broad topics explored in the household survey. Each topic branches out into a series of specific questions, which in turn are used to measure a set of variables on forest use and user characteristics. The eleven topics are outlined below:

### **A. Interview Control Information**

When the interview was conducted and by whom, who entered the data and who checked and approved the data.

### **B. Identification and location of household**

Coordinates, whether household is outside SU, Administrative unit, distance to nearest forest, horizontal distance to Sample unit centre, duration of interview.

### **C. Household characteristics**

Which member of the household was interviewed, how many members the household has, etc.

### **D. Household assets**

Which materials were used to build the home, what modes of transportation and communication does the household have access to, etc?

### **E. Household food security and risk**

Sources of food for household, experienced food shortages and which roles do forest products play for household food security?

### **F. Household Income**

Which are the main sources of cash and non-cash income?

### **G. Sources of energy**

Which sources of energy are used, and if alternatives are available why are these not used?

**H. Forest Products and Services**

Which are the main products and services used by the household, and which are the main characteristics associated with their use?

**I. Participation in Organizations and forest user groups**

Is the household involved in formal/informal groups that seek to improve forest use.

**J. Relationships with forestry-related organizations**

Are there any local organizations that are engaged in forest governance? Are the household members involved in this work?

**K. Forest Governance**

To what extent are governance organizations effective in managing the forest?



## 4. Description of field forms and parameters

### 4.1 Key Informant Interviews (NAFORMA Document M04 - 2010)

In compliance with section 2.2 B at least two forms for key informants (**M04-2010**) will be filled for each socioeconomic sampling cluster. The interview questions are dealt with one at a time below:

**Cluster number and control information:** Each interview form contains a table at the start where ID of cluster and information on when the interview was completed and by whom, who checked the field forms, who entered the data and who checked and approved the data. When a task has been performed and the information is found to be complete and coherent the signature-column is signed. It is the responsibility of each link to clarify possible doubts and errors with previous links.

1. **Informant:** the persons interviewed in the SU (household survey excluded) referred to by a code indicating existing relationship between the informant and the SU. To be indicated according to option list (multiple choice possible):

Options	Description/definition	Code
Owner	Owner of plot or part of plot within SU	O
Employee	Person working in the SU	E
Manager of site	Person responsible for natural resources management within the SU.	M
Settler	Person living in SU or user from surroundings	S
Internal informant key	Individual living inside the area with in-depth knowledge of the local activities and use of land and natural resources	I
External informant key	Individual living outside the area, but with particular knowledge about the site, the land/natural resource use and the local community (e.g. local government officials, leaders of local organizations).	X

2. **Number of Households within boundaries of 2km sampling unit (SU):** \_\_\_\_\_  
*Ask the Key Informant to estimate the total number of households that reside inside the boundaries of the 2km circle.*
3. **Population's General Health Condition:** Compared to the rest of the population in the district, how would you characterize the health condition of the population living near and inside the Sampling Unit (the 2km circle)? \_\_\_\_
  - a. Much below average
  - b. A bit below average
  - c. Average
  - d. Above average
  - e. Much above average
4. **Main Products from SU:** We are interested to know which are the three most important forest products that most local people harvest from this area (point to 2km circle on map/image).  
 Product 1: \_\_\_\_\_  
 Product 2: \_\_\_\_\_  
 Product 3: \_\_\_\_\_

5. **Number of beneficiary households:** Approximately how many households regularly harvest these products from this particular area? (ask respondent to estimate best to his/her knowledge reminding the respondent that we are interested in the two-km circle only for this question). \_\_\_\_\_ households
  
6. **Rules:** Are there any rules that constrain these households' uses of products?  yes  no
  
7. **Origin of Rules:** If yes, what is the origin of these rules? \_\_\_\_\_ (mark all that apply)
  - a. Private owner dictates the conditions for access and use
  - b. Local community norms and customs (no formal rules)
  - c. Local community rules/bylaws (formal rules, often written down)
  - d. Local Government ordinances
  - e. Central government rules and regulations
  - f. Open-access (law of the jungle)
  - g. Other (specify): \_\_\_\_\_
  
8. **Proximity to infrastructure from center of Sampling Unit (SU) to:**
  - a. **Nearest all-weather road:** distance, in km, to reach the closest all-weather road (accessible by motor vehicle all the year), departing from the SU centre (mark '0' if located within the SU) \_\_\_\_ km
  - b. **Nearest seasonal road:** distance, in km, from the centre of the SU to the closest seasonal road (road accessible by motor vehicle during some seasons only): \_\_\_\_
  - c. **Nearest village:** distance, in km, from the SU centre to the closest settlement (village...)
  - d. **Nearest health centre:** distance, in km, to reach the closest health centre (hospital, dispensary...), departing from the SU centre.
  - e. **Nearest school:** distance, in km, to reach the closest school, departing from the SU centre.
  - f. **Nearest food market place:** distance, in km, to reach the closest food market (to satisfy domestic needs), departing from the SU centre.
  
9. **Years since settlement:** approximate number of years since the settlement (the one that is nearest the center of the Sampling Unit) was established. This data should be collected from external or internal key informants and verified in the field through interviews and triangulation of observations. To be indicated according to an option list (choose one):

Options	Description/definition	Code
Not applicable		0
<5 years		1
5-10 years		2
10-20 years		3
20-50 years		4
>50 years		5
Not known		90

**10. Population dynamics:** Trend of the population living in or close to the SU, in the past 5 years. To be indicated according to an option list (choose one):

Options	Description/definition	Code
Not applicable	No inhabitants in the site or surroundings	0
Decreasing	The population living in the site decreased during the last 5 years	1
Stable	The number of people living in the site remained stable during the last 5 years	2
Increasing	The population living in the site increased during the last 5 years	3
Not known	There is not enough information to estimate this trend	90

**11. Settlement history:** Major historical events that have affected the local people and land use in the area, to be indicated (multiple choice possible): \_\_\_\_\_  
(If possible please note date or periods of these events)

Options	Description/definition	Code
Not applicable	No inhabitants in the SU or surroundings	0
Wars	Armed conflict that obligate people to look for safer places to live	1
Insecurity, ethnic conflict	When people move from their original places to look for safety, major problems between ethnic groups that force people to look for other places to live.	2
Change of ownership/land tenure	When a new owner forces the people to move from his/her property	3
Expansion of agriculture	Land converted to agriculture field or pastures from other land use	4
Urban development	Land changed from agricultural production, open rangeland, forest or recreational uses to residential, commercial or industrial uses	5
Infrastructure, electric power	Infrastructure, e.g., roads, water or water channel, electric line recently installed in the SU	6
Economic Crisis	Drastic reduction in income generation, enterprises, changes in consumption patterns	7
Natural disaster	Severe drought, flood, landslide, etc.	8
Human disease	Causing drastic change in labour force and dependency ration	9
Rural-to-urban migration	Migration of people from rural to urban areas	10
Urban-to-rural migration	Migration of people from urban to rural areas	11
Influx of refugees	Settlements of refugees from neighbouring countries	12
Other	Specify	13

**12. Management Initiatives:** Have there been any efforts to manage or organize the use of forest resources within this Sampling Unit area?  yes  no

If Yes what is the gender composition of the group Male \_\_\_\_ % Female \_\_\_\_ %  
(Sum should add up to 100%)

**13. Leaders:** If yes, who led this effort? \_\_\_\_ (mark all that apply)

- a. NGO
- b. Local community
- c. Private owner
- d. Local Government
- e. Central Government
- f. Corporation
- g. Other

**14. Ongoing:** Is the effort described in Question 13 still taking place?  yes  no

15. **Degree of Success:** To what degree did the effort manage to order and regulate forest use? (alternative wording: to what degree would you consider this effort to have been successful so far? Choose one alternative only): \_\_\_\_
- very unsuccessful
  - not very successful
  - somewhat successful
  - very successful

16. **Management plan:** Is any part of the forestland within the Sampling Unit *currently* under any kind of forest or woodland management plan? Choose one alternative only: \_\_

Options	Description/definition	Code
None	There are currently no management plans for any area of the SU	0
Formal	Formal management plan formulated and implemented	1
Traditional	No formal management plan formulated or formal management plan formulated but not implemented	2
Not known		90

17. **Management agreement:** Management arrangement between the land owner and other groups. To be indicated according to option list, choose one alternative only: \_\_\_\_

Options	Description/definition	Code	
Owner is the exclusive manager	The owner retains management rights and responsibilities within the limits specified by the legislations	1	
Joint management Devolution of management rights	with communities	Management decisions remain with the owner and the management activities are executed by local communities (including indigenous and tribal communities), according to an agreement. The agreement allocates temporary exploitation rights for specific products or activities. Are including lands allocated for extraction purposes through license or concession.	2
	with private companies/private sector	Management decisions remain with the owner and the management activities are executed by private companies according to an agreement. The agreement allocates temporary exploitation rights for specific products or activities, including lands allocated for extraction purposes through license or concession.	3
	to communities	The owner devolves land management to the local communities (including indigenous and tribal communities), according to leases or management agreement.	4
	To private companies/private sector	The owner devolves land management to the private sector / private companies / individuals according to leases or management agreement, including rental.	5
Not known	There is not enough information to estimate this	90	
Other	To be specified in notes	99	

