Sahelian pathways: climate and society in Central and South Mali

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Climate and society in Central and South Mali

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Introduction: Climate and society in Central and South Mali

Mirjam de Bruijn & Han van Dijk

Instability, drought and local-level responses

Following the droughts, economic decline and political unrest that have marked much of the recent past in the semi-arid zones of West Africa, an enormous amount of research has been done to better understand and counter the problems associated with these phenomena. Initially, local rural (and urban) people were depicted mainly as vulnerable victims who were unwillingly undermining the basis of their existence by overexploiting scarce natural resources, thus causing the desert to advance and pushing the poor to the cities. It was stressed that, due to scarcity, people were coming into conflict over distribution and access to resources and this was causing local clashes, ethnic conflicts and civil wars. All this was compounded by a lack of well-targeted policies to counter these tendencies, corrupt governments and well-intended but poorly designed development efforts by bilateral and international donors.

In the course of time, however, alternative views on the inhabitants of Africa's drylands have developed. One of the most important changes in this respect has been that they have been given back their 'capacity to act'. There has been increasing attention for local actors who have constantly accommodated adverse conditions and have creatively developed new ways of responding to changes and hazards. This has been manifest in the growing attention given to local

knowledge and decision-making. In addition, there has been a lot more recognition of the rationality of what people do in adverse conditions and for the fact that their decisions cannot be only leading to their ruin or to a further deterioration in their living conditions.

Global climate change will certainly impose new constraints and open up fresh possibilities for the inhabitants of the Sahel. However, the scale and direction of these changes cannot be fixed with precision at the moment (Van den Born *et al*. 2000). Yet research on the consequences of global climate change is crucial in order to provide knowledge to help tackle any problems resulting from this evolution.

One of the most important questions in this respect is how people survive in high-risk environments, and how they secure their livelihood in the medium and long term. What factors do these local actors take into account when making decisions with respect to production strategies, resource management, the insurance of risks and the economic and social care needed in times of calamity? How is the reality of this daily life linked to short and medium-term changes in ecological and socio-economic environments at local, regional and national levels? What effect does such instability of climatic conditions have on day-to-day decision-making and what might the impact of climate change be?

Impact of climate change on drylands

These questions were among those underlying the research project 'Impact of Climate Change on Drylands' (ICCD) that was carried out from 1996-2000 within the 'Dutch National Research Programme on Global Air Pollution and Climate Change' (see Dietz *et al*. 2001a). This project focused on an analysis of the effects of climate change and rainfall variability on drought risk and yield potentials in semi-arid and sub-humid West Africa, the development of a comprehensive framework for the analysis of regional scale impacts, and the identification of different risk-coping strategies at farm, household and individual level (Dietz *et al*. 2001a: 1). A number of Dutch and African research institutes participated in the project (see Appendix 1).

Since neither the direction nor the dimension of climate change could be established with any precision at the start of the project, it was decided that it would be most efficient to focus on climate variability rather than climate change. Climate variability, in terms of unreliability of rainfall and inter-annual and intra-seasonal variations in precipitation, is a major cause of drought, crop failure and the emergence of pests and famines in all Sahelian countries. It is the unreliability of rainfall, and not the fact that rainfall in these areas is low, that is at the heart of the problem. If rainfall were low but reliable, farmers and herds-

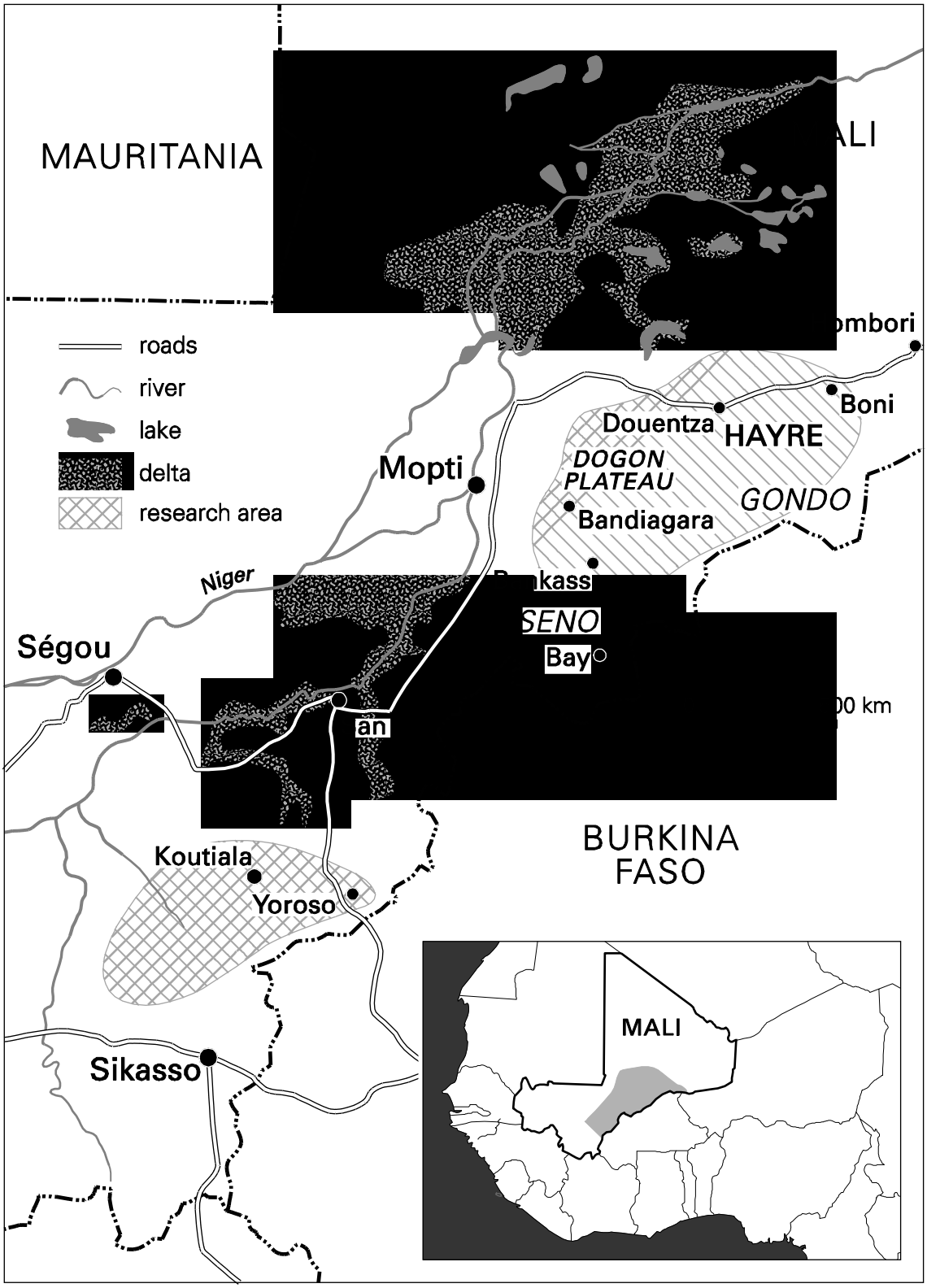
men could just adapt to such conditions by altering farming and herding practices.

The first part of the project consisted, therefore, of an analysis of rainfall data to establish the relation between rainfall variability and crop failure with the help of a drought risk index (Put 1999) and computer simulation models. In addition, climate scenarios for West Africa for 1990-2050 were investigated with the help of two Global Circulation Models (Van den Born *et al*. 2000).

The second part of the research project was aimed at a better understanding of issues such as the driving forces behind changes in land use, the institutional capacity available to deal with calamities such as droughts and rainfall variability, and the functioning of markets in such a context of environmental insecurity. In this vein, some explorative studies were undertaken during the second phase of the project, with the help of existing databases, in three regions in semi-arid and sub-humid West Africa – the regions of Kaya and Gorom Gorom in Burkina Faso (Zaal & Diallo 2004; Breusers 2001, 2004), Koutiala in Mali (Brons *et al*. 2004b; Van Dijk *et al*. 2004), and Bolgatanga in northern Ghana (Dietz *et al*. 2004b). In addition, studies of two major cities in the study area (Bamako and Ouagadougou) were organized and three others were commissioned from various other research groups in Dakar, Niamey and N'Djaména. The results of these studies will be published in a separate volume (De Bruijn, Hesseling & Kaag forthcoming).

The third component of the project consisted of a number of studies of local actors as loci of change and adaptation to climate variability and climate change. In fact the two other components were supposed to provide a better idea of the context in which these local actors operate and which environmental factors are the most relevant for decision-making. For this phase three areas were selected: Douentza-Bandiagara and Koutiala in Mali, and Kaya in Burkina Faso. A first overview of these studies appeared in Dietz *et al*. (2004a). A separate volume is in preparation on local-level strategies.

In addition to these extensive in-depth case studies, a number of studies in Mali were commissioned from Masters-level students in collaboration with the project researchers to fill in some of the gaps in the data needed for the third phase in the Douentza-Bandiagara and Koutiala area in Mali (see Map 1.1). In this volume, the results of these studies are summarized and analysed. The studies had a common focus on small-scale communities and within these communities on individuals, and a shared theme to analyse decision-making by these individuals under high-risk conditions such as those prevalent in the study areas. The studies were not guided by a central methodological framework. A methodological background paper on 'pathways' and 'habitus' as core concepts



Map 1.1. The location of the research area for the case studies in this volume.

for this phase of the ICCD project (De Bruijn & Van Dijk 1998) served as a fall-back for the coordinators of the study. This paper was also made available to the students but they were encouraged to develop their own research pathways.

Decision-making under high-risk conditions

Risk and the decision-making unit

The focal point of the studies was the role of risk in decision-making. Underlying this choice was the assumption that the Sahelian ecosystem in which the studies took place is not a neatly organized and equilibrated set of production conditions for farmers and herdsmen but instead is a volatile, highly dynamic and extremely varied environment both in time and space. Risk events produce different arrays of responses by individual as well as collective decision-making units. These events and the responses by individuals interact with all kinds of psychological, institutional and cultural processes in ways that can heighten or attenuate perceptions of risk and shape risk behaviour. These responses trigger all kind of consequences at a cultural and social level and a demand for additional responses at institutional level, or may cause impediments to desired responses (Kasperson 1992).

Decision-making units may range from an individual to much larger units such as villages, regions, states and even international organizations. The decision-making units in the studies presented in this book are mostly individual actors and small units based on kinship. However, the same approach may be applied to larger units.

Each of these units takes decisions in interaction with its environmental context. A number of dimensions may be taken into consideration to differentiate between various categories of decision-makers. Size and scale are important criteria. A small kin group or even a village organization that distributes credit and agricultural inputs for cotton cultivation obviously has a different organization, resource base, objectives and dynamics from a national or international bureaucracy. With size and scale often the time horizons for decisions differ too. An international donor will normally take a longer time horizon into account than an individual farmer, though their decisions may well be based on simplifications of reality and the latest trends in World Bank thinking. The farmer has to take instant decisions regarding crops and the allocation of labour, with only an eye on the continuity of his enterprise even though he may be severely constrained by all kinds of adverse conditions. Governments or government departments also make instantaneous decisions but here political survival can be what is at stake.

Categories of decision-makers may equally be distinguished on the basis of the kind of assets they have and use. Differences between sedentary farmers and

nomadic livestock keepers are a famous example. As a consequence of these differences, different kinds of environmental factors are relevant for decision-making in these units and influence their internal organization. Lastly, decision-making units, even if they are of a similar category, are not equally vulnerable to the effects and the impact of climate variability. They occupy structurally different 'risk positions' (cf. Beck 1992).

In high-risk environments, it is hardly possible to make a statement of the desired or real-life end situation of decision-making. Empirical research under high-risk conditions shows that, for example, individual actors have difficulties in making a projection of future conditions. It seems that decision-making units are not oriented towards profit maximization or risk minimization but more towards continuity of some sort, either of the unit itself, or when faced with the impossibility of doing so, of a relevant sub-unit of the decision-making unit. In studies of coping strategies of population groups in situations of food scarcity, it becomes clear that people voluntarily abstain from food intake in order to preserve a basic stock of assets, which ensures the continuity of the decision-making unit (De Waal 1989; Frankenberger & Goldstein 1990; Davies 1996). Under the impact of persistent drought and food insecurity, it may be impossible to maintain these social units. Consequently the linkages are reduced between these units, such as the sharing of food and the care for the weak and infirm and they tend to split up into smaller units to deal with the situation in a more flexible manner (Hill 1991; Spittler 1992; De Bruijn 1994, 1997, 1999).

High-risk environments require a specific disposition and organizational set-up of decision-makers to deal effectively with risk and to ensure continuity. The options for survival of each decision-making unit depend on the possibilities a unit has to interact with its environment. This, in turn, relies on the degree to which a decision-making unit is able to appropriate and/or incorporate elements from its environment, which then become 'resources' or 'capitals' and can be used. The following forms of capital can be distinguished: (i) economic capital: access to technology (tools, crop varieties, equipment, knowledge, labour, cattle, land, water, cash, etc.); (ii) social capital: social security networks, family, friends neighbours, marriage relations, village, lineage, composition of the household; (iii) cultural capital: religion, knowledge, skills, educational level; and (iv) political capital: status, ethnic identity, position in local hierarchies, relations with government and development organizations. The capacity to respond to a risk event also depends on a person's psychological constitution. This may be labelled a fifth source of capital – human capital – but is not primarily dependent on the environment. A person's psychological condition is particularly important during hard times.

The hierarchical position or risk position decision-making units have in their environment is another dimension to be taken into account. Some units are more vulnerable to specific forms of risk than others because of the stock of capitals at their disposal. They occupy different 'risk positions' (Beck 1992) than others. This risk position also influences the processes of decision-making, the decisions taken by the actor. A risk position is linked to the institutional environment and how a person or institution, or decision-making unit is positioned in this environment (Van Dijk 1999).

