

Presentation of a study in a rural area of Mali: Development of village forests and organization of rural firewood markets

Reference to quote:

Mary F, Sibelet N, Smektala G, 1999. Guide méthodologique pour la conduite d'une étude en milieu rural. Illustré à partir d'une étude effectuée au Mali sur le thème : Aménagement des forêts villageoises et organisation des marchés ruraux de bois de feux. Montpellier: CIRAD-TERA, 32 p



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1. Introduction

This guide discusses the different stages involved in carrying out a study in a rural area: the preparation and writing of the problem statement, the production and analysis of data, and report writing. These stages are illustrated with the actual implementation of the approach in Mali in February-March 1999 during an ENGREF/FRT student study trip.

The preparation of a study follows the following chronological order:

Analysis of the commission----->Reformulation of the research topic----->
Identification of the research themes----->Development of the research
topic by examining its diverse dimensions----->Definition of the scope of the
study.

At each step of the preparation, one must be equipped with operative analytic categories and relevant concepts.

The preparation stage ends with the formulation of the provisional version of the problem statement. This formulation is largely conducted before leaving for the field and relies greatly on knowledge drawn from the literature. It is completed on site during the first weeks in the field, a period corresponding to the exploratory stage of the study. At the end of this exploratory stage, the provisional problem statement is adapted to the on-site working conditions and to the local context.

The implementation of the study (exploratory stage and a more systematic information collection stage) includes the development of tools for data collection, their implementation, and processing (deconstruction, analysis, synthesis and interpretation).

Lastly, the writing of the report also follows a precise chronology:

Formulation of the main conclusion----->Identification of demonstrative
arguments----->Development of an outline----->Writing.

2. Analysis of the commission:

The commission is the text written by the commissioner: it may be referred to as the terms of reference in a field mission or project, or as the internship

topic... Analysing the commission involves identifying who is commissioning the study, what they want done, and how they want it done: What is at stake? What is the purpose of the study? How will the study contribute regardless of what the results are?

One should consider the commissioner as a research subject to be investigated, taking his or her words to be not the truth, but a point of view to be analysed alongside that of everyone else.

The commission should not be confused with the topic of the research. The analysis of the commission should enable the various research themes to be identified clearly. It can lead to the reformulation of the research topic.

The case of Mali

Here, the analysis of the commission led to the conclusion that the work plan (see the extract from Peltier and Sylla, 1998, in the box below) was not realistic for a 15 day field study. Furthermore, the time allotted also was insufficient to conduct an assessment of the management and marketing of wood that takes into account the paving of the road planned for 2001. Only a few elements of the assessment could be explored.

Extract from Peltier and Sylla, 1998

Research in the villages over 15 days, including:

- survey at different levels to determine the largest group possible likely to sustainably pursue the development of the forest. For this, we will start from the current sales point (the station) and we will study the supply chain providing wood to this sales point (merchants, intermediaries, transporters, log cutters). We will say whether it is reasonable to hope that a Rural Management Structure (RMS) set up at the level of this sales point can control the activities of log cutters in the forest (orient them towards certain plots, impose a choice of species, diameters, height and type of cut, etc.) ;
- we also will raise the question of whether this organisation could continue to function and pursue development when the new road has changed the location of sales points;
- if the answer is yes to these two questions (in the current and future market contexts), we will determine the area of the forest that could be developed for the benefit of the RMS;
- if the answer is no to at least one question, we will redo the same study at the level of the villages and lastly, if necessary, at the level of hamlets;

- having found the largest possible size for a viable RMS in the short and medium term, we will delimit the corresponding forest;
- surveys and inventories then will be carried out similar to those made by farmers' organizations (F.O.) to put together a dossier to certify a Rural Market (R.M.), adding:
 - * an inventory of the forest distinguishing the species present,
 - * an inventory of woody plants in agroforestry systems,
 - * a development plan that is as precise as possible while remaining realistic.