- 17.B **Ownership:** Ownership of the land. To be indicated according to option list, choose one alternative only:

Options	Description/definition	Code	
Private	Individual	Forest owned by individuals and families	1
	Industries	Forest owned by private enterprises or industries	2
	Local communities	Forest owned by a group of individuals belonging to the same community residing within or in the vicinity of a forest area. The community members are co-owners that share exclusive rights and duties and benefit contribute to the community development.	3
	Others private	Forest owned by private co-operatives, corporations, religious and educational institutions, pension or investment funds, NGOs, nature conservation associations and other private institutions	4
Public	State	Forest owned by central government or by government owned institutions or corporations	5
	Local Government	Forest owned by local government (district, municipalities).	6
Indigenous communities / tribal	Forest owned by community of indigenous or tribal people	7	
Not known	No information available regarding the forest ownership	90	
Other	To be specified, (includes areas where ownership is unclear or disputed).	99	

18. **Illegal activities:** To what extent is this particular area affected by large-scale, illegal forestry activities? Choose one alternative only: \_\_\_\_
- Not at all
  - Not much
  - Quite a bit
  - Very much
19. **Enforcement:** If a person engages in *large-scale* illegal activities, (i.e. large timber operation, industrial charcoal making, etc) in this area, what is the likelihood of anybody detecting or stopping this activity? Choose one alternative only: \_\_\_\_
- Extremely unlikely
  - Not so likely
  - Quite likely
  - Very likely
20. **Enforcement:** If a person engages in *small-scale* illegal activities, (i.e. cutting of timber operation, charcoal making for local markets, etc) in this area, what is the likelihood of anybody detecting or stopping this activity? \_\_\_\_
- Extremely unlikely
  - Not so likely
  - Quite likely
  - Very likely
21. **Local Leadership:** Are there any local individuals who have shown leadership to organize forest activities among forest users in this area?  yes  no
22. **Forestry organization:** What is the name of the most active forestry organization (external to the local community/settlement) in this area? \_\_\_\_\_
23. **Distance to organization:** How far away from the center of the Sampling Unit is the nearest office of this organization? \_\_\_\_\_ km

## 4.2 Household Interviews (NAFORMA Document M02-2010)

### *A. Control Information*

These are questions for the enumerator and for the links in the data handling process that follows. When a task has been performed and the information is found to be complete and coherent the signature-column is signed. It is the responsibility of each link to clarify possible doubts and errors with previous links.

#### **INSTRUCTION:**

1. In the field called “**Field Interview**”, please enter the dates for when the field interview was carried out and the name of the individual who carried out this interview.
2. In the field called “**Checking questionnaire**” the team leader should enter the date when he/she reviewed the interview form and approved it. This must be done before leaving the cluster so that the enumerator might go back to the household to collect any missing information.
3. In the field called “**Entering data into data base**” the data entry person should fill out the date when he/she entered the data into the data base as well as his/her full name.
4. In the field called “**Checking and approving data entry**” the database manager, who has data assurance responsibility, should enter the date when the data on this form was finally approved along with his/her signature.

### *B. Identification and Location of Household*

Like Section A, these questions are for the enumerator and should be filled out before the interview.

#### **INSTRUCTION:**

In the field called “**Household Number**” the enumerator should fill in the unique identifying number for the household in this cluster. To assign this number to any given household please follow these simple steps:

1. Determine the distance of each of the four selected household to the center of the SU.
2. Order the four selected households according to their corresponding distances.
3. Assign a “1” to the household that is nearest to the SU center, “2” to the second nearest household, etc.
4. Tick “Yes” in the tick box if household is located inside cluster (2km SU). Tick “No” in the tick box if HH is located outside the 2 km SU.
5. District number can be obtained from Appendix 3
6. Cluster number will be provided by field team management

### C. Household Characteristics

1. How many members are there in this household (people who share meals on a daily basis)? \_\_\_\_ individuals.

**INSTRUCTION:** Indicate the total number of individuals including children

2. How many members did this household have five years ago? \_\_\_\_ individuals.

**INSTRUCTION:** Using the same definition for HH, indicate the total number of individuals

3. For how long has the head of this household lived in this location? \_\_\_\_\_ years.

**INSTRUCTION:** Round up to whole years. Refer to living in the exact same location (+/- 1 km)

4. What is the birthplace of the head of the household? \_\_\_\_\_ (name of district)

**INSTRUCTION:** Use the official name of the district (as per NBS list of districts in TZ)

5. Who are the heads of the household (head of household and spouse(s))? (fill in table below)

Position in household	Person interviewed (0=no; 1=yes)	3.Age	4. Sex (0=male; 1=female)	5. Education (highest level attained)*
<i>Head</i>				
<i>Spouse</i>				
<i>Other (specify):</i>				

**INSTRUCTION:**

In column 2, indicate who is interviewed by marking "1".

For columns 3 and 4, enter the age and sex of **both** the head of household **and** spouse(s)

For column 5, education is measure according to the highest level of formal education attained as per the following scale:

- 1= None;
- 2= primary school;
- 3= secondary school;
- 4= college/university;
- 5= other (specify)

## D. Household Assets

1. Describe the house in which this household lives (Enumerator's observation)

a. What is the type of material of (most of) the walls?*	
b. What is the type of material of (most of) the roof? **	

### INSTRUCTION:

For 1.a use the following codes for wall materials:

- 1 = mud and poles/withies;
- 2 = wooden (boards);
- 3 = iron (or other metal) sheets;
- 4 = mud bricks;
- 5 = burnt bricks;
- 6 = concrete bricks, or concrete;
- 7 = reeds/straw/grass/fiber;
- 9 = other, specify.

For 1.b. use the following codes for roofing materials:

- 1 = thatch;
- 2 = iron or other metal sheets;
- 3 = tiles;
- 9 = other, specify

2. Please indicate the number of the following items that are owned by the household:

<i>Item</i>	<i>Number of units</i>
Cattle (excluding oxen)	
Goat/Sheep	
Poultry	
Pig	
Draught animals (oxen, donkey, etc)	
Car/truck	
Plow	
Carts/wheel barrow	
Bicycle	
Motorcycle	
Phone	
TV	
Radio	
Other items, specify	



3. Please indicate the household's main sources of energy and how they are acquired.

<i>Energy Source Used</i>	<i>Acquisition Methods*</i> <i>(Multiple values possible)</i>	<i>Quantity/month consumed</i>	<i>End Purposes**</i> <i>(Multiple values possible)</i>
Firewood		Head loads	
Charcoal		bags	
Gas		kg	
Kerosene		liter	
Electricity		TShs	
Other (spec)			

**INSTRUCTION:**

For column 2, use the following codes

- 1 = own collection;
- 2 = purchase;
- 3 = other: please specify: \_\_\_\_\_

For column 3, please estimate the average quantities consumed per month by the household

For column 4, please code responses according to the following alternatives:

- 1 = cooking;
- 2 = lighting;
- 3 = heating;
- 4 = other, Please describe): \_\_\_\_\_.

If firewood or charcoal were mentioned as energy sources, please ask the following questions about availability of alternative energy sources (if not, skip to question 4):

3. a. Are there any alternatives to firewood/charcoal that are available here but not used?  
 Yes  No (*Tick the appropriate*). *If yes go to question 3 b, if no go to question 4*

3. b. If yes, please fill out below table, (multiple values possible)

<i>Energy Source</i>	<i>Available</i> <i>(tick the appropriate)</i>	<i>Reasons for not using</i> <i>energy source *</i>
Gas	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Electricity	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Kerosene	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Solar panels	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Other (spec)	<input type="checkbox"/> Yes <input type="checkbox"/> No	

*Codes: \* 1= too expensive; 2= different preferences; 3=other reasons, (specify)*

4. Please indicate the amount of land that you currently own and have access to:

Category	Area owned individually		Do outsiders respect boundaries? *	Area of land owned communally to which the household has access**		Do outsiders respect boundaries?*
	Area	Unit Acres/ Ha		Area	Unit Acres/Ha	
Cropland (not irrigated)						
Cropland (irrigated)						
Pasture (natural or planted)						
Forested land (including woodlots, silvipasture etc)						
Other vegetation types, spec:						
Land rented or borrowed						

\* 1= yes, everybody; 2= most people; 3= Most do not respect; NA=Not applicable;  
 \*\* Estimates, including ranges of value--i.e. 10-15 acres--permitted.

**INSTRUCTION:**

For this question, estimates of land areas may be given in either hectares or acres, whichever is preferred by the household member interviewed.

For column 3 use the following codes:

- 1 = yes, everybody;
- 2 = yes most people respect ;
- 3 = No, most people do not respect;
- NA = Not applicable;

For column 4, regarding the question about access to communally-owned land, please use ranges of estimates. For example, 10-15 acres or 80-100 hectares if the respondent does not know the exact figure.

5. Has the **size** of the household's private land property changed over the last five years? \_\_\_\_\_

**Codes:**

- A = yes, increased;
- B = yes, decreased;
- C = no change.

If there is no change, the enumerator can skip to question E.1

6. If area of private land property changed, by how much did it change? \_\_\_\_\_ acres **or** \_\_\_\_\_ hectares

For this question, estimates of land areas may be given in either hectares or acres, whichever is preferred by the household member interviewed.