These elements in the study of risk events in relation to the characteristics of decision-making units appear in many of the contributions in this volume. Given the resources available, only limited effort was able to be put into quantifying these characteristics and into making assessments of the number of people involved, the magnitude of the risks, and the variability of resources. Instead, the focus in all the sub-projects was on processes: ecological (De Boer), commercial (Rutgers van der Loeff; Zondag), economic and agricultural (Brandts; De Bruijn & Van Dijk; Griep; Maas; Nijenhuis; Van Steenbrugge; Zondag), social (Brandts; De Bruijn & Van Dijk; Nijenhuis; Griep; Van Steenbrugge), and the evolution and changes in direction over time of these processes (De Bruijn & Van Dijk; Van Beek).

Pathways and habitus

Though the studies were not carried out within a common analytical and methodological framework, a common approach was defined towards the study of decision-making and the decision-making unit. This approach consisted of two elements: a common concept to analyse the evolution of decision-making units over time, as a result of the decision-making process, that was labelled 'pathways', and a common concept to describe and analyse the cultural means used by decision-making units while making decisions labelled 'habitus' that was adapted from Bourdieu (1990: 53, 64).

Habitus

The concept of 'habitus' can be defined as pre-structured modes of local actors in perceiving and using the environment. Its properties can be abstracted from the decisions actors take in dealing with this environment, their opinions about this environment, discourses, and the cultural means they have developed for reflecting on these properties. The habitus is the sum of the 'cultural understandings' of the environment (Croll & Parkin 1992), the cultural means people employ to counter insecurities of every sort (De Bruijn & Van Dijk 1995: 10). The term 'cultural understandings' pinpoints both the 'experimental and provisional nature of peoples' coping strategies and their changing interpretations of what consti-

tutes work and resources' as well as the fact that they 'can only proceed step by step on the basis of distinctions of some sort' (Croll & Parkin 1992: 16). The habitus is embedded in the environment, it creates and reshapes the institutional environment and through this also the physical and social environment, which in their turn define the possible social and natural resources that can be perceived and used. 'People (…) do not just adapt to environments, they make them, shaping them from both materials and the possibilities they see in the habitat and surrounding life forms' (ibid).

Habitus, therefore, embodies continuity as well as change and varies from one person to another, yet it also connects them for it is a cognitive structure for pre-selecting modes of thought and information for decision-making. It refers to both the constructed – yet without implying that this construction is a conscious act – and the objectified nature of the socio-cultural devices people use for interacting with the environment. At the same time, it points to the more permanent character of these devices.

When confronted with a shock, for example drought, severe flooding or some other disaster, habitus will change form due to people's new reflections and changing opinions about their environment and the giving of new meanings to the natural and social resources they perceive and use. Likewise, a period of ten years of good rains allows people to perceive their environment as prosperous, benign and reliable. A drought has to be as drastic as for example the Sahelian drought was in order to change people's outlook on their environment.

Once the variability of the climate has been experienced as producing life-threatening events in the form of drought and famine and as undermining the basis for existence, it becomes a major concern for people who have lost most of their assets. Though things may return to normal, the effects of such events may be more fundamental and long lasting. The crisis moulds the relations to which people direct their actions because normal relations are no longer able to buffer the effects of hazard. Rules, norms and ideologies change. With respect to the Sahelian droughts, the religious community has become more prominent as a focus of solidarity (Niezen 1990; De Bruijn 1994, 1997) and the role of ritual changes (De Bruijn & Van Dijk 1995). Kinship ties and village solidarity become weaker and people retreat into smaller units such as the hearthhold and individual enterprises (De Waal 2001; Spittler 1992; De Bruijn 1997; Van Dijk 1994). Agricultural technology changes, as certain types of intensive land use are no longer possible and actors 'extensify' land use by increasing investments in modern labour-saving technology (Toulmin 1992; De Bruijn & Van Dijk 1995).

These changes may well be or are in most cases also caused by other exogenous changes impacting upon the livelihoods of Sahelian populations. Economic change, political turmoil, religious change and institutional development may

independently influence people's decision-making and the evolution of pathways. Therefore, when analysing pathways, a whole range of variables needs to be taken into account. This is shown in schematic form in Figure 1.1 and the evolution of pathways as a process is depicted in Figure 1.2. What is central is that actors (decision-makers, decision-making units such as households and higher-order units) not only react to their environment but also actively shape and reshape their environment. Over the course of time the relevant features of the habitus for actors may alter as their own situation or the environment changes. Changes in the environment and habitus are both exogenous to the decision-makers, and arise as emergent properties out of the collective results of decisions taken by the actors.

Pathways

The concept of 'pathways' refers to the strategies arising out of the decisions actors, households and groups of people take to deal with risk in an unstable environment. There is a distinction between a pathway and a strategy. A strategy has the connotation of trying to attain a pre-set goal, which is established after a process of conscious and rational weighing up of the actor's preferences, while a pathway, by contrast (see Figure 1.2), refers to an iterative process in which in a step-by-step procedure goals, preferences, resources and means are constantly reassessed in view of new (unstable) conditions with which the decision-maker is confronted. Individuals decide on the basis of a wide range of past experiences rather than on a vision of the future, while these recollections of the past depend to a great extent on someone's intellectual concerns in the present (Ortiz 1980: 180). Knowledge about unstable conditions and how to deal with them is gathered in an incremental learning process (Scoones 1995). As different actors or groups of actors have experienced different conditions over time, their knowledge, experiences and understanding of their environment vary systematically between them. So, even when confronted with the same set of conditions, they may follow distinctive pathways.

Actors, for example, who have recently encountered a devastating drought are likely to respond differently to a good year than people who have just experienced a number of good years. Likewise, the younger generation in the Sahel, which grew up with extreme climate variability, has a different attitude to farming, herding and life in general than the older generation that grew up during decades of relative plenty. This will influence their preferences and probably also

Figure 1.1
The decision-making unit in relation to the physical and institutional environment

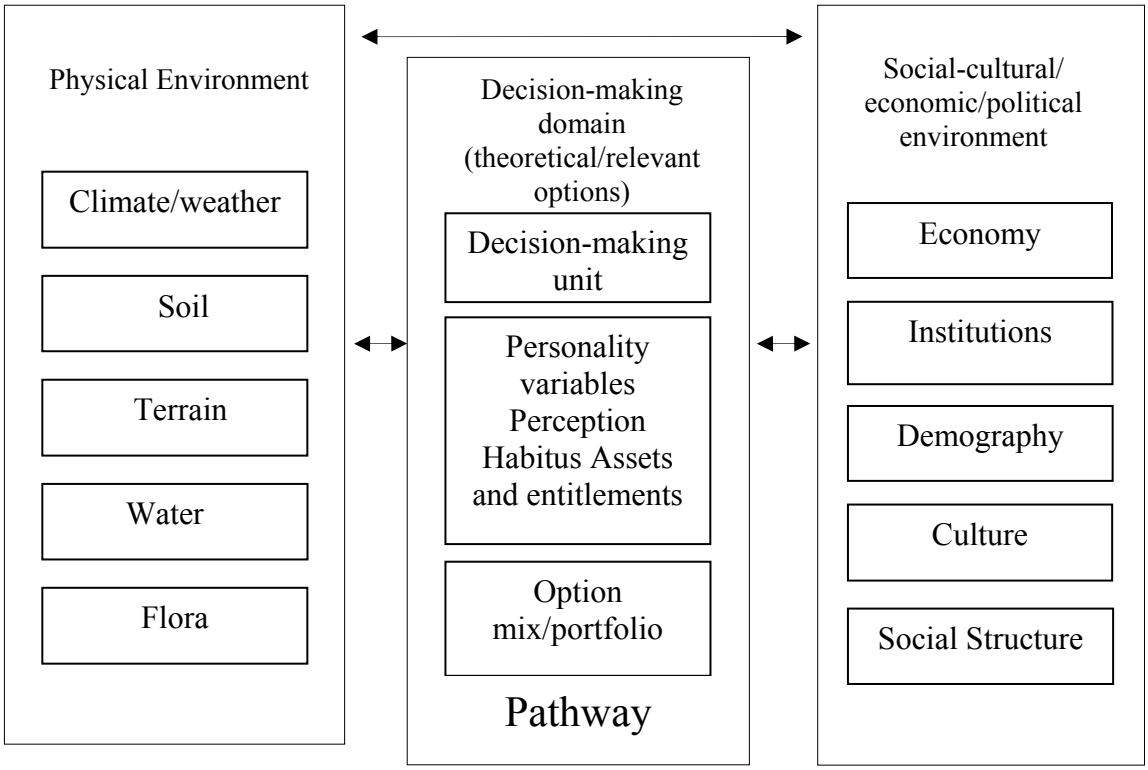
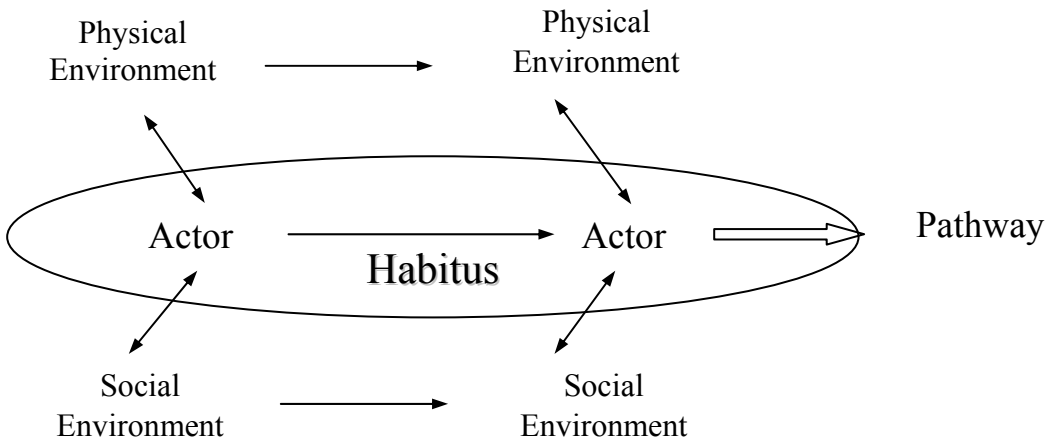


Figure 1.2
The evolution of pathways through time



their goals and the decisions they take. To take another example, two farmers in comparable situations who have just tried a new millet variety will consider a retry differently depending on the harvest they obtained with this millet variety that may vary by just one crucial rainstorm at the end of the rainy season.

The concept of pathways is not aimed at idiosyncratic descriptions of actors and groups of actors. Instead, it is oriented towards an analysis of the dynamics of decision-making processes, i.e. to pinpoint under what opportunities and constraints which actors and groups of actors are likely to follow specific pathways to mitigate instability. This pinpointing may result in the formulation of a number of 'rules of the game' which people use when taking decisions. These rules can be said to be part of their habitus. If the way in which farmers select millet varieties for sowing in a specific year is considered, it appears that if the rains are early and abundant they choose slowly maturing but high-yielding varieties that are more vulnerable to drought. If these early seedlings fail, they change to short-cycle varieties that are less vulnerable to drought and produce even under extreme climatic conditions but have a lower average productivity. In the course of a season, they gradually accommodate their strategy according to their changing perspective on rainfall conditions. In the process, some may also be confronted with a lack of seed which forces them to abandon the idea of cultivating altogether, and induces them to put labour into other activities such as livestock keeping or labour migration. Others may have to deal with labour constraints later on in the season because time is short due to consecutive seeding failures. They may have to abandon some of their fields for lack of time. So, in the course of a season these farmers develop a pathway and close off others as time proceeds. Each decision has consequences for subsequent even thought the results of the harvest in question may have been influenced decisions and for the options kept open.

To summarize, the following assumptions underlie the concept of pathways:

- the environment of decision-makers is inherently unstable;
- decision-makers proceed on a step-by-step basis in a high-risk environment and decision-making is an iterative process with the resulting pathway not necessarily having an intrinsically planned or rational character or following a logical order;
- past decisions have to be taken into account because they have constituted the pathways and the condition of the decision-maker and his/her mental attitude in the present;
- decisions are made within a specific context by decision-makers with a specific history, and variation in decisions need not be based on synchronic attributes (such as resource endowments) but can also arise from life history; and
- decision-makers coordinate their decisions explicitly and implicitly.

Pathways analysis starts at the level of the individual. First of all it is to be expected that the composition and organization of any decision making unit –

from an individual to larger unit – will vary greatly within one region and from one region to another and depending on past experiences, stocks of assets, political positions, social networks, and socio-cultural variables. The level of the individual will also allow a differentiation in male and female pathways and systematic differences across generations.

However, pathways are not limited only to the level of the individual. Some of the opportunities and constraints on decision-makers are precisely located in the presence or absence of assets, and the preferences of other actors and the limitations imposed by these actors and higher-level institutions. In the process of decision-making, actors organize their actions, while in the coordination process regularities arise that pre-structure subsequent decisions (habitus). Actors thus do not start from scratch. Their environment is pre-structured, for example land has already been allocated for certain ends, rules have been formulated for the reallocation of assets, people have all kinds of collective arrangements for regulating economic transactions between them, and dispose of all kinds of knowledge and cultural frames that enable them to develop an understanding of the conditions imposed on them and to judge to some extent the consequences of their actions and decisions, However, all of these may change rapidly under the impact of numerous individual decisions, and exogenous changes in the environment.

Habitus and, to some extent, certain features of the environment are thus considered to arise out of and change as a result of individual decisions under these high-risk conditions. When a household is approached in this manner, it may be easier to understand marriage instability or the dissolution and fragmentation of households under the impact of adverse conditions. It may also explain the fact that households with a larger store of assets in the form of capital, labour or livestock tend to grow over time as less well-off relatives (the old, orphans and widows) become integrated at least on a temporary basis in a wealthy household. In the Sahel, the same may apply to settlement in camps or in villages or the organization of collective enterprises to mitigate crises.

The interaction between habitus and pathway is thus essentially a two-way process. As twin pairs of form (pathway) and meaning (habitus), they arise in what Ingold (1991: 242) has called a ‘context of an active and mutually constitutive engagement between organisms and their environment’. Decision-making itself is the source and consequence of processes of change and evolution. This is particularly relevant in dryland areas because conditions change so fast that people have to rely to a large extent on their creative faculties and cannot resort to fixed and unchanging cultural patterns.