Question the locations and samples proposed by the commissioner. How representative are the sites proposed by the commissioner?

The case of Mali:

Understand how the two villages (Banko and Kassaro) were selected:
In what way were they considered to be representative?

3. Construct the problem statement

3.1. *Identification of the study themes*

At this stage the themes emerging from the commission must be identified.

The case of Mali

Four themes emerged:

- I. Comparison between the different approaches followed by projects
- II. Balance between the grouping of forestry management/ territory/market
- III. Species exploited and biodiversity
- IV. Field pattern, rotation
- V. Local trees cultivated

A thematic review of the literature reveals its importance here. The analysis of research on identical themes should enable the research topic to be given greater depth.

3.2. *Identifying the dimensions of the research topic*

The different dimensions of the study topic must be researched: these are different aspects of the question, different avenues to investigate. To formulate these different aspects of the topic, one can turn to the framework proposed by Poulantzas¹:

- Technical: System of transforming environments and materials
- Economic: System of production and exchange
- Legal: Codes guiding actors' behaviour
- Ideological: System of perception
- Political: System of decision making
- Social: System of relations

When considering the management of forest resources, ecological and biological dimensions come into play as well.

The different dimensions are linked together closely.

The case of Mali

It is not possible to propose technical rules for forestry development without considering peoples' perceptions (ideological dimensions) of the forest involved, decision making modes (political dimensions) pertaining to its management, and

¹ Poulantzas N, 1968. Pouvoir politique et classes sociales. Paris: Maspero.

the laws (legal dimensions) that guide the behaviour of the people using the forest.

The social and political dimensions ultimately are always present.

The case of Mali:

The technical proposals for development must be constructed according to the institutions involved and their decision making systems. This implies that it is necessary to study these institutions and know how they function.

3.3. *Theoretical frame:*

The theoretical framing requires notions with multiple meanings to be transformed into articulated concepts. This leads to specifying the meaning of the terms used, to seeking pertinent categories of analysis and to making explicit the laws and paradigms articulated in reference to precise theories. Paradigms and theoretic laws provide analysis grids, put into hierarchical order variables explaining a phenomenon, and orient the approach to and the collection of data.

The case of Mali:

1) Example of using an analysis grid

To analyse the management practices and supervision of forest offtake, the theoretical frame below was used:

values	rules	norms
always explicit	explicit	implicit
positive	* for what is allowed * for what is forbidden	* for what is recommended * for what is tolerated
no system of sanctions	explicit system of sanctions	no sanction except being excluded from the group

In Mali, national law requires people to buy a cutting permit before harvesting wood. In Banko, the law is in practice circumvented: it is the traders who buy the permits, and this is the norm. In Kassaro, the law, practice and norms correspond.

2) Example of precision of terms

The analysis of the commission revealed that the notion "approach" used by the commissioner had multiple meanings. The students broke this word down into

four expressions that were slightly more conceptual because they each held fewer meanings. They wished to focus on a project's approach in relation to the population, space, project vocabulary and project field activities. Likewise, the term, "village inhabitants" gave way to "population" to include people affected by the research topic but who did not necessarily reside in the village.