7. Why did this change occur? (text to indicate source of change)

**INSTRUCTION:** Please limit the text variable to 20 words

### ***E. Household food security and risk***

1. In the past year, where did the household's food come from?

<i>Source</i>	<i>Months food lasts</i>
Food grown on land owned and cultivated by household	
Food grown on land cultivated <b>but not</b> owned by household (i.e. land rented)	
Food purchased from the market	
Food from forest (mushroom, fruits, bushmeat, etc.)	
Food given as gift or food aid	
Other ( <i>please specify</i> ):	

**INSTRUCTION:**

Here, the enumerator should document the number of months out of the year that the household's food needs are met by each specified source of food in the table.

2. During which months of the year do you experience food shortages in the household? \_\_\_\_\_  
(1 = January, 2 = February, 3 = March ... etc (Multiple answers possible).

**INSTRUCTION:**

Here, the enumerator should document which months (if any) that the household experiences a food shortage. If there are no months of food shortage, the enumerator should skip to question E.5.

3. During critical food shortage months does your household use forest products to meet food needs? (mark by ticking the appropriate option)  
 Yes  No (*If no, please go to question 5*)

4. If yes, please indicate the forest products that are collected to supplement household food supplies during periods of food shortage:

<i>Product</i>	<i>Species</i>	<i>Quantity collected/week</i>	<i>Unit *</i>	<i>Rank (1 – 5)**</i>
Tubers				
Wild vegetables				
Mushrooms				
Honey				
Fruits				
Others (specify):				

**INSTRUCTION:**

\* For column 4 on Unit, please indicate what units are used to determine the quantity collected / week in Column 3 by using the following codes.

**Codes:**

- A = Headloads;
- B = Bags;
- C = Kg;
- D = Liters;
- E = Baskets;
- F = Buckets;
- G = other, (specify)

\*\* For Column 5 on Rank, the products should be ranked from 1-5 where 1 is the most important.

5. Has your household faced any unexpectedly large expenditures during the past 12 months?  
 Yes  No *If no, please go to question 7*

6. If yes, what event(s) caused this shortfall (fill in table below--multiple answers possible):

<i>Event</i>	<i>Exists</i>	<i>Response*</i> <i>(Multiple answers possible)</i>
Serious crop failure (drought, pests, floods)	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Serious illness or disability in family	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Death of productive age-group adult	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Land loss (expropriation, etc.)	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Major livestock loss (theft, drought, etc.)	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Social events (Wedding, funeral, religious events)	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Other, (describe)		

**INSTRUCTION:**

For column 2 on existence, please tick appropriate.

For column 3, on type of response, use the following codes (multiple answers possible):

- 1 = Harvest more forest products;
- 2 = Harvest more wild foods not found in the forest;
- 3 = Harvest more agricultural products;
- 4 = Spend cash savings;
- 5 = Sell assets (i.e. land, livestock etc.);
- 6 = Do extra casual labor;
- 7 = Assistance from friends or relatives;
- 8 = Assistance from NGO, community organization, religious organization or similar;
- 9 = Get loan from money lender, credit associations, bank etc.;
- 10 = Tried to reduce household spending;
- 11 = Did nothing in particular;
- 99 = Other (specify): \_\_\_\_\_

7. In the last 5 years have there been any major disturbances to the local forests that decreased the availability of forest products?  Yes  No *If no, please go to question F.1*

8. If yes, what were these events and how did your household cope with this shortfall?

<i>Event</i>	<i>Exists*</i>	<i>Response*</i> <i>(Multiple values possible)</i>
Fire	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Disease	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Lumbering	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Encroachment	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Grazing	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Charcoal making	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Other, (describe)	<input type="checkbox"/> Yes <input type="checkbox"/> No	

\***CODES:** 1=Fire; 2=Disease; 3=lumbering; 4= encroachment; 5= grazing; 6= charcoal making; 9=Other (specify); r

**INSTRUCTION:**

For column 2 on existence, please tick appropriate.

For column 3, on types of responses please use the following codes (multiple values are possible):

- 1 = By harvesting fewer forest products;
- 2 = By harvesting more of other forest products;
- 3 = No change in harvesting;
- 4 = By harvesting from a different forest;
- 9 = Other (specify)

## F. Household Income

1. In the past **12 months**, which have been the most important sources of income for the household?  
If no income was received from a particular source, a “NA” should be recorded

Income source	Source of subsistence	Rank subsistence*	Source of cash income	Cash income during last 12 months (T. Shs)**
Forest products (timber, game, charcoal, etc)	<input type="checkbox"/> Yes <input type="checkbox"/> No		<input type="checkbox"/> Yes <input type="checkbox"/> No	
Agriculture	<input type="checkbox"/> Yes <input type="checkbox"/> No		<input type="checkbox"/> Yes <input type="checkbox"/> No	
Livestock	<input type="checkbox"/> Yes <input type="checkbox"/> No		<input type="checkbox"/> Yes <input type="checkbox"/> No	
Wage income	<input type="checkbox"/> Yes <input type="checkbox"/> No		<input type="checkbox"/> Yes <input type="checkbox"/> No	
Income from own business	<input type="checkbox"/> Yes <input type="checkbox"/> No		<input type="checkbox"/> Yes <input type="checkbox"/> No	
Remittances	<input type="checkbox"/> Yes <input type="checkbox"/> No		<input type="checkbox"/> Yes <input type="checkbox"/> No	
Other sources (spec):	<input type="checkbox"/> Yes <input type="checkbox"/> No		<input type="checkbox"/> Yes <input type="checkbox"/> No	

\* Please rank in order of importance 1 being the most important

\*\* Ask respondent to estimate the amount of cash income for past year (ranges are acceptable)

### INSTRUCTION:

For columns 2 and 4 (source of subsistence and cash income), please tick appropriate option (yes/no)

For column 3, on rank of subsistence, please rank in order of importance, 1 being the most important.

For column 5, ask the respondent to estimate the amount of cash income for the past year. Ranges are acceptable if the respondent is not able to give exact figures.

## ***G. Household Opinions***

### **INSTRUCTION:**

For all of these questions, ask the respondents to answer whether they agree with the following statements: (tick appropriate (yes/no))

1. In your opinion do you think households in this area can reduce their consumption of forest products?  Yes  No

Comment: \_\_\_\_\_

2. Do you think that local communities in this area are more effective in protecting forests than government officials?  Yes  No

Comment: \_\_\_\_\_

3. Do you think that the rules regarding the use of forest resources in this area are fair to everyone?  Yes  No

4. Comment: \_\_\_\_\_

5. Do you think that the penalties for breaking forest use rules in this area are fair to everyone?  Yes  No

Comment: \_\_\_\_\_

## H. Forest Products and Services

1. Please list all tree and forest products used in the past 12 months. For the three most important products for the households, please characterize demand, supply etc (variables in shaded portions of the table)

<i>All tree and forest products</i>				<i>For top three products ONLY</i>										
<i>Product Category</i>	<i>Species names + language</i>	<i>Land use cat.</i>	<i>Rank</i>	<i>Distance to Source</i>	<i>Who harvests?</i>	<i>Harvesting change</i>	<i>Quantity harvested</i>	<i>Unit</i>	<i>End Use</i>	<i>Rights</i>	<i>Conflicts</i>	<i>Local Rules</i>	<i>Legislation awareness</i>	<i>Legislation enforcement</i>

### INSTRUCTION:

#### Products harvested

This table is used to record the forest and trees products harvested by the households. If the table is not big enough, please use the back of the form to record other products.

a. **Product category:** categories of products harvested in the Land use class (one line for each product category). To be indicated according to option list:

	<b>Options</b>	<b>Description</b>	<b>Code</b>
<b>Wood Products</b>	<b>Production Wood</b>	Timber, beams, poles for construction, etc	<b>101</b>
	<b>Firewood</b>		<b>102</b>
	<b>Charcoal</b>		<b>103</b>
	<b>Wood Carvings</b>	Tools, artwork, small wood for artisanal products	<b>104</b>
	<b>Human plant food</b>	Vegetable foodstuffs and beverages including fruits, nuts, seeds, roots, mushrooms, food crops, etc.	<b>201</b>
	<b>Fodder</b>	Animal and bee fodder provided by leaves, fruits, flowers, etc	<b>202</b>
	<b>Plant medicines</b>	Medicinal plants (e.g. leaves, bark, roots) used in traditional medicine and/or for pharmaceutical companies	<b>203</b>
	<b>Soap / cosmetics</b>	Aromatic plants providing essential (volatile) oils and other products used for cosmetic purposes such as soaps perfumes etc.	<b>204</b>



	Options	Description	Code	
Wood products	Dying/tanning	Plant material (bark and leaves) providing tannins and other plant parts (especially leaves and fruits) used as colorants	205	
	Herbs and spices	Food additives	206	
	Exudates	Substances such as gums (water soluble), resins (water insoluble) and latex (milky or clear juice) released from plants by exudation.	207	
	Utensils, handicrafts	Non wood products	208	
	Construction material	Includes thatch, bamboo, rattan, wrapping, leaves and fibres.	209	
	Ornamentals	Entire plants (e.g. orchids) and parts of plants (e.g. pots made from roots)	210	
	Seeds	Seeds collected for regeneration purposes	211	
	Fuel	Combustion materials	212	
	Fibre	For instance for making clothes	213	
	Fertilizer	Additives to improve soil fertility	214	
	Other plant products	To be specified	299	
	Animal products	Living animals	Mainly vertebrates such as mammals, birds, reptiles kept/bought as pets	301
		Honey, beeswax	Products provided by bees	302
		Bush meat	Meat provided by vertebrates, mainly mammals	303
Other edible animal products		Mainly edible invertebrates such as insects (e.g. caterpillars) and other “secondary” products of animals (e.g. eggs, nests etc) – to be specified.	398	
Hides / skins		Hide and skin of animals used for various purposes. Includes trophies	304	
Medicines from animals		Entire animals or parts of animals such as various organs used for medicinal purposes	305	
Colorants		Entire animals or parts of animals such as various organs used as colorants	306	
Fuel		Biogas, dung	307	
Other non-edible animal products		E.g. bones used as tools – to be specified	399	

**b. Local or scientific name** of species for the product category harvested in (one line per species). If a local name is used then the language used to name the species should be specified in brackets.