Methodological guidelines

These theoretical considerations led to a number of methodological guidelines for field research and interviewing. These guidelines proved hard to apply in the field since they require endurance and a great deal of time to gain insight into the intricacies of life and decision-making and quite a high degree of trust between the researcher and the informant.

- The analysis of pathways is essentially historical though at the level of an individual, household or any larger relevant unit. This historical approach can be worked out, for example, in a three-generation perspective and with a time series of data from secondary sources on survival strategies.
- Actions are not always consciously acted out and decisions are not always consciously taken. However, these minor (daily) decisions in the course of a lifetime may lead to gradual change. People try to make the best of their lives by orienting themselves on the frameworks of power, economic possibilities and patterns of resource availability in a purposeful manner. The deeper the historical depth, the clearer this gradual change becomes.
- People dispose of diverse sources of capital to play the game. They do not only have access to economic capital (resources, labour, money) but also to social capital in the form of social relations, networks and cultural capital such as knowledge, charisma and status, which opens networks of social relations and yields benefits in the form of gifts or free services from people. For example, someone without any form of economic capital may still be able to survive because s/he may offer religious support to other people, providing others with a frame of reference to orient their actions on.
- Changes in the environment may be so drastic, for instance in the case of climate instability or sudden economic and/or political crisis that people have to revise their habitus because they can no longer cope if relying on more or less programmed decision-making. An example of this is the Sahelian drought of 1984-85, the change of regime in Mali in 1991, or that in Burkina Faso in 1987 following the assassination of Thomas Sankara. Decisions made under these conditions are taken much more consciously and need to be examined in more detail.
- Decisions and actions are also led by emotions (loneliness, anger, feelings of marginality and frustration, or – on the positive side – religious beliefs, a sense of responsibility, hope). These emotions may be the result of long-term stress due to ecological degradation, socio-economic and/or political marginality.
- Decisions are taken in multiple environments varying in space and time. People are often connected through circular migration and social networks with other environments. This way they are able to draw on resources in various environments. Any focus should not only be on groups, which are fixed in space, but should also analyse the connections of groups and individuals in space. Regions may function as complementary environments. Access to these environments again differs according to the individual (on the specific composition of his/her capital, for example, the means to travel, identity cards, relatives abroad or access rights to resources).

The main themes

Though the research projects were varied and had to be adapted to the way in which the research group was organized (for example, grain traders versus households), they give a fairly consistent picture of the processes of change in the research areas. The projects, which entailed a more frequent interaction with the people studied (Brandts, Griep, Maas, Nijenhuis, Van Steenbrugge) have therefore acquired a different character to those that had more superficial interaction with their informants (Rutgers van der Loeff, Zondag). The ecological research (De Boer) was added to obtain a better idea of vegetation dynamics in the Douentza area and is interesting in that it provides detailed information with respect to the agro-ecological framework for decision-making. The senior researchers were asked to review and update their former fieldwork (De Bruijn & Van Dijk, Van Beek).

The work presented in this book has deepened and broadened the understanding of the dynamics underlying adaptations to climate variability and climate change in the semi-arid zones of the Sahel of West Africa. To begin with, processes of commercialization and technological change have been important driving forces for changes in the pathways of individual people and households. The droughts of the 1970s and 1980s forced people either to explore new areas and move or to adopt new technological means provided by the market or development organizations to deal with the post-drought situation. They reacted to the shocks exerted by the drought itself and to the structural changes that both resulted from these shocks and operated independently of the droughts, such as macro-economic changes at a global level, political changes, technological developments, and the influx of new cultural elements via the mass media. However, these outside changes, both climatic and socio-economic, were always accommodated within the cultural frameworks (habitus) of the decision-makers involved, and put into action in ways specific to any decision-making unit.

The studies show the all-pervasive role of mobility and migration. This is not only true for the pastoral part of the population (Van Steenbrugge, De Bruijn & Van Dijk) but also for the agricultural part of the population (Brandts, Griep, Maas, Van Beek, Nijenhuis). Movement is at the basis of the trade in salt and cereals that allows the pastoral population in the north of Mali to survive (Rutgers van der Loeff). These movements take different forms: from the classic forms of pastoral mobility in transhumance movements of herds and people (De Bruijn & Van Dijk), to modern forms of seasonal labour migration (Griep, Brandts, Maas), to the permanent migration of stock and family (Van Steenbrugge, Nijenhuis), and to the peripatetic movement of people who have lost basic access to resources and live a roving life (De Bruijn & Van Dijk).

This variety in forms of movement provides an idea of the enormous variety in economic activities. This has always been present but it is clear that with the droughts and economic change, new pathways have been developed such as those by poor Dogon migrants, and the somewhat better-positioned Fulbe in Koutiala (Nijenhuis, Van Steenbrugge). Other modes of organizing pathways have remained remarkably similar in many respects over time, such as the caravan trade of salt and cereals.

Technological change has had an enormous impact on agricultural strategies in tackling declining yields in the context of increasing rainfall variability and the growing pressure from pests (Van Beek, Maas, Brandts). It has also allowed integration into the cash economy for some (Maas, Van Steenbrugge, Nijenhuis), whereas others have been excluded from participation and lost access to basic resources in the turmoil of the droughts and have become dependent on wage labour that offers only low rates of pay (De Bruijn & Van Dijk, Griep).

On the methodological side, the studies show by their variety in results and approaches in the field that a standard research method cannot be determined in advance. The conditions in the field, the mobility of the research group, the dominant form of the pathways studied impose specific sets of conditions on field research and on the researcher. Data categories have to be adapted from one group to another, and even within groups. To address the variety in pathways, flexibility must be maintained in order not to reduce the variety and creativity of decision-making processes studied in advance. Basic to all studies, however, was the evolution of people's situations in relation to changing external conditions on various geographical scales. This does not allow for basic statistical analysis for the moment but the insights offered by these types of studies may offer a better structuring of databases designed to give insights into the consequences of climate change and to inform policy making. Whether or not there will be climate change in the future is not the primordial question. As the studies show, present rainfall variability is already causing enormous problems and will result in major population movements. These alone justify a concentrated effort to gain more insight into the variety of pathways people will follow when dealing with volatile conditions in the future.

2

Climatic, ecological and human influences on the vegetation of the Hayre-Seeno area

Yvonne M. de Boer

Introduction

The natural vegetation in the Sahel is of great importance to the local people: it is consumed by animals and humans, and used as construction material and for medicines. However, since 1968 there has been low and erratic rainfall, desertification, crop failure and famines, and certain plant species have disappeared. Studies have been conducted to investigate the scope and impact of these changes. Agro-ecological changes (Breman & Cissé 1977; Breman & De Wit 1983; Hien *et al*. 1997) as well as the way people cope with problems resulting from climate variability and climate change (Bonfiglioli 1988; White 1984, 1990; De Bruijn & Van Dijk 1995) have been studied. It was generally assumed that desertification was being caused by human actions, that pastures were being overgrazed by too many livestock and that soils were exhausted by agriculture. However, the effects of human land-use practices and climate are difficult to separate and, until now, this has not been done properly (Breman & Cissé 1977). Consequently, there is a lack of information on the impact of specific human and ecological factors on biomass production.

The main question considered in this chapter is which factors influence the productivity of the natural vegetation and how this happens. It is hoped to

pinpoint those factors responsible for the variations in the availability of natural vegetation in the Sahel. This research aims to generate more information about the dynamics of biomass production and vegetation composition in relation to human interventions by investigating different factors that may influence vegetation. These five different factors include: (i) rainfall (Breman & Cissé 1977; Westoby 1979); (ii) soil quality (Hien *et al*. 1997; Penning de Vries & Djitèye 1982; Rietkerk *et al*. 1996); (iii) land use (Breman *et al*. 1979); (iv) grazing (Breman & Cissé 1977; Rietkerk *et al*. 1996); and (v) legal status (Nijenhuis pers. comm.). The research was undertaken around Douentza in Central Mali.

The next section provides some background to the research problem and the third section presents the research methods used. The results are discussed in the fourth section and the last section contains some preliminary conclusions and ideas for follow-up research.

Background to the research problem

The research problem

In the Sahel, rainfall is concentrated in a few months of the year during which time crops are grown and natural vegetation develops (Breman & De Wit 1983; Penning de Vries & Djitèye 1982). The distribution of rainfall within a season influences the quantity of vegetation produced. In 1983, for example, the annual rainfall in Douentza, amounted to 373 mm, which was normal for that region. However, its uneven distribution in time and space caused dramatic crop failure and low biomass production in grazing areas (De Bruijn & Van Dijk 1995). The annual rainfall has decreased over the last 30 years, forests have died and certain tree species have been replaced with others that are better adapted to a dry climate. The short-term effects of an irregular rainfall pattern on the vegetation are best seen at the level of the herbal layer, while the long-term effects are best observed at the level of the tree layer (Van Dijk pers. comm.). Thus, plants (both herbs and trees) would be expected to react to the amount and distribution of rainfall.

In the Sahel soil moisture is the limiting factor for plant growth if annual rainfall falls below 300 mm. Above 300 mm, soil nutrients influence biomass production more than the amount of rainfall (Breman & De Wit 1983). When rainfall is abundant, herbal biomass production is high but its quality is lower, and *vice versa*. This is due to the nitrogen (N) and phosphor (P) content of the soil, which does not vary much even if one goes from north (desert) to south (savannah). As biomass is higher in the south due to increased rainfall, the N and P content of the vegetation and thus its quality will be lower. Higher quality vegetation is found in the desert.

Soil characteristics such as soil fertility, soil moisture content and texture are different for clayey and sandy soils. Biomass production and vegetation composition probably depend on these soil features. According to Breman & Cissé (1977), the herbal vegetation and its composition does not differ much for these soil types, while Van Dijk (pers comm.) says that there are large differences in vegetation composition between the soil types. Until now, views on this matter are conflicting. In short, what are the soil characteristics for sandy and clayey soils, and what are the consequences for biomass production and species composition?

In the Sahel, crops are cultivated in different soils: clay, sand, or a mixture of both, while taking into account both crop and soil properties. Land needs to be cleared for the cultivation of crops. As soil fertility is generally low, a rotational cycle is needed to restore soil fertility, causing patterns of arable, fallow land and natural vegetation in the area. As stated earlier, Breman & Cissé (1977) observed that cultivation causes soil depletion, although others doubt this proposition (De Bruijn & Van Dijk 1995). However, field observations in the research area indicate that the composition and condition of the vegetation in fallow land and land that has never been cultivated does not differ much. Farmers usually take measures to restore and maintain soil fertility. We will investigate whether the herbal and tree layer and soil characteristics differ in fallow or uncultivated areas, hypothesizing that the vegetation is not negatively affected by cultivation, in contrast to most of the results in the literature cited.

Animals need to receive the highest quality food to stay in good condition. Thus, they move to the north during the wet season where the quality of vegetation is high but return to the south in the dry season when water sources and vegetation can still be found there. This movement is called transhumance, and is executed by most herdsmen (De Bruijn & Van Dijk 1995) who let their animals graze on fallow land and natural pastures. After the harvest, the animals fertilize the fields for the following year's crop.

It is often stated that desertification is due to overgrazing by these animals that leave no vegetation and cause soil degradation, which in turn leads to desertification (Breman & Cissé 1977; Cissé 1986; Rietkerk *et al*. 1996). Despite the fact that the cattle density is quite high and cultivation is rapidly expanding, neither cultivating nor grazing practices affect the vegetation in this area, according to local informants. The question is, therefore, whether grazing has any negative effects on soil features and vegetation composition and production, as is widely believed by almost all scientists.

For people in the Sahel, land resources are important and are used for grazing and cultivation, but also for gathering fruits and leaves (De Bruijn & Van Dijk 1995). Population growth, due to better medical services and general levels of

development, has resulted in the need for more land for agriculture and livestock keeping, while less space is available. This has led to conflicts over land, with farmers wanting to grow their crops on cattle tracks, which are always the best fertilized areas (Nijenhuis pers. comm.). Due to fluctuations in rainfall, not only do frequent harvest failures occur but also the quality of pastureland is something people can no longer depend on (De Bruijn & Van Dijk 1995). The natural vegetation is an important source of emergency food when production failures in cereal and livestock production occur. It is, therefore, important to know how people use and manage the vegetation and what regulations relating to land use exist. This might be important for understanding the condition of the vegetation. Until now, there is no clear insight into this factor.

The study area

The Hayre-Seeno area (see Map 1.1, p. 4) in Central Mali is a region of unreliable rainfall. An area 20-25 km south of this small city was chosen as a study site and research was conducted there into the land-use strategies of farmers and herdsmen (see Brandts and Maas, this volume) and agricultural colonization in relation to land-tenure arrangements (Nijenhuis, this volume).

Rainfall is concentrated into one wet season that lasts from July until September. Precipitation amounts to 400 mm per year but is highly variable and has decreased over the last thirty years (De Bruijn & Van Dijk, this volume; Maas, this volume). No permanent natural source of water is to be found in the research area but in the rainy season, streams and small ponds are filled with water but dry out soon after the rains stop. The geological situation and vegetation are quite diverse. To the north there is the Ferro with clayey and laterite soils. The vegetation type is a combination of bare soils alternating with strips of forest, tiger bush or *brousse tigrée* in French. To the south one finds the Seeno-Manngo (Seeno), an area of sandy dunes and valleys. Trees are less abundant on the Seeno and herbal vegetation dominates.

Over the past forty years the study area has been colonized by both Dogon cereal farmers from the adjacent Bandiagara Plateau and Fulbe cattle keepers from villages just north of the research site. Both groups come here mainly to cultivate millet, although some sorghum and groundnuts can be found. The Fulbe graze their cattle on the natural vegetation as long as water resources last. Most people cultivate a different piece of land each year, leaving others fallow to recover. Therefore, a complicated pattern of undisturbed vegetation, fallow land and cereal fields has come to exist. Almost all natural pasture and fallow land is grazed by herbivores, mainly cows, goats and sheep but also by donkeys and camels.