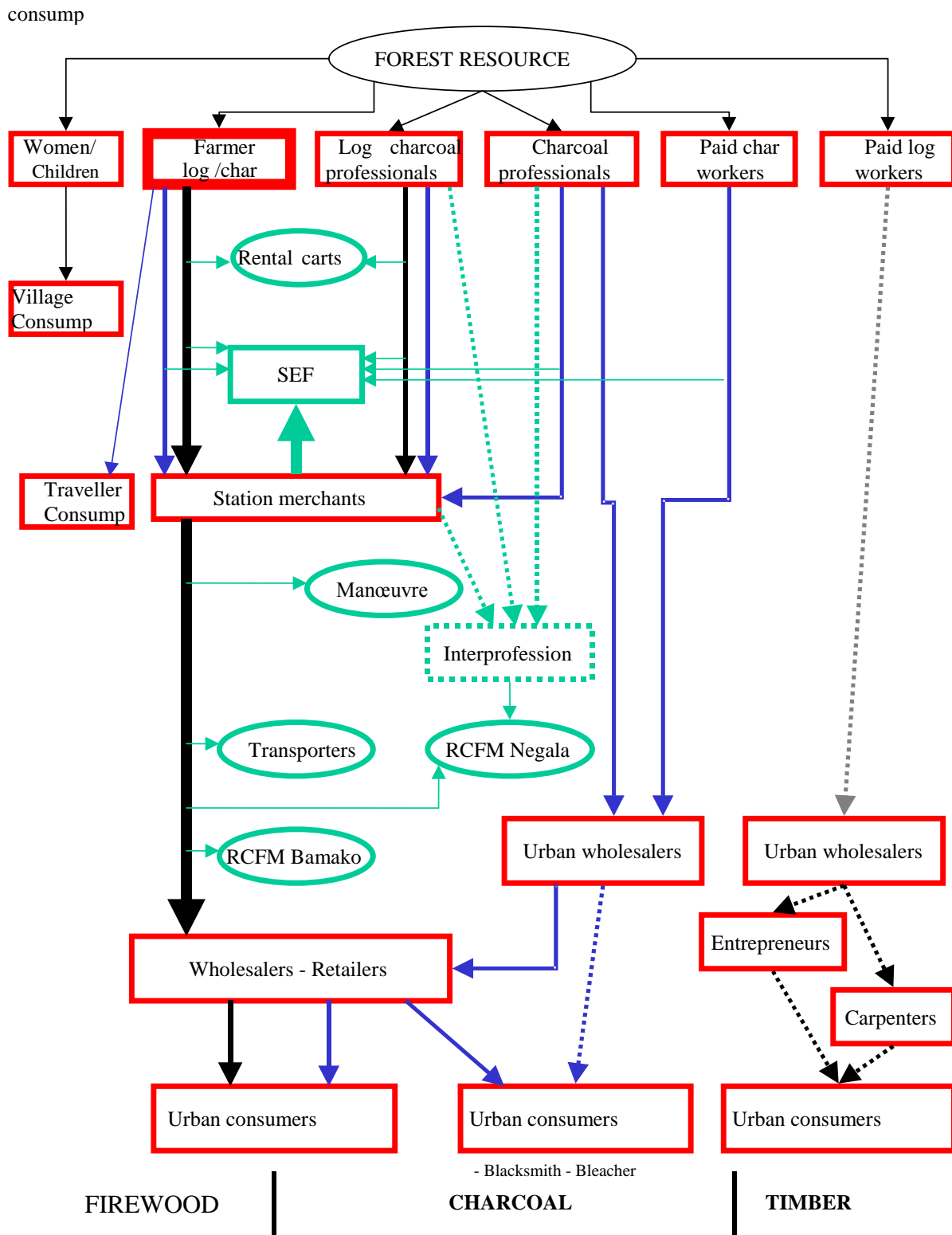
3) Example of theoretical background on the research topic

The literature provides different ways to consider a marketing chain. The choice was made to identify four entry points: the flows, the direct and indirect actors, the technical actions, and the products. Technical graphs then were built by crossing the four entry points two by two.

The marketing chain could have been considered by dissecting the strategies of stakeholders and the relationships between them. The variables collected would have been different, as would have been the processing of the data.

The case of Mali:

The current fuel wood marketing chain in Banko.



4) Example of constructing an ad hoc analysis grid.

An analysis grid of institutional structures was developed based on the following characteristics:

- 1/ Objectives
- 2/ Skills
- 3/ Area of action
- 4/ Resources (material and human)
- 5/ Date established
- 6/ Relations between institutions
- 7/ The institution's view of other institutions

If, in relation to the local institutions study theme, the stakes had been more important, a literature review of institutions would have provided a theory and more complete tools.