**c. Land use category:** for each product indicate all land use categories from which the product is harvested (multiple answers possible)

1. Forest land
2. Pasture
3. Fallow
4. Garden
5. Other, please spec:

**d. Rank:** Indicates which products are the most important to the household. Only top three will be coded in the order of importance among those three.

1. Most important product
2. Second most important product
3. Third most important product

**e. Distance to source:** The distance from HH where product is harvested

1. Less than 1 km from HH
2. Between 1-2 km from HH
3. Between 2 and 5 km from the HH
4. Between 5-10 km from HH
6. More than 10 km from HH

**f. Who harvests:** Gender balance: gender balance of harvesters of the product.

Options	Description	Code
No women	Women don't harvest the product	0
<30% women	Less than 30% of the women living in the place participate in the harvesting of the product	1
30-70% women	Between 30-70% of the women living in the place participate in the harvesting of the product	2
>70% women	More than 70% of the women living in the place participate in the harvesting of the product	3
Only women	Only women harvest the product	4

**g. Harvest Change:** indicate whether the household is harvesting more or less of the product than what they have been accustomed to in the past five years.

Options	Description	Code
Not Applicable	Timber, beams, poles for construction, etc	0
Decreasing	When quantity harvested has decreased	1
No Change	When the quantity harvested has not changed	2
Increasing	When quantity harvested has increased	3

**h. Quantity harvested:** Indicate the weight/volume that the HH harvests each month.

**i. Unit:** Please specify the unit of measurement for each entry.

- A. Headloads
- B. Bags
- C. Kg
- D. Liters
- E. Baskets
- F. Buckets
- G. Other (specify)

**j. End-use:** main end-use of the species. To be indicated according to option list:

Options	Description	Code
<b>Only domestic use</b>	The product is used for home consumption. No commercial use of the product.	<b>0</b>
<b>&lt;25% commercial use</b>	Less than 25% of the product is sold in markets (more than 75% of the product is used for home consumption)	<b>1</b>
<b>25-50% commercial use</b>	25% - 50% of the product is sold in markets (50% - 75% of the product is used for home consumption)	<b>2</b>
<b>50-75% commercial use</b>	50% - 75% of the product is sold in markets (25% - 50% of the product is used for home consumption)	<b>3</b>
<b>&gt;75% commercial use</b>	More than 75% of the product is sold in markets (less than 25% of the product is used for home consumption)	<b>4</b>
<b>Only commercial use</b>	All harvested product is sold. The product is not used for home consumption	<b>5</b>
<b>Not known</b>	There is not enough information to know about commercial use of the species	<b>90</b>

**k. Rights:** user rights to harvest the product. To be indicated according to option list:

Options	Description	Code
<b>Individual rights</b>	The harvester is the land owner or has been transferred property rights	<b>1</b>
<b>Rent</b>	Pays a fee, percentage of harvest, for having the right of harvesting the product	<b>2</b>
<b>Product lease</b>	Pays a fee for harvesting the product	<b>3</b>
<b>Land lease</b>	Pays a fee for leasing the land	<b>4</b>
<b>Customary or common rights</b>	Rights to harvest the product is based on tradition or habit, to satisfy local people's needs of a specific group. Might be regulated through permits and licenses	<b>5</b>
<b>Open access</b>	Rights to harvest the product is a common right. Everybody has the right to harvest/use the product	<b>6</b>
<b>No right</b>	The harvest of the product is prohibited	<b>7</b>
<b>Not known</b>	There is not enough information to know about user rights	<b>90</b>

**l. Conflicts:** existence of conflicts between different users/harvesters of the product. To be indicated according to option list:

Options	Description	Code
<b>No</b>	No conflicts due to use/harvest of the product	<b>1</b>
<b>Yes,</b>	Conflicts due to use/harvest of the product	<b>2</b>
<b>Not known</b>	There is not enough information to know about conflicts related to harvesting the product	<b>90</b>

**m. Local rules:** indicate to what extent local rules limit the harvesting of the product according to the options below:

Options	Description	Code
No	No local rules exist that regulate use of product	0
Yes, but not enforced	Local rules exist but they are not enforced	1
Yes, and enforced	Local rules exist and they are enforced	2

**n. Legislation Awareness:** Is the respondent aware of any government rules and regulations concerning the harvesting of this product?  Yes  No If no, proceed to question H2.

Options	Description	Code
No		0
Yes,		1

**o. Legislation Enforcement:** If the respondent is aware of government rules and regulations concerning the harvesting of this product, to what extent are these rules actively enforced by government officials?

Options	Description	Code
Not at all	There is no enforcement at all	0
Weakly	There is hardly any government enforcement of these rules	1
More or less	There is regular but infrequent patrolling by officials	2
Strongly	There is regular and frequent patrolling by officials who arrest violators	3

2. Please list all forest-related services that the household has benefited from in the past 12 months

<i>Environmental Services from forests</i>					<i>If payment was received:</i>	
<i>Service type</i>	<i>Exists</i>	<i>Rank*</i>	<i>Payment</i>	<i>Payment from (indicate organization)**</i>	<i>Amount (TShs)</i>	
Fresh water/water conservation	<input type="checkbox"/> Yes <input type="checkbox"/> No		<input type="checkbox"/> Yes <input type="checkbox"/> No			
Climate regulation	<input type="checkbox"/> Yes <input type="checkbox"/> No		<input type="checkbox"/> Yes <input type="checkbox"/> No			
Windbreak	<input type="checkbox"/> Yes <input type="checkbox"/> No		<input type="checkbox"/> Yes <input type="checkbox"/> No			
Recreation /Tourism	<input type="checkbox"/> Yes <input type="checkbox"/> No		<input type="checkbox"/> Yes <input type="checkbox"/> No			
Soil protection	<input type="checkbox"/> Yes <input type="checkbox"/> No		<input type="checkbox"/> Yes <input type="checkbox"/> No			
Shade	<input type="checkbox"/> Yes <input type="checkbox"/> No		<input type="checkbox"/> Yes <input type="checkbox"/> No			
Aesthetic	<input type="checkbox"/> Yes <input type="checkbox"/> No		<input type="checkbox"/> Yes <input type="checkbox"/> No			
Employment	<input type="checkbox"/> Yes <input type="checkbox"/> No		<input type="checkbox"/> Yes <input type="checkbox"/> No			
Other (spec)	<input type="checkbox"/> Yes <input type="checkbox"/> No		<input type="checkbox"/> Yes <input type="checkbox"/> No			

**Codes:**\* Please rank the 3 most important services for the household: 1= most important, 2 = second most important, 3 = third most important

\*\* 0 = no payment from anybody, 1=Central Government Office and Agencies, 2=NGOs,, 3=Individual, 4= Sub National Governments, 9=Other

**INSTRUCTION:**

**a. Exists:** Does the respondent indicate that the household receives benefits from this forest-related service? – tick appropriate box (yes/no)

**b. Rank:** Which are the three most important services for the household?

Options	Description	Code
Most important		1
Second most important		2
Third most important		3

**c. Payment:** Has the household received any money from any individual, organization, or the government to protect the forest area from which this service comes? – tick appropriate box (yes/no)

**d. Source of Payment:** Indicate which type of organization made the payment, according to the options below:

Options	Description	Code
Not applicable	No payment was received from anybody	0
Central Government	Central government office and its agencies	1
Sub-national Government	Regional or district level government	4
NGO	Non-governmental Organization	2
Individual	An individual has paid for the environmental service, i.e. tourists paying a visitor's fee	3
Other	Please describe: _____	9

**e. Amount:** Please indicate, in Tanzanian Shillings, how much the household has received in the last 12 months?

3. During the last five years, how have the following land use characteristics changed in this locality?

Land Use	Change
Cultivated land	
Forest land	
Natural surface water ( <b>excluding</b> man-made reservoirs)	

**INSTRUCTION:**

For Change, please use the following codes:

- 1 = decrease;
- 2 = stable;
- 3 = increase

### ***I. Participation in Organizations and Forest User Groups***

This section aims to clarify the household's involvement in groups that seek to improve forest use (i.e. these can be either formal or informal groups that undertake forest use activities):