There are numerous temporary hamlets in the area, alongside a number of permanent villages situated at the border of the Dogon Plateau with the mountains north of the research area, from where most of the inhabitants of the temporary cultivation sites originate. The Fulbe herdsmen (pastoralists) come from the village of Douma. Most of the hamlets are inhabited by Dogon (cultivators) from the plateau. Nowadays the two groups both herd and cultivate but their original activity remains the most important. Most Fulbe are semi-nomads, moving to the green pastures at the beginning of the rainy season to cultivate and herd their animals. After the rainy season, when water and herbal vegetation become sparse, the Dogon return to their villages and the Fulbe move to the evergreen pastures of the Inner Niger Delta and the Dogon Plateau.

Material and methods

Field research was carried out from August to November 2000. Three main methods were used: (i) measurements were taken in small plots to investigate the herbal layer and soil characteristics, and to assess the effects of soil, cultivation and grazing, and the short-term impact of rainfall; (ii) measurements were made in large plots to assess the condition of the tree layer in relation to long-term rainfall and soil characteristics, and (iii) interviews were held with local people to elicit their opinions on the dynamics of the vegetation. The specific methods for each are explained separately below.

Soil and herbal vegetation plots

A distinction in factors influencing the herbal vegetation can be made between soil (clay, sand), cultivation (uncultivated, fallow) and grazing (yes, no). These factors were measured by putting 32 plots each of 16 m² in the field. The grazing effect was determined by the enclosure of 9 m² plots. Grazed plots were marked with a small stick. Likewise, plots were created on fallow and uncultivated land and on clayey and sandy soils respectively. Due to the variability in plots, four repeats were needed, resulting in 2 (soil) x 2 (cultivation) x 2 (grazing) x 4 (repeats) = 32 plots. The location of each plot was recorded with the help of GPS.

Measurements of vegetation dynamics were made one to three times during the wet season, depending on the type of variable. Due to the researcher's personal circumstances, no measurements were taken at the beginning of the rainy season. The first was halfway through the rainy season at the beginning of September (1), the second at the end of the rainy season in the middle of September (2), and the third just after the rains had stopped at the beginning of October (3).

A soil sample was taken from each plot at the beginning of October (3). For clay as well as sand, the top 15-cm layer of soil was taken from two points in the plot area and mixed. The moisture content and soil fertility (N, P and organic matter content) were measured and the soil texture (clay, silt, sand content) was determined.

The composition of the vegetation was determined three times during the wet season and the abundance percentages and functional plant group (annual herb/grass, perennial herb/grass) of each plant species was recorded with the aid of the handbook *Adventices végétales* (Merlier & Montegut 1982). Some were stored in Herbarium Vadense, Wageningen. Productivity was measured as a whole, and not by a single plant species or life form. Only herb height and grass height (cm) were separated. For the measurements of the above-ground biomass, the vegetation was cut in a quarter of 50 cm^2 in each plot. This was done twice. The N content, P content and digestibility were measured in the laboratory.

The data of the herbal vegetation productivity and soil samples (environmental aspects) were analysed with the help of SPSS, General Linear Model, in which three-way ANOVA tests were used (factors soil, cultivation and grazing and interactions). If there were any effects, Compared Means was used to determine whether these differences were significant ($p < 0.05$, $p < 0.01$). Spearman's correlation test was used to see if a significant correlation between variables really existed.

Tree plots

Research in the woody vegetation was done in the following manner. In the Douma/Coofi area, 24 different sites were chosen, such as dunes, fallow land and forest land on both soil types, also near the herbal vegetation plots. Sites usually measured 25 x 25m, and some larger sites were used to ensure reliable data (this was, for example, done for the dune area and the dead forest area where tree density was significantly lower). The sites were recorded in by GPS so that they could be compared with the aerial photographs of 1956.

On each site, trees were counted as well as the number of seedlings and dead trees. Species were determined with the help of the book *Arbes et arbustes du Sahel* (Von Maydell 1983) and the staff of Herbarium Vadense. The number of seedlings and the percentage of each dead species were taken as indicators of the health and strength of each species. Through relating the data to rainfall, grazing and cultivation practices, it was possible to assess which factor was responsible for the viability of trees.

Interviews

The results from the herbal and tree vegetation and the soil samples were compared with the results from the interviews held with local informants on each specific topic. Different people in the Douma/Coofi area were interviewed about a variety of subjects concerning vegetation. A distinction was made between Fulbe (herdsmen) and Dogon (farmers), age, gender, and social status. A translator was needed because most of the people interviewed did not speak French. The interpreter also knew how to put questions to people without embarrassing them. People were met in the field by chance or were introduced by the translator. The villages of Coofi and Douma were regularly visited to build up a relationship with the population. In total, 25 people were interviewed.

In the first interviews no subject was specified and people talked about things they were concerned about and it became apparent what their problems and concerns were with their way of life. After that, more specific questions were asked, though each interview was different, although the five factors mentioned above were the focus of each interview: specific rainfall, the preference of animals including grazing effects, the way people use the vegetation (consumption, medicines and construction, this is also a form of grazing), the way farmers cultivate and its effect on the vegetation, the legal status of fields and soil and plant characteristics. An important subject was how and due to which of the factors mentioned above the area has changed, according to our local informants, over the last thirty years. An overland trip to Timbuktu was made to see which species were common in the north, whether the amount of rainfall was lower, and to the south where rainfall is higher.

Results

This section begins with rainfall and soil characteristics before moving on to the vegetation results, including grazing, and soil and cultivation effects. Below, a general review is provided of the way people deal with the vegetation and the factors that, in their view, influence the vegetation.

Rainfall

The nearest weather station with reliable rainfall measurements is SLACAER, situated in Douentza 20 km north of the research plots. The rainfall data indicate how rainfall is distributed within and between the years (Figure 2.1). It is clear that there is a big difference in annual rainfall figures. Long-term average rainfall is calculated from the 11-year moving average and it can be seen that the wet period of 1950-1966 was followed by dry spells in the early 1970s and the early

Figure 2.1
Annual rainfall and 11-year moving average of rainfall, Douentza
(some years have no measurements; SLACAER, not dated)

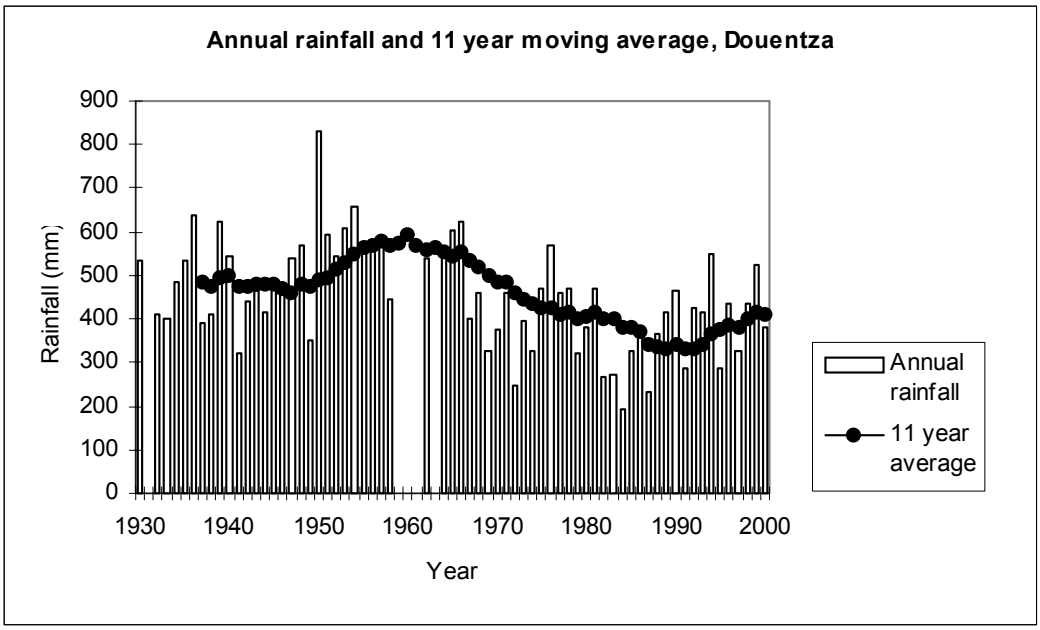
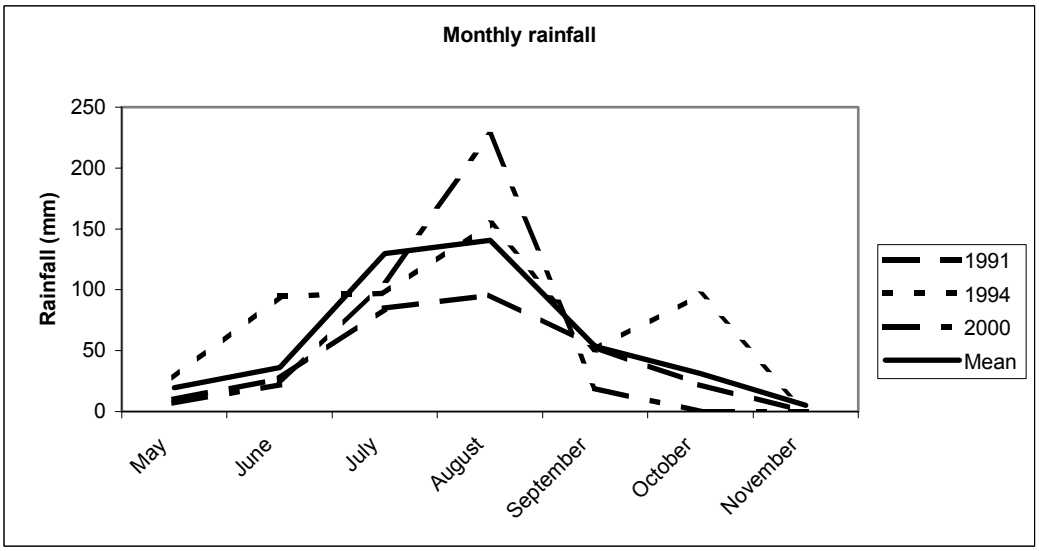


Figure 2.2
Monthly rainfall for dry (1991), mediate (2000) and wet (1994) years, and mean (1991-2000), Douentza (GAT, not dated)



1980s. Over the last few years there has been a slight increase in rainfall but in general it has decreased over the last thirty years. In 2000 when the research was undertaken, annual rainfall amounted to 383 mm, which seems normal. However, people living in the area all spoke of low rainfall in this year.

When rainfall distribution within a year is considered, Figure 2.2 shows a wide variation in monthly rainfall figures over the years. In 2000 there was a late start to the rains, and heavy rainfall within a short period (August). In May and June there were some showers, followed by long dry spells until July 24, the day the research team arrived. The rains stopped early in comparison to other years. In 1994 rainfall was more evenly distributed over the year, while 1991 was a dry year with low average rainfall figures for each month.

Aerial photos taken in October and November 1956 show streams running from the Dogon Plateau down into the valley, and pools of water, mainly on the Ferro. In 2000 many ravines were empty and ponds were shallow and ran dry before the end of November. Water shortage is the main reason for inhabitants of Coofi to return to their native village of Pergé and for the Peul of Douma to trek to the Niger Delta.

Soil and herbal vegetation plots

In this sub-section the results of each statistical method used for analysing the soil and herbal vegetation plots are summarized. Analyses were done with the help of the three-way ANOVA and Spearman correlation tests.

The results of the three-way ANOVA test indicate that all soil characteristics were significantly higher (p-values < 0.05) for clayey soils than for sandy soils (Table 2.1). No significant p-values were found for cultivated versus uncultivated plots, grazed versus ungrazed plots, and interactions between these variables.

On clayey soils, the vegetation was denser (less bare ground). The herbal vegetation on sandy and clayey soils differed significantly in composition (Table 2.2) but consisted in both cases mainly of annual herbs and grasses (Figure 2.3). In total, perennial grasses covered just a small area of the total herbal vegetation. Hardly any perennial herbs were found, therefore this group was omitted from the analysis as their proportion in the total biomass was too low. *Chaemacrista nigricans* (an annual herb) was often seen on land that had been fallow for a few years but in general no difference was seen between fallow and uncultivated vegetation plots. Also grazing had no significant effect on species composition or the total cover.

If time is taken as a factor, biomass declined during the measurement period, on average from 623 g/m² to 293 g/m². The digestibility of the biomass present declined too but remained higher on clayey soils (Figure 2.4a). An interaction concerning the N content of grass was shown. On clay, the N content of grass is

higher for natural vegetation, in contrast to sand, where the N content was higher on fallow land (Figure 2.4b).

Table 2.1
Mean and standard deviation grouped per factor: soil, cultivation and grazing (Significant relations ($p < 0.05$) between factors and variables are in bold, interactions are underlined.) October start (3), n=16, df=1

	Soil		Cultivation		Grazing	
Variable	Clay	Sand	Uncultiv'd	Fallow	No grazing	Grazing
Biomass, dry (g/m²)	307.75	279.00	285.25	301.50	297.00	289.75
Annual grass (%)	56.69	31.69	38.44	49.94	48.50	39.88
Perennial grass (%)	1.19	14.69	11.94	3.94	8.81	7.06
Annual herb (%)	29.06	23.19	25.69	26.56	24.19	28.06
Total coverage (%)	87.06	70.94	76.19	81.81	82.38	75.63
Grass N (mmol/kg)	80.94	64.94	71.75	74.13	72.38	73.50
Grass P (mmol/kg)	10.75	11.56	9.50	12.81	9.63	12.69
Digestibility (%)	38.23	23.90	31.70	30.43	33.04	29.09
Soil texture (% clay)	10.94	2.63	6.75	6.81	6.63	6.94
Soil OM (%)	3.25	1.01	2.04	2.16	2.17	2.02
Soil moisture (%)	11.13	6.38	7.69	9.81	10.38	7.13
Soil N (mmol/kg)	4.11	1.00	1.94	3.26	3.48	1.75
Soil P (mmol/kg)	2.11	0.50	0.81	1.78	1.78	0.81

Table 2.2
Common species found on clay and in sandy soils

	Clay	Sand
Annual grass	Digitaria lecardii, Panicum laetum, Pennisetum pedicellatum, Setaria pallide-fusca	Aristida adscensionis, Cenchrus biflorus, Digitaria lecardii, Eragrostis tremula, Schoenefeldia gracilis
Perennial grass		Andropogon chinensis
Annual herb	Alysicarpus ovalifolius, Cassia obtusifolia, Zornia glochidiata	Acanthospermum hispidum, Alysicarpus ovalifolius, Spermacoce radiata, Zornia glochidiata
Perennial herb	Leptadenia hastata	

Figure 2.3
Proportion (%) of each functional plant group on different soils (clay, sand) and time (1 = September start, 2 = September1/2 and 3 = October start).