5) Example regarding the ecological dimension of the research topic

Silviculture science provides analysis grids that correspond more directly to an observation note grid.

3.4. *Analysis of the local and temporal context:*

A research topic may be investigated in several countries. But it takes a specific form in each depending on the context (ecological, economic, historical, sociological...).

For example, the question of how to valorize non-woody forest products is a relevant one in numerous countries, but it is not raised everywhere in the same way. For example, in Guyana and Brazil, the size of each country, the relationships between local populations and intermediaries or urban consumers are different, which generates different questions.

Regional and local literature is used to adapt the study topic to the context.

The case of Mali:

The fact that the wood from villages essentially is transported by train implies that the train station is a key observation point. In parallel, as the population uses firewood on a massive scale, two sub-themes are consecrated respectively to harvests for domestic use and harvests for commercial use.

3.5. Define the scope of the study

The scope is the real universe in which the study is conducted. It is not simply the study area. The limits of the scope of the study must be defined for each theme and each dimension of a study topic, and reciprocally, the definition of the scope of the study reveals new dimensions of the study topic.

The scope is a multi-dimensional space in the sense given by Poulantzas (1968). It is real because its limits are defined by a concrete geographic area, a population, technical acts, economic exchanges.

The definition of the scope is not evident. One must have made progress on the definition of the study topic to define the scope and vice versa.

The definition of the scope also is made in terms of time: the past and the future (prospective).

Example: the population of a commune. Should only people who are native to the commune be considered? What do you do with those who are not native, residents and non-residents? To respond, a double-entry matrix allows more operative population categories to be produced.

	native	non native
resident	yes	? Vote but are called "foreigners"
non resident	? Brother and sister claiming inheritance or having commercial ties with local residents	?? Agricultural credit officer, regional councilor

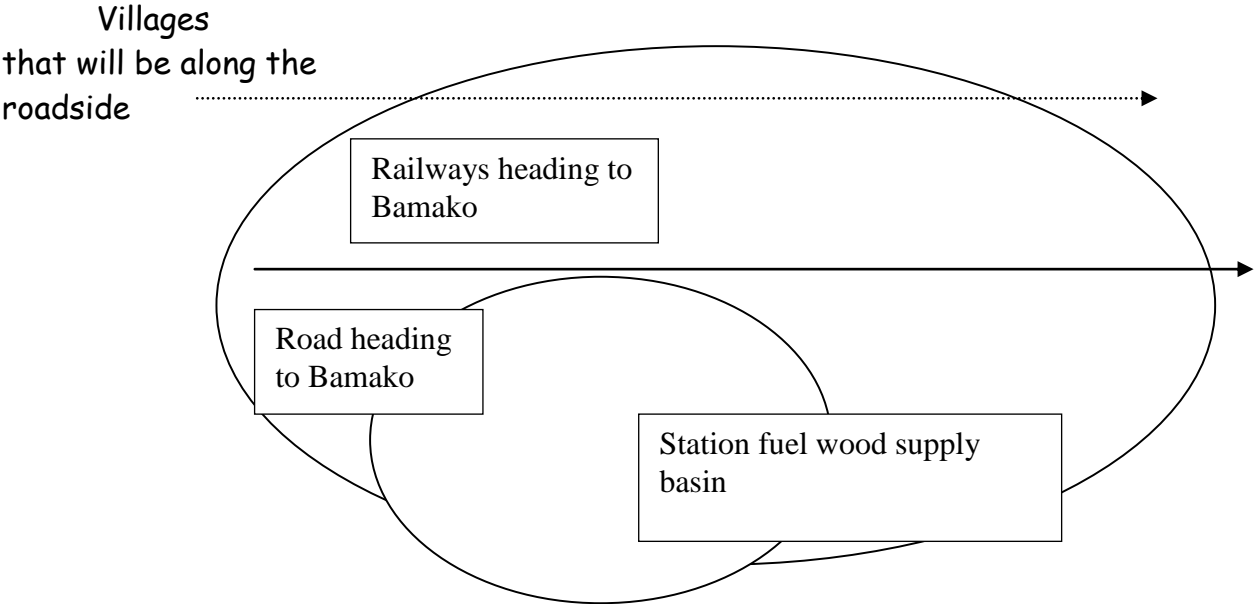
The case of Mali:

Considering that the villagers of Banko harvest domestic firewood not only in the "Banko forest" but also in nearby reserved forests (close to but outside of the communal territory), the scope of the study, in its ecological and economic dimensions, goes beyond simply the Banko forest mentioned in the commission. Likewise, in so far as in the Banko forest, wood is cut by people from neighbouring villages and other regions, the social dimension of the scope of the study goes beyond the population of Banko alone. In its economic dimension, the scope is limited to the first market sale of wood, which takes place in the Négala train station. At this point of preparation of the research, from a temporal point of view, the study covers the present period, extended to 2001 (forecasting the effects of paving the road).

New information could lead to the scope being redefined during the course of the study. For example, the evolution of the number of train cars available to

transport the wood to Bamako led us to broaden the study period by starting in the 1960s (extensive exploitation of wood and availability of cars in this period up to the end of the 1980s).

The analysis of the topic and of information available on the region led us to a preliminary definition of the scope of the study represented by the following schema:



inhabitants, transhumant pastoralists?
people affected by the projects
Natural Resource Management Project (NRMP)
European Development Program (EDP)
International Labour Organization (ILO)

3.6. *Categories of analysis*

During all of the preceding stages, one must be rigorous regarding the use of terms and classifications. In particular, one must forge operative concepts and categories of analysis for the analysis. Categories of common meanings are rarely used.

Categories of analysis

This is a classification system that one applies to a content that must be defined with precision: for example: sustainable/unsustainable, applied to the exploitation of forestry resources.

Most categories are binary: inside/outside, high/low, but also in the imagination: hell is below, paradise above. Those with more than two components are classification systems. the different ethnic groups present in a village, different soil types...

Note: you can have an apparent content and a latent content, the latter being suggested between the lines. The category of analysis must be applied to these different contents.

Categories of analysis must fulfill three conditions to be operative

(effective): exhaustivity, exclusivity, pertinence. *These criteria are applied to the categories that you use. This is true no matter what kind of content you are dealing with.*

- Exhaustivity: all of the content must be classed in these categories.

- Exclusivity means that all of the content is classed in either one or another category, but not in two categories.

- Pertinence: will the category reveal facts and give meaning to observations or to the text of a survey interview?

Fundamental categories

- apparent/hidden

- conscious/unconscious

- official/in reality

- new/old

- practices/perceptions

- mechanisms/actors/stakes

- instituted/instituting

- Values/rules/standards

Common meaning categories of analysis do not arise spontaneously; they are socially constructed even if one does not realize it.

These functional categories are all put to work (in other words, carry a value judgment. For example: strong/weak, good/bad, nice/mean, clean/dirty, pure/impure, normal/abnormal).

Scientific categories of analysis are chosen according to their operational ability to explain phenomena and mechanisms.

By linking the categories (ex: outside, impure, bad, dead), one achieves a kind of combination with which to think about the world. In common meaning, this combination takes the form of an implication chain.

Example of implication chains:

<i>developed</i>	<i>western</i>	<i>civilized</i>	<i>rational</i>	<i>town</i>
<i>underdeveloped</i>	<i>Third world</i>	<i>primitive</i>	<i>magical-religious</i>	<i>country</i>

To break these implication chains, one must apply a systematic combination. For example, if one crosses the categories Developed/Underdeveloped and Rational/Magical-religious, one obtains:

	<i>Developed</i>	<i>Underdeveloped</i>
<i>Rational</i>	X	X
<i>Magical-religious</i>	X	X

According to the preceding implication chain, all facts are expected to fall only in the grey boxes.