1. Are you aware of any initiatives related to Participatory Forest Management? <b>Codes:</b> 1 = yes; 0 = no.	Response
2. Are there any other organizations in this area that work on forest-related issues? <b>Codes:</b> 1 = yes; 0 = no. If 'no', go to question 7.	
3. Are you or any member of your household involved in a group that organizes activities related to management of the forest (i.e. fire fighting, patrolling, tourism, tree planting, etc)? <b>Codes:</b> 1 = yes; 0 = no. If 'no', go to question 7.	
4. What is the name of the group(s) your household is involved with? <b>Instruction:</b> Please indicate the name of the group as described by the enumerator. Offer examples of groups whose local work key informants may have told you about.	
5. Overall, how would you say the existence of the organization has affected the benefits that the household gets from the forest? <b>Codes:</b> 1 = large negative effect; 2 = small negative effect; 3 = no effect; 4 = small positive effect; 5 = large positive effect	
6. How frequently does the group/community that you belong to actively monitor and patrol the forests to detect intruders and thieves of forest products? <b>Codes:</b> 0 = Never; 1 = Hardly ever; 2 = Regularly (>1 time/month); 3 = Frequently (>1 time/week)	
7. How frequently do government officials (district, region, central) visit the forest area? <b>Codes:</b> 0 = Never; 1 = Hardly ever; 2 = Regularly (>1 time/month); 3 = Frequently (>1 time/week)	
8. In the past 12 months, approximately how many individuals have been caught breaking the established rules of forest use? <b>Codes:</b> 0 = none; 1 = <5; 2 = 5-10; 3 = 10-20; 4 = >20	
9. Who decided which punishment these individuals should receive? <b>Codes:</b> 1 = local community group made the rules; 2 = village council; 3 = district government; 4 = central government; 5 = court of law; 6 = other (specify)	

## ***J. Relationships with forest-related organizations***

1. Which organizations do you consider to be the most important for your participation in forest-related activities? (if the respondent perceives no organization to be important, please mark 'NA' above table)

Type of Organization	Rank (1-3) *	Frequency of Interaction**
National Government		
District Government		
Village government		
NGO (WWF, IUCN, etc), please specify:		
Other, please specify:		

### **Codes for Rank**

\* 1=most important... 3=least important

\*\* Codes for frequency of interactions:

0 = none,

1 = 1-5 times/year;

2 = 5-10 times/year;

3 = 10-15 times /year;

4 = 15-20 times /year;

5 =>20 times /year

## ***K Forest Governance***

This section clarifies the household's experiences and interactions with authorities and institutions tasked with Forest Governance as well as interactions with others regarding the use of land, water and other natural resources. The section was added to the Household field forms in December 2010 following the recommendations of Andersson, Leppanen & Rametsteiner, 2010 and the feedback of the field teams to the recommendations during the NAFORMA Plenary Technical Workshop in Bagamoyo, November 2010. The section includes questions and number of expected indicators related to REDD+ compliance and focuses on the 6 issues: Accountability, Conflict and dispute management, Monitoring and enforcement, Transparency, Equity and Access to government assistance, incentives for land use alternatives.

### ***Accountability:***

### ***Response***

1. In the past 12 months, have you experienced any problems relating to the use of land, water, forests or any other local natural resource? (Codes: 1=yes, 0=no)   (If yes go to Q2, if no go to Q4, and write NA in Q2 and Q3))	
2. If yes, have you asked any government representative (local or national) for assistance or help of any kind to help solve the problem, (Codes: 1=yes, 0=no)   (If yes go to Q3, if no go to Q4 and write NA in Q3)	
3. If yes what was the response? (Codes: 0=unaccommodating, 1=accommodating with follow up action, to solve problem 2=accommodating without follow up action, 9=Other specify)	

### ***Conflict and dispute management:***

4. In the past 12 months, have you or your neighbours experienced any disputes or conflict related to the use of land, water, forests or any other local natural resource? (Codes: 1=yes, 0=no)   (If yes go to Q5, if no go to Q9, and write NA in Q5, Q6, Q7 and Q8)	
5. If yes, have you attempted to solve the conflict? (Codes: 1=yes, 0=no)   (If yes go to Q6, if no go to Q9)	
6. If yes, which forum did you use for solving conflict? (Codes: 0=no forum was used, 1=Central Government, 2=Local Government, 3=NGO, 4=Court, 5=meeting arranged by involved parties, 6=Individuals outside the dispute, 7=religious institution, 9=other)   (go to Q7)	
7. Was the forum effective in solving the conflict? (Codes: 0=No 1=yes conflict is solved, 2=the solving of the conflict is still ongoing, 9=Other specify) (go to Q9)	
8. If no, does conflict still prevail? (Codes: 1=yes, 0=no)   (go to Q9)	

### ***Monitoring and enforcement:***

9. In case you or other community members detect a legal infraction by an outsider related to the use of land, water, forests or any other local natural resource, whom do you first contact? (Codes: 1=Police, 2=Central Government, 3=Local Government, 4=Village Chief Executive, 5=Court, 6=NGO, 9=other) (Go to Q10)	
10. Why? (Codes: 1=Local Presence, 2=Capacity to take active response, 3=Knowledge of activities in the area, 4=Lack of alternatives, 9=other (Specify)   (Go to Q11)	
11. Has this been necessary during the last 12 months? (Codes: 1=yes, 0=no)   (Go to Q12)	



**Transparency:**

12. In the last 12 months, in your interactions with Government officials, related to the use of land, water, forests or any other local natural resource, have you ever been denied the free services that you are entitled to receive and asked to provide a side payment for the services? (Codes: 1=yes, 0=no) (if yes, go to Q13, if no, go to Q14 and write NA in Q13)	
13. Within the last 12 months how often have you been met with such requests? (state number of times) (Go to Q14)	

**Equity:**

14. In the past 12 months has your household participated in Participatory Forest Management activities? (Codes: 1=Yes, 0=No) (If yes go to Q15, if no go to Q17, and write NA in Q15 and Q16)	
15. If yes, have you received any benefits from such participation? (Codes: 1=Yes, 0=No) (Go to Q16)	
16. If yes, do you think you receive a fair share of the total benefits awarded to the community? Indicate on a scale from 1-5, where 1 is the lowest (Codes: 1= share is much lower than it should be, 2=share is somewhat lower than it should be, 3=share is fair, 4=share is somewhat higher than it should be, 5=share is much higher than it should be),   (Go to Q17)	

**Access to Government assistance, incentives for land use alternatives:**

17. In the past 12 months, has your household benefited from technical assistance or training, related to the use of land, water, forests or any other local natural resource. (Codes: 1=Yes, 0=No) (If yes go to Q18, if no, write NA in Q18 and Q19)	
18. If yes, please indicate the subject of the assistance / training? (Describe – multiple values possible) (Go to Q19)	
19. Please indicate the total number of days you were receiving the support/training) (Indicate number of days)	

**ENUMERATOR'S COMMENTS**

This is where the enumerator should note all those observations that were **not** captured by the respondent's answers.

## 5. References Cited

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<http://www.for.gov.bc.ca/hfd/library/documents/glossary/>

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Saket, M., Aitrell, D., Vuorinen, P., Dalsgaard, S., Andersson, L.G.B. Melin, Y., Bassil, M., and Branthomme, A. 2006. Field Manual for Integrated Land Use Assessment, Zambia. Forestry Department, FAO.

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At: [http://www.nrs.fs.fed.us/pubs/gtr/gtr\\_wo079/gtr\\_wo079\\_179.pdf](http://www.nrs.fs.fed.us/pubs/gtr/gtr_wo079/gtr_wo079_179.pdf)

## 6. Appendix 1: NAFORMA Household Survey Instrument NAFORMA Document M02-2010

### A. Control Information

Task	Date(s)			By whom?	Signature
	Day	Month	Year		
Field Interview completed					
Checking questionnaire					
Entering data into data base					
Checking and approving data entry					

### B. Identification and Location of Household

 Outside 2 km Sampling Unit?:  Yes  No

Household number	District number	Cluster number	Household number
Distance from household to nearest forest	meters		
Distance from Sample Unit centre	meters		
Village to which household belongs	Name		
Ward to which household belongs	Name		
District to which household belongs	Name		
GPS location of household	Y (Northing)	X (Easting)	UTM Zone
Duration of interview	Starting time		Ending time

### C. Household Characteristics

- How many members are there in this household (people who share meals on a daily basis)? \_\_\_\_\_ ind.
- How many members did this household have five years ago? \_\_\_\_\_ individuals.
- For how long has the head of this household lived in this location? \_\_\_\_\_ years.
- What is the birthplace of the head of the household? \_\_\_\_\_ (name of district)
- Who are the heads of the household (head of household and spouse(s))? (fill in table below)

Position in household	Person interviewed (0=no; 1=yes)	3. Age	4. Sex (0=male; 1=female)	5. Education (highest level attained)*
<i>Head</i>				
<i>Spouse</i>				
<i>Other (specify):</i>				

\***CODES:** 1= None; 2= primary school; 3= secondary school; 4=college/university; 5=other (spec)