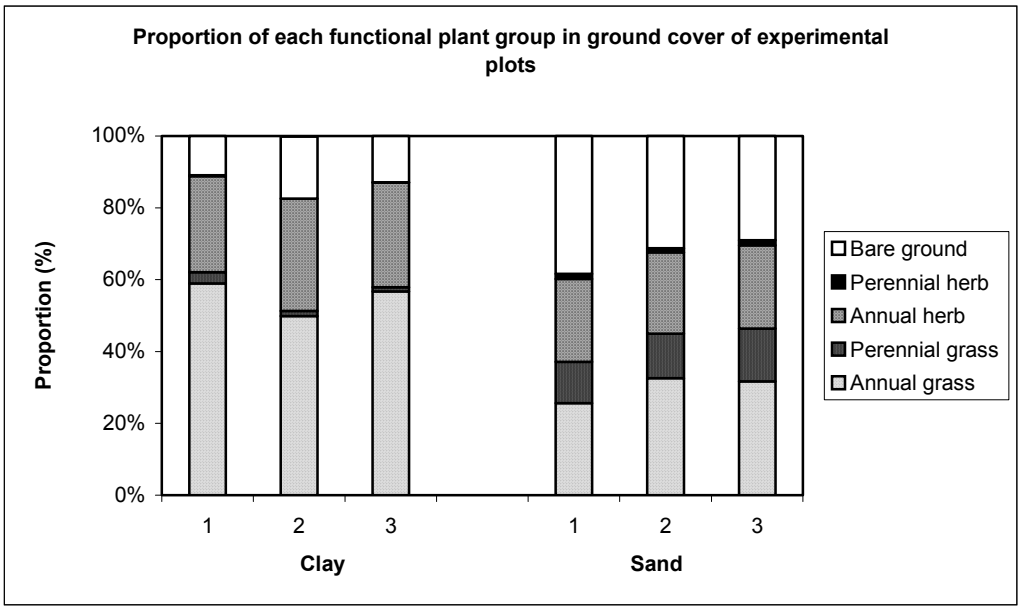
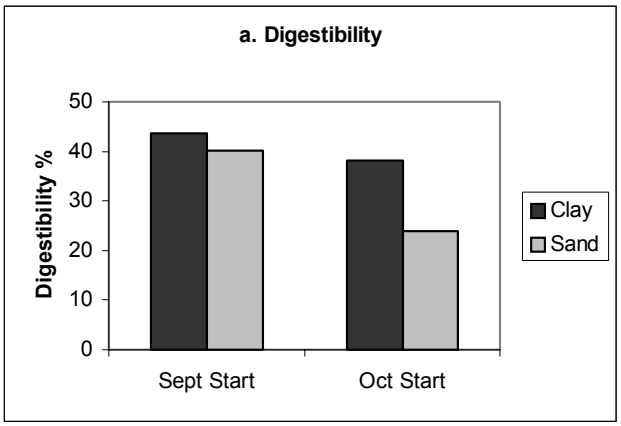


Figure 2.4
Productivity of the herbal layer: (a) Digestibility of the biomass present on clay and sand during the rainy season; and (b) Herbal vegetation N content for the interaction soil * land use, October start (3)



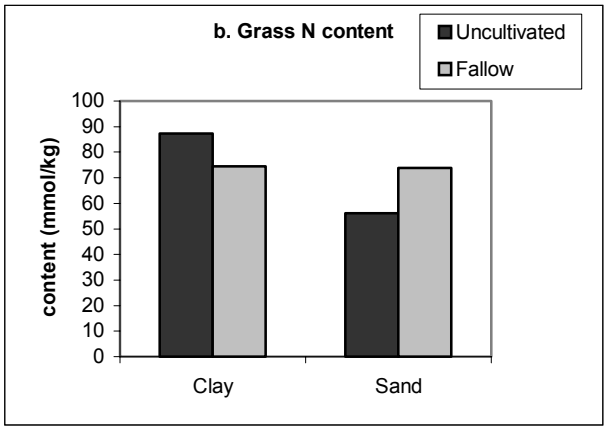
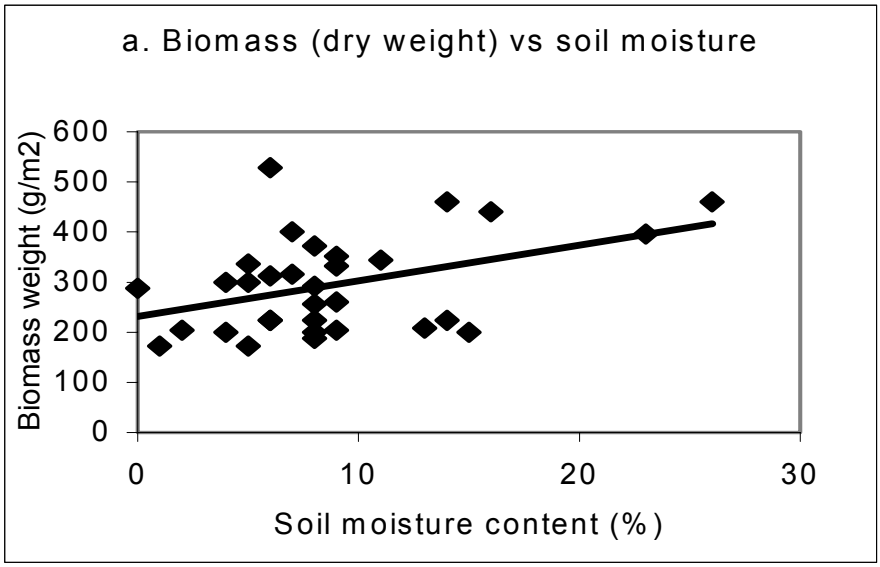
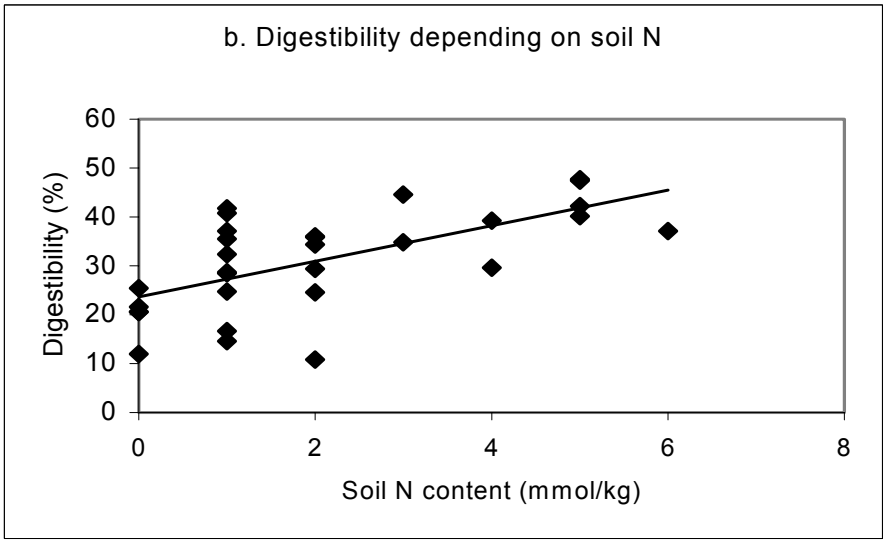


Table 2.3
Spearman's correlation test: Results for October (3). Significant correlations ($p<0.05$) between variables are bold. n = 16, df = 1

	Biomass	Annual grass	Perennial grass	Annual herb	Digesti-bility	Soil OM	Soil moisture	Soil N
Biomass, dry		0.016	-0.244	0.457	0.308	0.297	0.401	0.137
Annual grass	0.016		-0.634	-0.256	0.464	0.429	0.343	0.308
Perennial grass	-0.244	-0.634		-0.418	-0.476	-0.505	-0.171	-0.392
Annual herb	0.457	-0.256	-0.418		0.263	0.437	0.115	0.375
Digestibility	0.308	0.464	-0.476	0.263		0.720	0.455	0.542
Soil OM	0.297	0.429	-0.505	0.437	0.720		0.654	0.862
Soil moisture	0.401	0.343	-0.171	0.115	0.455	0.654		0.625
Soil N	0.317	0.308	-0.392	0.375	0.542	0.862	0.625	

Figures 2.5
Plant features depending on soil characteristics: (a) Biomass depending on soil moisture and (b) Digestibility depending on soils N content





The Spearman correlation test was used to see whether there was a significant correlation between variables. The most interesting correlations are presented in Table 2.3. Values vary between 0 and 1: low values (near 0) mean that no significant correlation exists between two factors, and high values (near 1) show that two factors show significant correlation.

Soil characteristics, when considered alone, seemed to be positively correlated. Soil organic matter positively affected annuals, while perennials were negatively affected. Soil moisture content had a slightly positive effect on the abundance of annual grasses but not on the abundance of other plant groups.
Concerning biomass production (dry weight), only soil moisture had a positive effect on biomass production (Figure 2.5a). Soil organic matter and the N content of the soil did not show any effect on biomass production. The effects of soil organic matter, soil moisture and the soil's N content (Figure 2.5b) are highest when related to the digestibility of the herbal vegetation. The digestibility differs per plant group, according to the Spearman's correlation test. Annual grasses are the plants that had the highest digestibility, while perennial grasses and herbs were not digestible at a measurable level.

Tree plots
A large number of dead *Pterocarpus lucens* were found in the forests. In the past this species must have been widespread in clay soils. *Grewia bicolor* and *Sclerocarya birrea* show the same characteristics. A species that had completely disappeared was *Adansonia digitata* (baobab). In analogy with the herbal vegetation, a large difference in tree species composition was observed between clayey and sandy soils. On clay, *Combretum micranthum* was the most dominant species in the natural vegetation, while *Combretum adenogonium* was dominant in sandy soils. *Calotropis procera* was a shrub often seen on exhausted land. Also many dead *Leptadenia pyroctechnica*, a newcomer invading from the desert, were found (Table 2.4). The perennial herb species *Leptadenia hastata* is included in this table because of its remarkable colonization of former dead forest area. In total, fewer trees per hectare were counted compared to those visible on the aerial photos taken in 1956. Particularly in 2000, fewer fruits of many species, including *Balanites aegyptiaca* and *Tamarindus indica*, and more *Acacia raddiana* were observed.

Table 2.4
Tree viability

Tree species	Counted Total	Standardized Seedlings	Dead	Health
Acacia raddiana	11	0.36	0.09	good
Balanites aegyptiaca	24	0.25	0.00	very good
Boscia angustifolia	15	0.00	0.13	bad
Boscia senegalensis	148	0.23	0.26	average
Combretum adenogonium	42	0.05	0.02	average
Combretum micranthum	209	0.11	0.23	bad
Grewia bicolor	175	0.01	0.63	very bad
Guiera senegalensis	280	0.21	0.15	average
Leptadenia pyrotechnica	70	0.01	0.20	bad
Piliostigma reticulatum	42	0.71	0.00	very good
Pterocarpus lucens	462	0.00	0.94	very bad

The local population's perspective

The activities of the Dogon and Fulbe as well as their animals concerning the natural vegetation are described in this section. Both Dogon and Fulbe cultivate land and herd animals, moving to places like the outskirts of Douentza in the rainy season where fresh vegetation is present. When water is scarce after harvest time, most of the Fulbe in this part of the district move to the Niger Delta and the Dogon move to water points near permanent villages outside the research area.

In general, there were few differences in the answers given by the Dogon and the Fulbe to our questions, regardless of their age or gender. Elderly men were able to give the most valuable information. Some women do not visit the fields and therefore did not know much about the vegetation. Both the Fulbe and Dogon know a great deal about cultivation and grazing, although in their answers the Fulbe mostly focused on herding, while the Dogon concentrated mainly on the cultivation of land. In the following sub-sections the main results abstracted from the interviews are summarized.

Rainfall

Total biomass depends primarily on rainfall patterns. When heavy rains occur at the beginning of the rainy season, plants cannot germinate due to flooding, mainly on the clay soils. In dry years no seed production occurs, while in wet years a lot of fruits develop. In 2000 biomass productivity was low and vegetation quality high due to bad rainfall. Informants said that the vegetation contained more vitamins, meaning that animals needed less biomass. Although trees are

mostly influenced by long-term rainfall, annual rainfall has some influence on seed and foliage production. On the road to Timbuktu, the main plant species were *Cenchrus biflorus* (Peul: *Kebbe*), *Eragrostis tremula* (*Sarabukkel*) and some small herbs and *Citrullus lanatus* (*dene*, desert melon) in the desert areas. Going south towards Mopti and Bandiagara, the diversity of species increases, although hardly any new species are to be observed that are not present in some ecological niche in the research area.

Many trees died after the droughts of the early 1980s and *Adansonia digitata* (*Orooye*, baobab), *Pterocarpus lucens* (*Cami*), *Grewia bicolor* (*Kelli*) and *Sclerocarya birrea* (*Eedi*) are rare nowadays. In the south, more *Palmae* species are found and *Combretum* species now grow higher and drop their leaves later in the season. Going to the desert and Timbuktu, the main species are *Acacia raddiana* (*Celluki*), *Leptadenia pyrotechnica* (*Caabeehi*) and, to a lesser extent, *Balanites aegyptiaca* (*Tanni*). These species have colonized previously dead forest areas. Nowadays, tree density is lower. On the sandy hills of the Seeno, the vegetation is open and trees prefer the wetter areas of the valleys. On the Ferro where the dead forest areas are found, tree density is lower than in the past. In clay depressions, like Angawal, the density of *Acacia* is higher than before but the trees are not as tall because the forest is still young.