In other words, common meaning uses plurivocal notions and fixed analytic categories to think about the world and produce opinions while science uses univocal concepts, operative categories of analysis, and produces hypotheses and propositions.

The characteristics of exhaustivity and exclusivity in scientists' theoretical models require one to ask the question, "in which box is this object?" (one must class the entire content, and not conceal certain facts).

The categories of analysis are to be constructed gradually as the study advances.

WARNING! *One should not conclude from the preceding opposition of common/scientific meaning that farmers define themselves by the first and scientists by the second; common meaning concerns everyone. One also may encounter actors in the rural world who use frameworks of thought that resemble those of the scientific world. Lastly, do not forget that the theoretical models of scientists also are social constructs (they are built within the scientific community).*

The case of Mali:

The population concerned by the study was classified according to diverse criteria. This produced six categories of analysis with two or more "compartments".

Classification of actors to be met

1. 3 ethnic groups
2. Social groups according to the arrival date in the village
Habitants of the central village/habitants of outlying hamlets
3. Professions
 - log cutters
 - merchants
 - transporters
 - farmers/agropastoralists
4. Men/women
5. Age groups
6. Members/non-members of Rural Organization of Wood Management (ROWM) (=Structure Rurale de Gestion du Bois (SRGB))

The latter organizations (ROWM) are limited locally. Outside actors intervening in the area studied also must be examined such as private operators from Bamako, intermediaries, people from the project cell and other projects (NRMP, ILO).

3.7. Calibration of the study

The identification of themes and the delimitation of the scope often lead to reducing the study topic in relation to the initial commission. It may be reduced with regard to geography (reduce the study area, study one of the agro-ecological zones identified during a preliminary zoning exercise, ...) themes (only

address one of the requested sub-themes of the study), history (limit the historical depth taken into account in a study of change...). This is the first calibration step of the study. A second will take place after the methods are developed. One must always justify the choices that determine the redefinition and restriction of the topic.

This modification of the topic requires one to re-examine the identification of themes, the search for the dimensions of the topic, and the definition of the scope of the study.

The case of Mali:

The study was reduced to themes II, "Balance between groups/forest territories/markets", and III, 'Species exploited and biodiversity', which itself was reduced to the sub-theme, 'specific inventory: species, uses" (annex 20 Mali Report).

3.8. Literature review

Literature review

*This serves to **review what already is known and does not need to be re-studied**. It serves to delimit the study topic, redefine or define it more precisely, to eliminate certain avenues of investigation. It also serves to specify the local and scientific context of the study, thus to construct the problem statement.*

*It furthermore serves in the **description of the study area**. References only are cited if the information extracted is used explicitly to deepen the subject, lay out the problem statement, or justify choices.*

The literature review can be organized around 4 axes:

- **local axis** (regional and local information)
- **thematic axis** (problem statements)
- **methodological axis** (sampling, questionnaires, data processing...)
- **theoretical axis** (theories, pertinent variables, laws and paradigms, limits of validity, ...).

*It must not omit **information recorded in special formats**: maps, satellite images, aerial photos, survey forms, diverse files (cadastre, list of producer association members...).*

3.9. Outputs obtained at the end of constructing the problem statement

The construction of the problem statement must result in:

- the formulation of a main question
- the identification of the study themes
- the dissection of different aspects of the themes
- a set of questions formulated according to the thematic choices made

The local and regional information obtained must enable priorities to be identified and to retain pertinent concepts for the study sites.

A hypothesis must be formulated: it is the most probable response to the main question. It serves as the guiding principle of the study. It is the assertion to be confirmed or invalidated. The same is true for each of the secondary questions in the problem statement.

Note the problem statement is never fixed definitively. It evolves throughout the course of the study with the emergence of new questions and new hypotheses that one must progressively integrate.