#### D. Household Assets

1. Describe the house in which this household lives (Enumerator's observation)

a. What is the type of material of (most of) the walls?*	
b. What is the type of material of (most of) the roof? **	

**CODES:** \* 1=mud and poles/withies; 2=wooden (boards); 3=iron (or other metal) sheets; 4=mud bricks; 5= burnt bricks; 6=concrete bricks, or concrete; 7=reeds/straw/grass/fiber; 9=other, specify. \*\*1=thatch; 2=iron or other metal sheets; 3=tiles; 9=other, specify

2. Please indicate the number of the following items that are owned by the household:

<i>Item</i>	<i>Number of units</i>
Cattle (excluding oxen)	
Goat/Sheep	
Poultry	
Pig	
Draught animals (oxen, donkey, etc)	
Car/truck	
Plow	
Carts/wheel barrow	
Bicycle	
Motorcycle	
Phone	
TV	
Radio	
Other items, specify	

3. Please indicate the household's main sources of energy and how they are acquired.

Energy Source Used		Acquisition Methods* (Multiple values possible)	Quantity/month consumed	End Purposes** (Multiple values possible)
Firewood			Head loads	
Charcoal			bags	
Gas			kg	
Kerosene			liter	
Electricity			TShs	
Other (spec)				

**CODES:** \* 1= own collection; 2= purchase; 3= other, \*\*1=cooking; 2= lighting; 3= heating; 4=other.

If firewood or charcoal were mentioned as energy sources, please ask the following questions about availability of alternative energy sources (if not, skip to question 4):

3a. Are there any alternatives to firewood/charcoal that are available here but not used?  
 Yes  No (If if yes go to Q3b, if no go to question Q4)

3b. If yes, please fill out below table (multiple values possible)

Energy Source	Available (tick the appropriate)	Reasons for not using energy source *
Gas	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Electricity	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Kerosene	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Solar panels	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Other (spec)	<input type="checkbox"/> Yes <input type="checkbox"/> No	

**Codes:** \* 1= too expensive; 2= different preferences; 3=other reasons, (specify)

4. Please indicate the amount of land that you currently own and have access to:

Category	Area owned individually		Do outsiders respect boundaries?*	Area of land owned communally to which the HH has access**		Do outsiders respect boundaries?*
	Unit Acres/Ha	Area		Unit Acres/Ha	Area	
Cropland (not irrigated)						
Cropland (irrigated)						
Pasture (natural or planted)						
Forested land (including woodlots, silvipasture etc)						
Other land use types, spec:						
Land rented or borrowed						

\* 1= yes, everybody; 2= most people; 3= Most do not respect; NA=Not applicable; \*\* Estimates, including ranges of value-i.e. 10-15 acres--permitted.

5. Has the household's private land property changed over the last five years? \_\_\_\_\_  
**Codes:** a= yes, increased; b=yes, decreased; c=no change. **If there is no change**, please skip to E.1
6. If area of private land property changed, by how much did it change? \_\_\_\_\_ acres or \_\_\_\_\_ hectares
7. Why did this change occur? (text to indicate cause of change) \_\_\_\_\_  
 \_\_\_\_\_

**E. Household food security and risk**

1. In the past year, where did the household's food come from?

Source	Months food lasts
Food grown on land owned and cultivated by household	
Food grown on land cultivated <b>but not</b> owned by household (e.g. land rented)	
Food purchased from the market	
Food from forest (mushroom, fruits, bushmeat, etc.)	
Food given as gift or food aid	
Other (please specify):	

2. During which months of the year do you experience food shortages in the household? \_\_\_\_\_  
 (1 = January, 2 = February, 3 = March ... etc (Multiple answers possible).

3. During critical food shortage months does your household use forest products to meet food needs? (Mark by ticking the appropriate option)  Yes  No **If no, please go to question 5**

4. If yes, please indicate the forest products that are collected to supplement household food supplies during periods of food shortage:

Product	Species	Quantity collected/week	Unit *	Rank (1 – 5)**
Tubers				
Wild vegetables				
Mushrooms				
Honey				
Fruits				
Others (specify):				

**CODES:** \* A=headloads, B= bags, C=kg, D=liters, E=baskets, F=buckets G=other (specify)\*\* Rank from 1-5 where 1 is the most important.

5. Has your household faced any unexpectedly large expenditures during the past 12 months? (Mark by ticking the appropriate option)  Yes  No **If no, please go to question**

6. If yes, what event(s) caused this shortfall (fill in table below--multiple answers possible):

<i>Event</i>	<i>Exists</i>	<i>Response*</i> <i>(Multiple answers possible)</i>
Serious crop failure (drought, pests, floods)	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Serious illness or disability in family	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Death of productive age-group adult	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Land loss (expropriation, etc.)	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Major livestock loss (theft, drought, etc.)	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Social events (Wedding, funeral, religious events)	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Other, (describe)		

**CODES:** \* 1=Harvest more forest products; 2=Harvest more wild foods not found in the forest; 3=Harvest more agricultural products; 4=Spend cash savings; 5=Sell assets (i.e. land, livestock etc.); 6=Do extra casual labor; 7=Assistance from friends or relatives; 8=Assistance from NGO, community organization, religious organization or similar; 9=Get loan from money lender, credit associations, bank etc.; 10=Tried to reduce household spending; 11=Did nothing in particular; 99=Other (describe)

7. In the last 5 years have there been any major disturbances to the local forests that decreased the availability of forest products?  Yes  No **If no, please go to question F.1**

8. If yes, what were these events and how did your household cope with this shortfall?

<i>Event</i>	<i>Exists</i>	<i>Response*</i> <i>(Multiple values possible)</i>
Fire	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Disease	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Lumbering	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Encroachment	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Grazing	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Charcoal making	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Other, (describe)	<input type="checkbox"/> Yes <input type="checkbox"/> No	

**CODES:** \* 1=By harvesting fewer forest products; 2=By harvesting more of other forest products; 3=No change in harvesting; 4=By harvesting from a different forest; 9=other (describe)

**F. Household Income**

1. In the past **12 months**, which have been the most important sources of income for the household?

*If no income was received from a particular source, a “NA” should be recorded*

Income source	Source of subsistence	Rank subsistence *	Source of cash income	Cash income during last 12 months (T. Shs)**
Forest products (timber, game, charcoal, etc)	<input type="checkbox"/> Yes <input type="checkbox"/> No		<input type="checkbox"/> Yes <input type="checkbox"/> No	
Agriculture	<input type="checkbox"/> Yes <input type="checkbox"/> No		<input type="checkbox"/> Yes <input type="checkbox"/> No	
Livestock	<input type="checkbox"/> Yes <input type="checkbox"/> No		<input type="checkbox"/> Yes <input type="checkbox"/> No	
Wage income	<input type="checkbox"/> Yes <input type="checkbox"/> No		<input type="checkbox"/> Yes <input type="checkbox"/> No	
Income from own business	<input type="checkbox"/> Yes <input type="checkbox"/> No		<input type="checkbox"/> Yes <input type="checkbox"/> No	
Remittances	<input type="checkbox"/> Yes <input type="checkbox"/> No		<input type="checkbox"/> Yes <input type="checkbox"/> No	
Other sources (spec):	<input type="checkbox"/> Yes <input type="checkbox"/> No		<input type="checkbox"/> Yes <input type="checkbox"/> No	

\* Please rank in order of importance 1 being the most important

\*\* Ask respondent to estimate the amount of cash income for past year (ranges are acceptable)

**G. Household Opinions**

1. Please indicate the extent to which you agree with the following statements (**Tick appropriate (yes/no)**)

In your opinion do you think households in this area can reduce their consumption of forest products?

Yes  No

Comments: \_\_\_\_\_

2. Do you think that local communities in this area are more effective in protecting forests than government officials?  Yes  No

Comments: \_\_\_\_\_

3. Do you think that the rules regarding the use of forest resources in this area are fair to everyone?

Yes  No

Comments: \_\_\_\_\_

4. Do you think that the penalties for breaking forest use rules in this area are fair to everyone?

Yes  No

Comments: \_\_\_\_\_



**H. Forest Products and Services**

1. Please list all tree and forest products used in the past 12 months. For the three most important products for the households, please characterize demand, supply etc (variables in the right hand side of the table).