Soil

The wealth of vegetation is higher on clay than on sandy soils. People say this is due to the higher tree density on clay, which fertilizes the soil, and a decrease in soil temperature. People define soil fertility as suitability for cultivation. If the herbal layer is still green a few weeks after the rains have stopped, the quality of the soil is good and the plot can be used for cultivation the following year. The decision to cultivate also depends on soil type (clay is more fertile but difficult to cultivate, and its water storage capacity is sometimes limited), crop species, rainfall and the individual situation of the farmer.

In fields, soil fertility can be related to the herbal vegetation growing there. A species indicating high soil fertility is *Brachiaria lata* (*Farduko*), whereas *Aristida adscensionis* (*Selbo*), *Cenchrus biflorus* and *Eragrostis tremula* are often seen growing in exhausted soils. The highest soil fertility is found on the border of the Seeno and Ferro. The heavy soils with a high clay content found in the centre of the Ferro are not cultivated because lighter clay soils are more fertile and easier to cultivate. In the Seeno, the valleys are more fertile than the dunes due to the higher tree density, the higher biomass of the herbal vegetation and the soil's higher water storage capacity (some silt).

Burning vegetation improves soil fertility. Foresters say that tree branches need to be spread over the whole plot before it is set on fire in order to distribute

the ashes evenly over the plot. Termites have two effects. They eat the herbal vegetation, which leaves less for the animals but on the other hand, they enrich soils with nitrogen (N) and these indicate a higher-than-average fertility.

Cultivation

A rotational system of cultivated land, fallow and natural vegetation is often used. Most people cultivate a piece of land for one year and then leave it fallow for a few years to allow the soil to recover. In general, no differences in vegetation were observed in land that had been left fallow for one, three or six years. People say that cultivation has no negative effects on vegetation. On fallow land, the herbal vegetation is higher thanks to higher soil fertility as more animals pass by, and trees start to grow soon after the land is abandoned.

Herbs in fields are sometimes burned but are normally cleared. Everyone agrees that herbs inhibit crop growth as they compete for space and soil moisture. These herbs need to be removed and are used as feed for animals. Since weeding is time consuming, and the herbs develop quickly during the rainy season, many weeds are still seen in the fields. In 2000, the worst species were *Cenchrus biflorus*, *Eragrostis tremula* and *Zornia glochidiata* (*Denngeere*).

Trees do not hamper cultivation on the Seeno because of their low density. Normally, trees on the Ferro are cut because density is high, which makes cultivation more difficult. Trees compete for water and light and therefore need to be removed. Trees that function as shade trees or have edible fruits are normally left, like *Ziziphus mauretania* (*Njaabi*), *Balanites aegyptiaca*, *Combretum glutinosum* (*Dooki*) and *Acacia raddiana* in sandy soils and *Combretum micranthum* (*Nguhuumi*) on clay. Other trees such as *Calotropis procera* (*Ngababbi*) and small trees and shrubs with no specific use are cut. Their trunks, branches and leaves are spread evenly over the area before being set on fire to increase soil fertility. People argue that this method, introduced by foresters, causes the roots to burn. A better method is to lay branches down on the trunk to protect the roots because otherwise the tree will die. This has to be done secretly since it is forbidden by foresters.

Grazing

Cows, sheep and donkeys are grazers and prefer to feed on herbal vegetation, while goats and camels are browsers and prefer the tree layer. Goats tend to eat on clay soils because there are more trees and shrubs there. Also, the herbal layer is higher.

With respect to herbal vegetation, the time of year affects the animals' species preference. Although fresh vegetation is preferred, a distinction can be made between functional plant groups and seasons. At the beginning of the rainy

season, animals do not select specific fodder species because everything is still young and green thanks to the germination of annuals and the sprouting of perennials. Later on, the preferred herbs are *Zornia glochidiata*, *Alysicarpus ovalifolius* (*Sinkaare*), *Andropogon gayanus* (*Dayye*), *Panicum laetum* (*Pagguri*), *Cenchrus biflorus* and *Aristida adscencionis*. *Zornia glochidiata* is said to have a high food quality. *Acanthospermum hispidum* (*Kebbe-Jawle*) is not popular. Some herbs are cut and stored. During the dry season, animals eat the herbal vegetation left, which in sandy soils mainly means *Aristida adscensionis*, *Schoenefeldia gracilis* (*Kudelkatti*) and *Cenchrus biflorus*. On clay, *Andropogon gayanus* is preferred but rarely found, and so *Pennisetum pedicellatum* (*Bogodollo*) is the most commonly eaten species. From *Cassia obtusifolia* (*Uulo*) the leaves are eaten but the stem is rejected.

People argue that grazing has no detrimental effect on vegetation. During the rainy season, vegetation will sprout, which improves its quality, as young and fresh parts are preferred for their high protein content. They will grow up again after a round of grazing. The dung deposited by the animals while grazing improves soil fertility and the composition of the vegetation will not be altered. However, when grazing pressure is high, some degradation may occur due to trampling. But this was not the case in the research area where there was plenty of space for people and animals alike.

During the dry season, vegetation will not redevelop after grazing but this does not harm it. New vegetation will develop the following year: the seed bank remains in the soil and the wind will bring new seeds. No soil degradation occurs. In the year of the research project, no vegetation was left in the hot dry season due to the number of cattle coming from the north in search for food. Some Dogon argue that there is sufficient vegetation provided there are no Fulbe herdsmen in the area.

Animals prefer the following trees: *Acacia seyal* (*Bulbi*), *Balanites aegyptiaca*, *Grewia bicolor*, *Pterocarpus lucens*, *Boscia senegalensis* (*Gigile*) and *Acacia raddiana*. The preference differs according to the season, *Acacia seyal*, for example, is less readily available in the dry season and therefore *Acacia raddiana* is preferred then. It is usually the leaves that are eaten, especially the young fresh ones, and herdsmen cut branches off trees to feed their animals. Cutting starts after the rainy season when herbal vegetation is starting to become scarce. Only the branches that are needed are cut and some trees are holy, like the *Mbelluki*, and will not be cut at all, although the younger generation does not take this into account anymore. If done correctly, the cutting of the branches does not harm the tree, and may even encourage further growth. Trees that are not cut become sick and eventually die.

Gathering

Gathering has no detrimental effect on the vegetation, according to local informants. Gathering (parts of) trees and herbs can be regarded as a form of grazing. Herbal vegetation serves as a source of food in the form of wild grains but people are ashamed to admit to searching for edible herbs: poor people, who cannot afford to buy millet or rice at the market in Douentza, do this. When the harvest is expected to fail, wild fonio (*Panicum laetum*) is mostly gathered. The handling of *Cenchrus biflorus* seeds is difficult and time consuming due to their needles and this is only done by the very poor and the people to the north, where wild fonio does not grow at all.

Other seeds that are gathered include *Haycge-Baw* (an *Andropogon* species), *Echinochloa colona* (*Pagguri puci*), *Andropogon gayanus*, *Nymphaea lotus* (*Boolooli,* lotus flower) and the leaves of *Cassia obtusifolia* and *Leptadenia hastata* (*Sabatoroowi*). This last species also has a medicinal value. *Andropogon gayanus* is commonly considered as the most important species in the area, apart from wild fonio. It is used in the construction of huts and is preferential to millet stalks that are popular with termites.

Trees are even more important for the people in the area studied. Especially in dry periods, they serve as a source of food for both people and animals. The fruits are eaten, the grains are used and the leaves form the basic ingredient in millet and rice sauces. Also important are the leaves and fruits of *Adansonia digitata*, the fruits of the *Boscia senegalensis, Lannea acida* (*Falfaayi*), *Grewia bicolor***,** *Grewia mollis* (*Ngursooyi*), *Tamarindus indica* (*Njabbi*) and *Parkia biglobosa* (*Nareeyi*). Fruits are eaten either raw or cooked. After peeling, grains are used for lemonade, soap, creams or as a colouring substance. The most important tree in this aspect is the *Lannea acida*. Certain trees, mainly *Combretum micranthum*, *Sclerocarya birra* (*Eedi*), *Grewia bicolor* and *Pterocarpus lucens*, are also an important source of construction material for the framework of huts and houses, and are used for making tools and ropes and millet mortars. Most trees can be used as firewood for cooking and in this way the dead forest area still serves Douentza, although the amount available is shrinking.

All the people in the area considered *Adansonia digitata* as the most important tree. Leaves form an irreplaceable part of the *toh* (millet meal), the bark is used for making rope, fresh water is stored on the inner side of the trunk for times of water shortage and the trees also have a medicinal effect.

Legal status

No agreements exist about animals grazing and fertilizing fields. If you want to cultivate a piece of land, you ask the owner, usually a farmer in the case of fallow land, and the traditional authorities of Douma where natural vegetation is con-

cerned. If you want to cut trees on uncultivated land, the permission of the forest service in Douentza is required, but for fallow land this is not the case. On the Ferro, it is clear that the land belongs to Douma. People say that the Seeno belongs to Jamweeli, but in fact it does not.

In the past, people were allowed to cultivate anywhere they wanted. In 1999, the government reorganized the administration and all villages are now part of a *commune*. The research area is subdivided between the *communes* of Djanweli and Douma. (Coofi is in fact a hamlet belonging to Douma.) All the *communes* belong to the *Cercle* Douentza. The village chief says he is not allowed to say where people have to cultivate, but others claim that he should. The people in Douma complain about the invaders from Jamweeli who come to cultivate on their territory, which is more fertile.

Conflicts arise because space has become limited due to agricultural colonization. Most concern wandering animals damaging fields and thus farmers prefer to live near their fields during the rainy season to protect them from straying animals. Most people try to avoid conflicts but if damage occurs, compensation has to be paid. The chief of Douma says he often has to solve problems in the field. People prefer to cultivate on cattle routes and pastures because of high soil fertility but conflicts arise when, for example, animals that graze on the Ferro and are watered at Angawal have to cross fields.

Farmers need animals for their dung and thus need to live close to where they are, but they are also afraid of the damage these herds can inflict on their fields. No general agreement exists about dung deposition and people just have to hope that herds will pass by to fertilize their fields in the dry season. Water shortages are also a problem and the ownership of water sources is not clear and, especially in the rainy season, seasonal pools and streams do not officially belong to anyone. People have to pay to use some hand-dug basins, and then these sources are kept in good condition.

Discussion and conclusion

Rainfall distribution within a year determines the growth and abundance of herbal vegetation. Although the amount of rainfall in 2000 was normal for the region of Douentza, vegetation growth levels were low due to the distribution of rainfall. Rainfall was heavy over a short period during which annual grasses and herbs competed for moisture. Although not accurately measured, it is highly probable that after the dry spells in May and June many perennial grasses die. Digestibility of plants is lower at the end of the rainy season because the plants invest in less digestible grains. Species that cannot invest in seeds because the

rainfall has already finished remain more digestible. Therefore vegetation quality remains high and biomass production low.

Vegetation production is not limited by nutrients but by soil moisture. Due to water shortages, the grains of most species better adapted to wetter places, like *Panicum laetum*, did not ripen well. This does not follow the theory of *Production Primaire du Sahe*l (Breman & De Wit 1983), which states that water is the limiting factor if there is less than 300 mm of annual rainfall. In this year 383 mm of rain fell. Rainfall distribution is, thus, an important factor determining vegetation development even when rainfall levels are higher. Perennials are becoming rare or even extinct. Disappearing species include *Andropogon* spp and *Takkabal*, both of which are seeking refuge in better-watered areas. *Cenchrus biflorus* and *Eragrostis tremula* have replaced them in the research area.

Annual rainfall is the determining factor for tree viability. Due to decreasing rainfall since 1968 many trees have died and today fewer species are to be found and tree density is lower than before. Some species are less often found, for example, *Adansonia digitata*, *Pterocarpus lucens*, *Sclerocarya birrea* and *Grewia* spp. Other species, like *Acacia seyal*, seek refuge in wetter parts of the area. Desert invaders, like *Acacia raddiana*, *Leptadenia pyrotechnica* and *Balanites aegyptiaca* are replacing these species and nowadays mainly the *Combretum* species is found in this area. Rainfall distribution determines the number of seedlings per tree. In 2000 trees produced fewer seeds than in 1999 when rainfall was more abundant. The viability of trees depends on seed production.

After rainfall, soil type is the most important factor determining herbal vegetation. Clay and sandy soils are different. The level of organic matter as well as soil moisture and N and P levels are higher in clay soils. This is probably due to the higher tree density in clay soils. Litter improves soil fertility, while shade reduces evaporation and thereby increases soil moisture content, resulting in a higher biomass production on clay soils. By contrast, water permeability is high in sandy soils and tree density low. Sandy soils therefore run dry more quickly than clay soils when the rains stop.

The vegetation composition of sand and clay soils differs widely, in contrast to what Breman *et al*. (1979) found. Annual grasses prefer clayey soils, while perennial grasses are more common in sandy soils, which might cause the higher digestibility of herbal vegetation on clay (Westoby 1979). The higher digestibility on clay is also due to different soil properties. Significant positive relations have been found between digestibility and soil organic matter, soil moisture and the N content of the soil. In both clay and sandy soils, annuals are most common, while perennial herbs are rarely seen. Highest significant correlations are found for annual grasses and soil features. Soil moisture, organic matter and a soil's N

content positively affect them but these soil features negatively affect perennial grasses.

Statistically, the effects of grazing are negligible. During the rainy season, plants produce new sprouts after being grazed, which are favoured by animals, according to local informants. Perennial grasses even sprout after being grazed in the dry season, thus being an important nutrient source. But water remains scarce in the dry season, causing the movement of people to well-watered areas. Nor did we find any effects of cultivation on soil fertility or ultimately on the composition of the vegetation. Perennial grasses disappear when soil depletion takes place (Breman & Uithol 1984) but in this case the soil fertility of fallow and natural vegetation plots remains the same. No difference was found in vegetation composition. For cultivation as well as grazing it was noted that these factors were measured under moderate circumstances. For agriculture practices, it is not clear how many years a field needs to recover, something that probably depends on the soil, the crop grown and the specific local circumstances.

Conflicts over land use occur and although they do not influence the natural vegetation, they do affect the type of harvest produced. The ownership of fallow, natural and cultivated land and water sources is not clear. In addition, no agreements concerning the depositing of dung exist, which leads to conflicts about wandering herds that damage fields before harvesting and badly fertilized fields. Clear agreements are therefore needed.

People know how far they can use the vegetation without exhausting it. Surprisingly, many species are of value to them. After the crop failure in 2000, they needed the natural vegetation in order to survive: it not only serves as food for humans and animals but also as construction material and medicine. Trees are more important in this context than herbs. Vegetation production declines and many, mostly valuable, species disappear under the impact of long-term declines in rainfall. The annual grass *Panicum laetum* is becoming scarce but other species, like *Cenchrus biflorus*, can be gathered. It is important that trees on the Seeno (sandy soils) are not cut as tree density is already low and further cutting will cause soil erosion and lower soil fertility levels. On the Ferro (clay soils), however, trees rapidly colonize fallow land and can be cut where necessary. Some valuable tree species such as *Adansonia digitata* can be planted provided they are well watered.

It can be concluded that it is mainly rainfall and soil characteristics that influence vegetation. For cultivation and grazing, no clear effects emerge. Possibly, no effects were found due to high variances in our data set. Legal status only determines harvest production and not natural vegetation production. The results of our study were gathered in 2000, with its specific rainfall pattern, cultivation and grazing pressure. The following year the vegetation may have been totally

different. The effects of grazing may have been visible under conditions that prevailed in subsequent years. Thus our research would be strengthened if similar studies were undertaken in the next few years.

Another element of the present study could be to follow the germination of each functional plant group. This could not be carried out in 2000 due to personal circumstances. To receive more valuable data about each plant's digestibility and soil preference, common species need to be gathered separately. Finally, all vegetation and soil samples need to be examined in the same way to compare the results annually in the near future.

Annex 2.1

Tree and herb names observed in plot (X)

Trees			Herbs		
Latin name	Peul name	Plot	Latin name	Peul name	Plot
Acacia albida	Cayki		Acanthospermum hispidum	Kebbe-Jawle	X
Acacia nilotica	Ngaudi	X	Acharanthes aspera	Kebbe-Gerre/Leggiri d	X
Acacia pennata	Nooraawi 1	X	Alysicarpus glumaceus	Sinkaare 2	
Acacia raddiana	Celluki/ Mbaagaayi i	X	Alysicarpus ovalifolius	Sinkaare 1	X
Acacia seyal	Bulbi	X	Andropogon gayanus	Dayye	X
Acacia senegalensis	Pattuki	X	Andropogon chinensis	Garrabal	X
Adansonia digitata	Orooye		Aristida adscensionis	Selbo/Kersu	X
Albizia lebbeck	Njabbi 1		Brachiaria distichophylla	Farduko 2	X
Anageissus leiocarpus	Kojoli	X	Brachiaria lata	Farduko 1	X
Azadirachta indica	Pomguda		Cassia mimosoides	Silal 2	X
Balanites aegyptiaca	Tanni	X	Cassia obtusifolia	Uulo	X
Bauhinia rufescens			Cenchrus biflorus	Kebbe 1	X
Boscia angustifolia	Ndarraneehi	X	Cenchrus pennisetiformis	Kebbe 2	X
Boscia senegalensis	Gigile	X	Chamaecrista	Silal	X
Calotropis procera	Ngababbi	X	Chloris pilosa	Laacimuusuuru 2	X
Combretum Adenogonium	Dooki 2		Chrozophora brocchiana	Duuruseeno	X
Combretum glutinosum	Dooki 1	X	Citrullus lanatus	Dene	X
Combretum micranthum	Nguhuumi	X	Corchorus tridens	Orosalako	X
Dalbergia melanoxylon	Njalahelaayi	X	Cyperus amabilis	Goweere 2	X
Dichrostachys cinerea	Mburri	X	Dactyloctenium aegyptium	Burgel 1	X
Furcrea selba	Mboolla	X	Digitaria gayana	Kofel 2	X
Grewia bicolor	Kelli	X	Digitaria lecardii	Kofel 1	X
Grewia tenax	Yenngeeyi	X	Echinochloa colona	Pagguripuci	X
Grewia villosa	Ngursooyi 1	X	Eleusine indica	Burgel 1	X
Guiera senegalensis	Ngelooki	X	Eragrostis pilosa	Sarabukkel 1 Ferro	X
Lannea acida	Falfaayi/Peguye		Eragrostis tremula	Sarabukkel 2 Seeno	X
Leptadenia hastata (perennial herb)	Sabotoroowi	X	Fimbristylis hispidula	Goweere 2	X
Leptadenia	Caabeehi	X	Hackelochloa	“Inconnu"	X
Piliostigma reticulatum	Mbarkereeyi	X	Hibiscus asper	Polle-Paabi	X
Pterocarpus lucens	Cami	X	Indigofera diphylla	Leggiri 1	X
Sclerocarya birrea	Eedi		Indigofera senegalensis	Leggiri 2	X
Tamarindus indica	Njabbi 2		Ipomoea cf Coscinosperma	Layndi 2	X

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Tree and herb names observed in plot (X), *continued*

Trees			Herbs		
Latin name	Peul name	Plot	Latin name	Peul name	Plot
Terminalia	Boode	X	Ipomoea pes-tigridis	Layndi 4	X
Ziziphus mauretania	Njaabi 1	X	Kyllinga squamulata	Goweere 3	X
	Dururu	X	Leptadenia hastata	Sabotoroowi	X
	Gara/“Indigo”	X	Merremia pinnata	“Petit"	X
	Mbatekeewi	X	Panicum laetum	Pagguri	X
	Nakkabere	X	Pennisetum pedicellatum	Bogodollo	X
	Nammaadi	X	Polycarpaea linearifolia	Ko’eldebbomawdo	X
	Yaayagaaye	X	Schoenefeldia Gracilis	Kudelkatti/ Saraawo	X
			Setaria pallide-fusca	Laacimuusuuru 1	X
			Spermacoce radiata	Leggiri 4	X
			Striga hermonthica	Carma	X
			Zephyranthes candida	Cille-Dawaadi	X
			Zornia glochidiata	Denngeere	X
				Denegeloodi	X
				Enanwuugaandu	X
				Footo	X
				Haycge-Baw	X
				Layndi 1	X
				Layndi 3	X
				Layndi 5	X
				Leggiri 5	X
				Takkabal	
				Otorol	X

3

The Dogon heartland: Rural transformations on the Bandiagara escarpment

Walter van Beek

Living with risk

For people struggling to survive, the climate may not seem to be directly connected to their situation and climate change is a discourse they have not yet engaged in. What they perceive is different from the models presented by climatologists or agronomists: they see risks, dangers, possibilities and options, hovering between hope and fear, between planning ahead and muddling through, but above all they see the reality of everyday life with its load of habitual work, its own benefits and rewards. The Dogon, for instance, plan as much as they can, adapt as much as they have to and scrape by whenever they need to. Their general outlook on their physical environment is one of stability, with both the solid environment and the climate as background issues that do not differ qualitatively from what their ancestors faced. As argued elsewhere (Van Beek 2000), visions of the environment, especially the climate, have several sides. One, evidently, has to do with people's perceptions of changes in expected weather patterns, increased variability in rainfall, shifts in the rainy season etc., and of

special occurrences like rainbows and the danger of being hit by lightning. But all these perceptions are filtered through a maze of expectations and definitions of normalcy, how things should be. This perceptive framework of the environment in turn is closely tied to one's view of oneself: climate and environment are often crucial in definitions of identity, and *vice versa*, the emic view of the society colours the vision on environmental aspects, both the constants and the changes. This correlation between self-view and environment also implies that changes in the environment, like the drier climate or the deterioration of the soil, will be perceived through the relations that are dependent upon them (Dwyer 1996). The discourse on the environment is couched in relational terms, and nature is domesticated through the idiom of kinship, appropriated into the cultural realm (Ingold 1986). In this notion of the environment as a corollary of the definition of collective self, the environmental problems that do not fit this self-definition, i.e. those problems with enough resilience to overcome the local power of definition, will appear through problems within society. Ingold (2000) has loaded the notion of 'dwelling' to include this mutual relation of people being part of their environment and the environment as part of their definition of self. Conflicts between people are the cracks in the cultural maze through which environmental issues not conforming to the standard definitions come to the fore. Especially for a culture like the Dogon with the huge value it bestows on harmony and with a dominance of collective definitions over individual ones, conflicts are important markers of environmental problems.

To glean the pathways of adaptation and coping in Dogon society, I focus on cases of environmental conflict in the recent past, thereby trying to establish the Dogon notions of scarcity and environmental problems. The opening case is not a problem, nor relational, but a definition of normalcy, i.e. the sudden arrival of rain and the unexpected aftermath. The date is 1982, before the latest period of drought struck Central Mali.

Rain!

'Dust storm, dust storm, inside all of you, rain is coming.' The shouts resound throughout the sleeping village, ricocheting off the high cliff. In the northeast a strange cloud, with whirling shadows expanding from a luminous core, quickly approaches in the early dusk. Behind the eerie dust cloud a dark mass of rain can be seen, pitch black against the greyish horizon. Everybody responds to the shouts. People jump up from their mats in their courtyards; feeling the rising wind, the swirling dust, and seeing the storm near, they quickly roll up their sleeping mats and run inside their houses. Most doors are shut before the storm hits the village; some are still gathering clothes and children, and struggle against the wind into the shelter of their houses. Dogon houses have hardly any win-

dows, so the families sit in the dark, waiting for the dust, waiting for the rain to hit.

Then the whirling dust hits the houses, the Sahara sand penetrates the dark recesses of each hut through cracks in the doors and windows. Five minutes after the dust, the rain begins, first with large single drops, then comes the steady drumming of pouring rain. For an hour and a half the rain pours down on the houses on the hillside.

At the top of the cliff, a rare spectacle occurs: the cliff gullies overflow, and two thin cataracts fall from the top, two silver streams gracefully falling some 100 metres. Gradually the rain tapers off, the waterfalls dry up, and very slowly quiet re-establishes itself in the village. The morning light filters through the remaining clouds, young children run outdoors and with joyful shouts frolic about in the water that is running off the flat roofs. Jumping and shrieking, they exhort others to join them.

Gradually village life resumes its normal routine. People come out, chatting about the rain: a good rain, a very good rain, right on time. This rainy season is beginning well with rain like this. Women start cooking some leftover mush from yesterday as a quick starter, in some compounds they boil the *punu*, the well-liked millet porridge. Men make coffee, and sip the hot brew in the chilly morning. All quickly leave for the first sowing: the rains have come indeed. The new season opens propitiously: rains, sowing, weeding; the youngsters from Abidjan are back and all available manpower has to be put into tending the fields. The rains subside and the clouds quickly vanish. As it is the weekday of Tireli, the cultivation day is short, and at noon people come back from the fields.

When just after noon the market starts to get busy, something strange happens. The people had just started to sit down and spread out their stuff in their usual place at the market, close to the scree, when a strange noise is heard from the northeast. A low rumbling sound grows stronger and louder, and people look questioningly in the direction of Amani, the next village. Then suddenly everyone starts running, hurriedly packing up his belongings to flee. Water is coming: a torrent of water rushes through the narrow riverbed that borders the cliff side, just adjacent to the market. The foamy flood rapidly overflows the narrow riverbed and fills the whole market place. Some people have reacted too slowly and have to wade through the flood, their merchandise on their heads. Stunned, everybody sits on the rocks just above the now inundated market, watching the black flood that is covering the whole market area. Trading is done on the rocks, beer jars have broken in the hasty retreat, and the market does not have its usual vivacity. After the first flooding some news arrives from Amani: it seems that the rains at Nombori and Guimini have been exceptionally heavy, and that water passed through the village. In Guimini, so the rumour goes, one old man

drowned in the flood. Indeed it is just one flood, and afterwards the water recedes. A few hours later the waters have receded leaving a debris-filled muddy plain that people wade through cautiously. Here are some casualties though: a few goats and sheep are collected later, drowned in the torrent, and the comments never cease: 'This we have never seen, this is totally new'. 'Really, Nomo, the water god, has really outdone himself this time. He must have been angry.'

This, of course, is the problem of plenty, not of scarce resources. But it has to be seen in conjunction with other deviances from the norm, such as drought. In a Sahel country like the Dogon area, the 'expected problems' are drought, not flooding. But that is relative: what is occurring is the growing unpredictability of rains – erratic rains are the problem. Normal rains, in the Dogon definition, are those coming on time, in quantity and for a duration to which the agricultural system has been geared. Drought is the 'normal problem' and against drought people have their cultural solutions, their ways of dealing with it, whereas the above-mentioned flooding did not receive any follow-up at all. So now we turn to a cultural way of dealing with drought, not the most severe one, but a local problem anyway.

Rain, politics and a women's protest

Rain is again the issue here. The people of Ireli are angry with one of their ward chiefs, Apri. They claim he stopped the rain last year, and spoilt their harvest. The bush ward of Entèmènu is one of the eight Ireli wards, and it wants to separate from the rest of Ireli. Depending on the chief of a falaise ward, they asked its chief, Apri, for his permission. It means the bush ward would get its own chief and pay its taxes directly to Sanga. Apri agreed but the other villagers objected: this way they would not have enough children to fill their school. Also the Ireli *hogon* was against the split. The question had been put to the authorities in Bandiagara, Mopit, even the capital Bamako. The administration, in its decentralization mood, decreed that anyone who wanted to be on his own could be so. So Entèmènu was on its own now. But the other people from Ireli still objected, and claimed their fields back: as a bush ward Entèmènu was in the position of younger brother to the cliff wards, and the older brother has the right to deny other family members usufruct of the fields. The people from the newly separated ward then sent a delegation to the *hogon* to plead for the use of the fields but it was refused: 'Only if you send a *jèmèn na* (a high blacksmith), will I consider it'. But that blacksmith lives far away on the plains and demanding the 'grand pardon' is extremely difficult and expensive. So they bought *sèwi*, magical means, to stop the rain (so the discourse goes, in Ireli), and as this only works with a powerful man, they again relied on Apri to help them. When the rains failed in the wet season, all Ireli wards except Entèmènu gathered in the *toguna*.