<i>All tree and forest products</i>				<i>For top three products ONLY</i>										
<i>Product Category</i>	<i>Species names (+language)</i>	<i>Land use cat.</i>	<i>Rank</i>	<i>Distance to Source</i>	<i>Who harvests?</i>	<i>Harvesting change</i>	<i>Quantity harvested</i>	<i>Unit (specify)</i>	<i>End Use</i>	<i>Rights</i>	<i>Conflicts</i>	<i>Local Rules</i>	<i>Legislation awareness</i>	<i>Legislation enforcement</i>

*Codes: Please refer to manual.*

2. Please list all forest-related services that the household has benefited from in the past 12 months

<i>Environmental Services from forests</i>				<i>If payment was received:</i>	
<i>Service type</i>	<i>Exists</i>	<i>Rank*</i>	<i>Payment</i>	<i>Payment from (indicate organization)**</i>	<i>Amount (TShs)</i>
Fresh water/water conservation	<input type="checkbox"/> Yes <input type="checkbox"/> No		<input type="checkbox"/> Yes <input type="checkbox"/> No		
Climate regulation	<input type="checkbox"/> Yes <input type="checkbox"/> No		<input type="checkbox"/> Yes <input type="checkbox"/> No		
Windbreak	<input type="checkbox"/> Yes <input type="checkbox"/> No		<input type="checkbox"/> Yes <input type="checkbox"/> No		
Recreation /Tourism	<input type="checkbox"/> Yes <input type="checkbox"/> No		<input type="checkbox"/> Yes <input type="checkbox"/> No		
Soil protection	<input type="checkbox"/> Yes <input type="checkbox"/> No		<input type="checkbox"/> Yes <input type="checkbox"/> No		
Shade	<input type="checkbox"/> Yes <input type="checkbox"/> No		<input type="checkbox"/> Yes <input type="checkbox"/> No		
Aesthetic	<input type="checkbox"/> Yes <input type="checkbox"/> No		<input type="checkbox"/> Yes <input type="checkbox"/> No		
Employment	<input type="checkbox"/> Yes <input type="checkbox"/> No		<input type="checkbox"/> Yes <input type="checkbox"/> No		
Other (spec)	<input type="checkbox"/> Yes <input type="checkbox"/> No		<input type="checkbox"/> Yes <input type="checkbox"/> No		

*Codes: \* Please rank the 3 most important services for the household: 1= most important, 2 = second most important, 3 = third most important*

*\*\* 0 = no payment from anybody, 1=Central Government Office and Agencies, 2=NGOs,, 3=Individual, 4= Sub National Governments, 9=Other*

3. During the last five years, how have the following land use characteristics changed in this locality?

Codes: 1= decrease; 2; stable; 3=increase

**I. Participation in Organizations and Forest User Groups**

We are interested in learning about your household’s involvement in groups that seek to improve forest use (i.e. these can be either formal or informal groups that undertake forest use activities)

10. Are you aware of any initiatives related to Participatory Forest Management Codes: (1=yes; 0=no).	
11. Are there any other initiatives in this area that work on forest-related issues? Codes: 1=yes; 0=no. If ‘no’, go to question 7	
12. Are you or any member of your household involved in a group that organizes activities related to management of the forest (i.e. fire fighting, patrolling, tourism, tree planting, etc)? Codes: 1=yes; 0=no. If ‘no’, go to question 7.	
13. What is the name of the group(s) your household is involved with?	
14. Overall, how would you say the existence of the organization has affected the benefits that the household gets from the forest? Codes: 1=large negative effect; 2=small negative effect; 3=no effect; 4=small positive effect; 5=large positive effect.	
15. How frequently does the group/community that you belong to actively monitor and patrol the forests to detect intruders and thieves of forest products? Codes: 0=Never; 1=Hardly ever; 2= Regularly (>1 time/month); 3=Frequently (>1 time/week)	
16. How frequently do government officials (district, region, central) visit the forest area? Codes: 0=Never; 1=Hardly ever; 2= Regularly (>1 time/month); 3=Frequently (>1 time/week)	
17. In the past 12 months, approximately how many individuals have been caught breaking the established rules of forest use? Codes: 0= none; 1=<5; 2=5-10;3=10-20; 4=>20	
18. Who decided which punishment these individuals should receive? Codes: 1=local community group that made the rules; 2=village council;3= district government; 4= central government; 5=court of law; 6=other (specify)	

**J. Relationships with forestry organizations**

2. Which organizations do you consider to be the most important for your participation in forest-related activities? (if the respondent perceives no organization to be important, please mark ‘NA’ above table)

Type of Organization	Rank (1-3)	Frequency of Interaction*
National Government		
District Government		
Village government		
NGO (WWF, IUCN, etc), please specify:		
Other, please specify:		

Codes: \* Number of meetings per year. 0= none, 1=1-5 times; 2=5-10; 3=10-15; 4=15-20; 5=>20

## Accountability:

20. In the past 12 months, have you experienced any problems relating to the use of land, water, forests or any other local natural resource? (Codes: 1=yes, 0=no)   (If yes go to Q2, if no go to Q4, and write NA in Q2 and Q3)	
21. If yes, have you asked any government representative (local or national) for assistance or help of any kind to help solve the problem, (Codes: 1=yes, 0=no)   (If yes go to Q3, if no go to Q4 and write NA in Q3)	
22. If yes what was the response? (Codes: 0=unaccommodating, 1=accommodating with follow up action, to solve problem 2=accommodating without follow up action, 9=Other specify)	

## Conflict and dispute management:

23. In the past 12 months, have you or your neighbours experienced any disputes or conflict related to the use of land, water, forests or any other local natural resource? (Codes: 1=yes, 0=no)   (If yes go to Q5, if no go to Q9, and write NA in Q5, Q6, Q7 and Q8)	
24. If yes, have you attempted to solve the conflict? (Codes: 1=yes, 0=no)   (If yes go to Q6, if no go to Q9)	
25. If yes, which forum did you use for solving conflict? (Codes: 0=no forum was used, 1=Central Government, 2=Local Government, 3=NGO, 4=Court, 5=meeting arranged by involved parties, 6=Individuals outside the dispute, 7=religious institution, 9=other)   (go to Q7)	
26. Was the forum effective in solving the conflict? (Codes: 0=No, 1=yes conflict is solved, 2=the solving of the conflict is still ongoing, 9=Other specify) (go to Q9)	
27. If no, does conflict still prevail? (Codes: 1=yes, 0=no)   (go to Q9)	

## Monitoring and enforcement:

28. In case you or other community members detect a legal infraction by an outsider related to the use of land, water, forests or any other local natural resource, whom do you first contact? (Codes: 1=Police, 2=Central Government, 3=Local Government, 4=Village Chief Executive, 5=Court, 6=NGO, 9=other) (Go to Q10)	
29. Why? (Codes: 1=Local Presence, 2=Capacity to take active response, 3=Knowledge of activities in the area, 4=Lack of alternatives, 9=other (Specify)   (Go to Q11)	
30. Has this been necessary during the last 12 months? (Codes: 1=yes, 0=no)   (Go to Q12)	

## Transparency:

31. In the last 12 months, in your interactions with Government officials, related to the use of land, water, forests or any other local natural resource, have you ever been denied the free services that you are entitled to receive and asked to provide a side payment for the services? (Codes: 1=yes, 0=no) (if yes, go to Q13, if no, go to Q14 and write NA in Q13)	
32. Within the last 12 months how often have you been met with such requests? (state number of times) (Go to Q14)	

Equity:

33. In the past 12 months has your household participated in Participatory Forest Management activities? (Codes: 1=Yes, 0=No) (If yes go to Q15, if no go to Q17, and write NA in Q15 and Q16)	
34. If yes, have you received any benefits from such participation? (Codes: 1=Yes, 0=No) (Go to Q16)	
35. If yes, do you think you receive a fair share of the total benefits awarded to the community? Indicate on a scale from 1-5, where 1 is the lowest (Codes: 1= share is much lower than it should be, 2=share is somewhat lower than it should be, 3=share is fair, 4=share is somewhat higher than it should be, 5=share is much higher than it should be), (Go to Q17)	

Access to Government assistance, incentives for land use alternatives:

36. In the past 12 months, has your household benefited from technical assistance or training, related to the use of land, water, forests or any other local natural resource. (Codes: 1=Yes, 0=No) (If yes go to Q18, if no, write NA in Q18 and Q19)	
37. If yes, please indicate the subject of the assistance / training? (Describe – multiple values possible) (Go to Q19)	
38. Please indicate the total number of days you were receiving the support/training (Indicate number of days)	

**ENUMERATOR'S COMMENTS**

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(Continue on back, if necessary)

## 7. Appendix 2: Interview Form for Key informants NAFORMA Document M04-2010

Field form 1 of NAFORMA includes data to be collected through interviews with so-called key informants. These are individuals who are especially knowledgeable when it comes to forest use in the area of the sampling unit. Examples include the property owners themselves, local village authorities, and elders. In interviews with these individuals, questions will be asked about issues such as property rights, environmental conditions and trends, and historical land uses.

At least two individuals per Socioeconomic SU should be selected and interviewed. See field Manual for instructions on how to select these.

All of the questions on this form are asked after making sure that the key informant is aware of where the boundaries of the SU are. An aerial photograph, satellite image, or map should be used to make the interview as spatially explicit as possible. By asking questions about forest use in the SU in particular, rather than forest use in general as is the case for the household interviews, the key informant interviews would provide critical data about the location of resource use. The enumerators should follow the instructions in the Field Manual for how to code the responses to the questions.

### KEY INFORMANT INTERVIEW FORM

#### A. Control Information

Cluster Number	
----------------	--

Task	Date(s)			By whom?	Signature
	Day	Month	Year		
Field Interview completed					
Checking questionnaire					
Entering data into data base					
Checking and approving data entry					

1. Who is the **Informant**? \_\_\_\_\_  
**Codes:** O=Owner, E=Employee, M=Manager of the site, S=Settler, I=Internal Key Informant,, X=External Key Informant) (multiple values possible)
2. What is the **total number of households** that reside within boundaries of 2km sampling unit?  
 \_\_\_\_\_

3. Compared to the rest of the population in the district, how would you characterize the general **health condition** of the population living near and inside the Sampling Unit? \_\_\_\_\_  
**Codes:** a=Much below average, b=A bit below average, c=Average, d=Above average,
4. Which are the three most important **products** that most local people harvest from this area (refer to area within SU-- point to 2km circle on map/image)?  
 Product 1: \_\_\_\_\_  
 Product 2: \_\_\_\_\_  
 Product 3: \_\_\_\_\_
5. Approximately how many **households** (regardless of where they live) regularly harvest products from this particular area (refer to area within SU-- point to 2km circle on map/image)? ). \_\_\_\_\_ households
6. Are there any **rules** (informal or formal) that constrain local households' uses of products?  
 Yes  No *If no, please go to question 8*
7. If yes, what is the **origin** of these rules? \_\_\_\_\_ (mark all applicable options)  
**Codes:** a=Private owner dictates condition for access and use, b=local community norms and customs, c=local community rules/by laws, d=Local Government ordinances, e=central government rules and regulations, f=open access, g=other (specify)
8. What is the distance from the center of the SU to the following infrastructure features?:
  - a. Nearest-all-weather road: \_\_\_\_\_ km
  - b. Nearest-seasonal road:: \_\_\_\_\_ km
  - c. Nearest-village: \_\_\_\_\_ km
  - d. Nearest- Health centre: \_\_\_\_\_ km.
  - e. Nearest- school: \_\_\_\_\_ km.
  - f. Nearest- food market place: \_\_\_\_\_ km.
9. When was this **settlement established** (when did the local household dwellings arrive to the area)? \_\_\_\_\_ (one option)  
**Codes:** 0=Not applicable, 1=<5 years, 2=5-10 years, 3=10-20 years, 4=20-50 years, 5=>50 years, 90=not known
10. What is the **population trend** for the past 5 years for this area? \_\_\_\_\_ (one option)  
**Codes:** 0=Not applicable, 1=Decreasing, 2=Stable, 3=Increasing, 90=not known
11. What are some of the **major historical events** that have affected local people and their land use in this area? \_\_\_\_\_ —(multiple options possible).  
**Codes:** 0=Not applicable, 1=Wars, 2=Insecurity, ethnic conflict, 3=Change of ownership/land tenure, 4=Expansion of agriculture, 5=Urban development, 6=Infrastructure / electric power, 7=Economic crisis, 8=Natural disaster, 9=Human diseases, 10=Rural-to-urban migration, 11=Urban-to-rural migration, 12=Influx of refugees, 13=Other (specify).

12. Have there been any efforts to manage or somehow organize the forest resource use within this area?  Yes  No. *If no, go to Q15.*

If Yes what is the gender composition of the group \_\_\_\_

Male \_\_\_\_\_ % Female \_\_\_\_\_ % (Sum should add up to 100%)

13. If yes, was there a particular **leader** of this effort? \_\_\_\_ (mark all that apply)  
**Codes:** a=NGO, b=Local Community, c=Private Owner, d=Local Government, e=National Government, f=Corporation, g=Other

14. Is this effort still **ongoing**?  Yes  No *If no go to question 16*

15. In your opinion, would you consider the efforts to manage and order forest use in this area to have been **successful**? \_\_\_\_\_

16. Does this area have an **active forest management plan**? \_\_\_\_\_

**Codes:** 0=None, 1=Formal, 2=Traditional, 90=Not known

17. Which **management arrangement** exist between the land owner and other groups? \_\_\_\_.  
**Codes:** 1=Owner is the exclusive manager, 2=Joint management owner and communities, 3=Joint management owner and private sector/private companies, 4=Community managed, owner not involved in management, 5=Managed by private sector, owner not involved in management, 90=Not known, 99= Other (to be specified in list)

- 17B. Who owns the land?

**Codes:** 1=individual, 2=Industries, 3=Local communities, 4=Others private, 5=State, 6=Local Government, 90=Not known, 99= Other (to be specified in list)

18. To what extent is this particular area affected by large-scale, **illegal forestry activities**? \_\_\_\_.  
**Codes:** a=not at all, b=not much, c=Quite a bit, d=very much

19. If a local person engages in large-scale illegal activities, (i.e. large timber operation, industrial charcoal making, etc) in this area, what is the likelihood of anybody detecting or stopping this activity? \_\_\_\_\_

**Codes:** a=extremely unlikely, b=not so likely, c=Quiet likely a bit, d=very likely

20. If a local person engages in a small-scale illegal activities, (i.e. cutting of timber, charcoal making for local markets, etc), what is the likelihood of anybody detecting or stopping this activity? \_\_\_\_\_

**Codes:** a=extremely unlikely, b=not so likely, c=Quiet likely a bit, d=very likely

21. Are there any local individuals who have shown leadership to organize forest activities among forest users in this area?  Yes  No

22. Which is the most active **forestry organization** in this area? (write name)

\_\_\_\_\_

23. If applicable, how far away from this SU does this forestry organization (mentioned in Q22) have its **nearest office**? \_\_\_\_ km

**ENUMERATOR'S COMMENTS** (direct observations that were **not** captured by the respondent's answers).

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## 8. Appendix 3: District Codes

Region Code	District	District Code	Region Code	District	District Code	Region Code	District	District Code	Region Code	District	District Code
001	Dodoma Rural	004	005	Kilombero	003	010	Mbinga	003	010	Mbinga	003
001	Dodoma Urban	005	005	Kilosa	001	010	Namtumbo	005	010	Namtumbo	005
001	Kondoa	001	005	Morogoro	002	010	Songea DC	002	010	Songea DC	002
001	Kongwa	003	005	Morogoro Urban	005	010	Songea MC	004	010	Songea MC	004
001	Mpwapwa	002	005	Mvomero	006	010	Tunduru	001	010	Tunduru	001
002	Arumeru	002	005	Ulanga	004	011	Iringa DC	001	011	Iringa DC	001
002	Arusha	003	006	Bagamoyo	001	011	Iringa M	006	011	Iringa M	006
002	Karatu	004	006	Kibaha	002	011	Kilolo	007	011	Kilolo	007
002	Monduli	001	006	Kisarawe	003	011	Ludewa	005	011	Ludewa	005
002	Longido	006									
002	Ngorongoro	005	006	Mafia	006	011	Makete	003	011	Makete	003
003	Hai	005	006	Mkuranga	004	011	Mufindi	002	011	Mufindi	002
003	Moshi Municipal	004	006	Rufiji	005	011	Njombe	004	011	Njombe	004
003	Moshi Urban	006	007	Ilala	002	012	Chunya	001	012	Chunya	001
003	Mwanga	002	007	Kinondoni	001	012	Ileje	005	012	Ileje	005
003	Rombo	001	007	Temeke	003	012	Kyela	003	012	Kyela	003
003	Siha	007									
003	Same	003	008	Kilwa	001	012	Mbarali	007	012	Mbarali	007
004	Handeni	006	008	Lindi Rural	002	012	Mbeya (R)	002	012	Mbeya (R)	002
004	Kilindi	007	008	Lindi Urban	006	012	Mbeya City	008	012	Mbeya City	008
004	Korogwe	002	008	Liwale	004	012	Mbozi	006	012	Mbozi	006
004	Lushoto	001	008	Nachingwea	003	012	Rungwe	004	012	Rungwe	004
004	Muheza	003	008	Ruangwa	005	013	Iramba	001	013	Iramba	001
004	Pangani	005	009	Masaki	003	013	Manyoni	003	013	Manyoni	003
004	Tanga City	004	009	Mtwara Rural	001	013	Singida (R)	002	013	Singida (R)	002
004	Mkinga	008	009	Mtwara Urban	005	013	Singida (U)	004	013	Singida (U)	004
004	Korogwe TC	009	009	Newala	002						
			009	Nanyumbu	006						
			009	Tandahimba	004						



*Districts 2/2*

Region Code	District	District Code
014	Igunga	002
014	Nzega	001
014	Sikonge	005
014	Tabora MC	006
014	Urambo	004
014	Uyui	003
015	Mpanda	001
015	Nkasi	003
015	Sumbawanga Rural	002
015	Sumbawanga Urban	004
016	Kasulu	002
016	Kibondo	001
016	Kigoma Rural	003
016	Kigoma Urban	004
017	Bariadi	001
017	Bukombe	005
017	Kahama	004
017	Kishapu	008
017	Maswa	002
017	Meatu	006
017	Shinyanga Rural	003
017	Shinyanga Urban	007

Region Code	District	District Code
018	Biharamulo	004
018	Bukoba Rural	002
018	Bukoba Municipal	006
018	Karagwe	001
018	Misenyi	007
018	Chato	008
018	Muleba	003
018	Ngara	005
019	Geita	006
019	Ilemela	008
019	Kwimba	004
019	Magu	002
019	Missungwi	007
019	Nyamagana	003
019	Sengerema	005
019	Ukerewe	001
020	Bunda	004
020	Musoma (R)	003
020	Musoma Urban	005
020	Serengeti	002
020	Tarime	001
021	Babati DC	001
021	Hanang	002
021	Kiteto	005
021	Mbulu	003
	Babati TC	006
021	Simanjiro	004