Then, for the Ireli *hogon* (village priest) their act was clear: 'You have spoilt the rain, now you are on your own. You will totally leave the territory of Ireli, seek fields elsewhere, in Burkina Faso.' Apri, their champion, was called but refused to swear on oath that he was innocent. All the delegates performed their divination, and everywhere Apri was designated as the guilty one.

Now the women of Ireli had had enough, and decided to punish the miscreant. On the appropriate date, from the whole region far beyond Ireli all the menstruating women, recent widows and women who had just given birth (in Dogon the *yapunu*) gathered in the early morning in Apri's house. As *yapunu* are a direct threat to any altar, sacrifice or virility, no men were present. Some, the old and daring ones, looked on from a safe distance. All women took off their *pagnes*, and sat naked all over the house and the ritual places. Then they started to tear down the place. The huts, granaries and all the other buildings were torn down, and everything was destroyed. Only one gun was left, covered with a death blanket, with a clear message: 'This is for your burial'.

Apri had already fled to Bandiagara to call in the help of gendarmes (his wives were at home). Dyanguno, the *chef traditionnel*, helped him. The gendarmes came but did not dare to descend to Ireli, as these women were too dangerous for them as well. 'We will be killed in Ireli.' The women heard that Dyanguno had helped Apri, and then set out to destroy his house up in Sanga Ogol as well. Elders from Ireli came to his house and warned him: 'If you have not helped to destroy the rain, then you have to swear on the altar of Banani'. Immediately Dyanguno set out for the neighbouring village of Banani, with its renowned altar, and swore three times that he was totally innocent of stopping the rains. Apri afterwards also wanted to perform the same oath, but he was stopped by the people: 'Too late, you refused it the first time'.

The next day I visit the spot: indeed a heap of stones plus one gun covered with a blanket is all that is left. Torn banknotes are everywhere, the majority still of the old discarded Mali francs. Coins are strewn around the compound. Nobody, at least no man, dares to take anything, not even a needle is taken. A week later Apri rebuilds his house, with one of his wives. The other wife has left him. He is planning to move to Bandiagara to take up the fish commerce he had before.

In this case the environmental problem was acknowledged by the people but interpreted through social relations, and existing tensions and grievances. It did not result in any fundamental changes, and definitely did not change the weather.

So, for the Dogon there are different types of scarcity and of environmental problems. First, a certain degree of scarcity is totally normal. Seasonal fluctuations of food resources, the rhythm of the rains and the ebb and flow of the available ingredients for sauces and the cooking pot are just to be expected. Often

these are explained in the myths that accompany the major seasonal transformations. One of those is the story of the struggle between Ama, the sky god and the chthonic Lèwè, who was the strongest. Ama showed he could withhold the rain and the earth had to acknowledge the ascendancy of heaven. This struggle is a yearly one, and ends each year in Ama's victory over Lèwè, with a migratory bird, the *ana sasa* (rain bird) indicating the habitual surrender of Earth to Ama. Characteristically, in the myth it is the people who urge Lèwè to surrender, making his life miserable before he admits defeat. The Dogon year is divided into four quite unequal parts: the rainy season July-September, the cold season October-January, the hot season February-May, and an in-between season, June, the stage of the battle between Ama and Lèwè.

But beyond his rhythmic problem, real hunger periods are marked and remembered, the time of the *giyè*, hunger. Drought is always mentioned as the main cause, though some references to locusts add to the lore.

So, the struggle for rain is deeply embedded in Dogon culture but is not the only insecurity in their lives. Not by any means. A major part of the insecurity has been the political pressure of slave raiding and external warfare. This type of insecurity has had lasting effects on Dogon society, especially its spatial organization and its settlement history.

The quest for safety

The settlement history of the Dogon has been shaped by historical and geographical factors. The first was slave raiding. The bend in the River Niger, roughly where the Dogon area lies, has been scoured for centuries by powerful outside forces coming to abduct locals as slaves. Emperors of Ghana, Mali, Sonrai, and the chiefs and kings of the Mossi, Sao, and Fulani peoples have long had a hunger for slaves. For them, all non-Muslims were potential servants. The raiding itself was usually carried out by small bands of men using hit-and-run techniques to overpower campsites or villages. Captives were then sold to tribal leaders elsewhere. Local oral histories recount numerous slave raids on a large or a small scale, skirmishes in which the bows and arrows of the cultivators were pitted against the lances, shields, and sometimes guns of a mounted cavalry.

Against these threats the high 200-km long Bandiagara Escarpment offered a fair defence. For safety's sake, the Dogon built their houses only on easily defendable spots, and cleared their fields in the immediate vicinity, cultivating primarily those that could be seen from the plateau rim. On top of the plateau the villages were built beside steep-walled gorges only accessible on foot. At the base of the cliff face, the fallen boulders and loose rock offered some protection against a mounted attack as well as an opportunity to spot raider parties from

afar. If the pressure became too great, the Dogon could flee into the caverns inside the sandstone cliff. This situation changed fundamentally with colonization. When the French came into Mali, just after 1890, they pacified the region and put an end to the slave raiding and tribal wars. For the Dogon, this meant that the plains and plateau became safe and could be opened up as an area of cultivation. This resulted in a rapid dispersal of population over the formerly dangerous outlying fields, quickly expanding into the newly available territory.

The second factor that led the Dogon to settle along the Bandiagara escarpment was water. The availability of water on the rim of the plateau or in the sandy dunes of the plains below, away from the foot of the escarpment, is slightly greater than elsewhere. The sandstone rock holds a considerable amount of water throughout the dry season, and the floor of the cliff face lies in the lowest part of the area, where a rivulet runs in the wet season. So the rim and foot of the plateau offered a fair prospect for agriculturists. The Dogon were by no means the first to settle the area. Older groups, known as the Tellem and the Toloy, preceded them. Their ecological situation, as far as can be gleaned from the scant data, must have been quite similar. The Dogon arrived at the escarpment during the heyday of the Mali Empire, sometime around the 15th century. It is believed that they drove the Tellem away and settled in their place, cultivating millet and sorghum. Periodic droughts must have been experienced but the Dogon persisted and stayed on. The 16th century through to the 18th century saw at least three periods of drought each, while the 19th century seems to have been more generous with rain. The Dogon still practice some rituals associated with drought that may have been started during these periods, but oral tradition does not reach beyond the 19th century so confirmation remains impossible.

The slave-raiding pressure on the Dogon probably increased before the 19th century, as centres of settlement in West Africa, with their increased social and political activity, moved closer to the Bandiagara region. Neighbouring tribal groups took up the roles of slave merchants, as both the intensification of war and the growth of cities increased the demand for slaves across the whole of West Africa. At the end of the 18th and the beginning of the 19th century, a series of *jihads*, or holy wars, triggered by a resurgence of Islam, put a higher premium on slaves, both for agricultural production and for warfare. Over the next century, the relatively benign climatic conditions allowed for large cavalries, for which great numbers of slaves and craftsmen had to be recruited to ensure the smooth functioning of the larger armies. Thus, insecurity among the Dogon was at a peak and pressure on the escarpment gradually increased until Europeans arrived on the scene.

The safety of the escarpment was relative for the Dogon: it offered the possibility for defence but by no means a guarantee of safety. The Dogon lost many to

the slave raiders, though the number remains unknown. The people coped with the perennial threat in several ways. First of all, they cultivated fields as close to the village and the cliffs as possible, using a system of intensive horticulture within sight of the village. The cultivated crops, millet and sorghum, were rotated with beans and *fonio* (*Digitaria exilis*), a highly nutritious cereal: the latter may have been more important in the past than in recent times, as evidenced by its pre-eminence in ritual. Well-suited for growing in difficult areas, *fonio* can be easily and efficiently sown by broadcasting the seed, as the French say 'à la volée'; weeding requires little work and the Dogon use collective harvesting extensively. In more modern times, in addition to these main crops, peanuts and tobacco have been cultivated, peanuts serving as an alternating crop with millet (like beans), and tobacco being grown in the riverbed in the dry season.

Opening up to the world

The advent of European colonization in West Africa brought about some fundamental changes that transformed Dogon life. The arrival of French colonial administrators cut short slave raiding in the area and brought an end to the skirmishes that had taken place between Dogon settlements. The result of this was that a much larger area of the plateau as well as the plains became available for cultivation. At an ever-increasing pace the Dogon swarmed out into the newly opened areas, making fields and founding villages. The plains and plateau were not exactly empty, as some villages had already been established on the plains. Still, in the first decades of the century, the Dogon quickly filled in the empty spots on the map, first along the present border with Burkina Faso with its better soils, and then on the sandy plains closer to the escarpment. On the plateau the Dogon drifted in a northwesterly direction. For the villages at the escarpment, this reduced population pressure at first due to the emigration and the cultivation of new but more distant fields that were still considered to be village territory. Both in the villages at the foot of the escarpment and in the village on the plateau, fields between five and ten km from the rim were brought into cultivation. The control of those fields fell to the families that ventured out, first collectively as patrilineal lineages but also individually. So, in contrast to the old structure of infield control, which was in the hands of the elders, these outfields were owned by the small lineages. This implied that descent and not age was now the crucial factor in land control; the controlling lineages are small and not necessarily controlled by an old man.

At the same time new crops were introduced. Tobacco had been cultivated for a long time but onions began to be increasingly cultivated. Thus, dry-season cultivation developed, in which onions (and tobacco) were cultivated in river-

beds, irrigated with hand-carried pots and calabashes. Waterholes were dug at several places in the sandy riverbed, and continuous digging could keep up with the receding water table during the three months of onion cultivation (December through February). On the plateau, onion cultivation was restricted until the late 1930s to those ponds where water remained during the dry season. This production was the first real cash crop for the Dogon, triggered by the need for money (taxation and the purchase of commodities) and the presence and development of food markets. The onions found a ready market in the region.

This first phase of colonialism was characterized by pacification and the dispersal of the Dogon over new territory and lasted until about World War II. Very little investment was made in the area. Socially it was a period of moderate fragmentation. The traditional survival strategy of communal labour lost most of its rationale, though it did not disappear completely. Individual property became more important. The influence of old men as a body diminished somewhat, as their collective coordinating role in agriculture dwindled. Yet they remained important in village matters and regulated large communal tasks for the whole village. The importance of elders within the extended family was strengthened as they gained control over the outfields through the lineage structure. Production in the onion gardens was on the basis of individual effort or that of a nuclear family, and as this production complemented the general subsistence but did not affect it, the position of the old men was largely untouched. The extended families themselves gained in importance as they grew less dependent on cooperation with other extended families. Finally, the labour services mandated by the colonial authorities and recruitment for the army were demands that extended families could cope with very well.

The second colonial period, from the late 1940s up to the 1970s, was characterized by a decrease in small-scale and an increase in a long-distance migration. While the plains gradually filled up and the people began to settle in the dunes closest to the villages, labour migration, after a slow start before World War II, began to be important. Young men were first allowed by their families and later expected to work for a stint in the large cities of the West African coast, such as Accra (Ghana) or Abidjan (Côte d'Ivoire). Dogon labourers gained a reputation for energy and resourcefulness, and easily found employment (Gallais 1975, 1984). After a work period lasting between one dry season and several years, most of them returned to their villages laden with modern commodities such as radios, bicycles, European-style clothing and, of course, cash. Monetarily, the villages grew dependent on this labour migration, a phenomenon well known in Africa as a 'remittance economy'.

Onion farming became more important, especially on the plateau where, after a successful start in 1938, an increasing number of small man-made lakes were

created. Dozens of these water sources enabled the plateau Dogon to concentrate on onion farming in an environment where formerly no cultivation – not even grazing – had been possible, a point to which we return later, gradually transforming the plateau into a major onion-producing area (Koenig *et al.* 1998; Van Beek & Peters 1999).

Ecologically, this was the start of the desertification of the plains. The sandy dunes adjoining the escarpment began to be cultivated beyond their carrying capacity. The fallowing cycle of the outfields was gradually shortened, and fire and construction wood became ever more scarce. Dogon agriculture intensified, concentrating on three focal points, the plateau rim and the outfields in the wet season and the waterholes in the dry season. This intensification, combined with the filling up of all ecological niches in the area, put the ecosystem under increasingly severe strain. As resources were decreasing, new kinds of limitations appeared. Fertilization of the soils became more problematic as onion and tobacco farming demanded ever more manure. The traditional ways of fertilizing relied on the residues of subsistence farming on the one hand and on animal husbandry on the other. As more cattle were introduced in this period, pressure on the remaining grazing land increased and the ecology of the area as a whole came under pressure, endangering the natural recovery of the soil by the old fallow system of outfields (Van Beek & Banga 1992).

Demographic pressure started to influence farming and settlement patterns. The Dogon population rose from an estimated 100,000 at the turn of the century to at least 300,000 in the early 1970s, and about 450.000 at the end of the century. Emigration became increasingly important, using the strongholds established by the migrant workers in the cities.

Socially, this period showed the flexibility of the family structure. The extended family shifted from a patriarchal one to a flexible cooperation of related nuclear families, a community of interests in which the second generation took precedence. During the wet season when labour was very much in demand, the whole family lived and worked together, cultivating their joint millet fields. Dry-season onion cultivation split the family into nuclear units on the basis of more restricted profit-sharing. If the outfields were too far away from the village, or if one of the sons had settled in a plains village, the extended family remained a single financial unit: both the plains and the escarpment parts of the family contributed to its common fund. This kind of extended family, in which members do not live together, proved to be flexible in both arranging labour and meeting expenses as well as profiting from the varied resources of the region. The spreading out of families enhanced their chances for survival in an ecological system that was proving to be less and less dependable (Van Beek 1993, Bouju 1998).

During this process, the old men lost some of their importance, although they retained control over the infields, over the finances of their families, and over the performance of ritual. For example, as onion farming gave rise to new cooperating groups (such as the groups of people using the same waterhole) the network of relations in the villages grew more diffuse. However, because kinsmen tend to live close together and peers tend to cultivate together, the warp and weft of lineages and age-groups remained dominant in the escarpment villages.

The spaces of sociability

Dealing with insecurities has shaped Dogon life. The Dogon way of village life is not too different from other African examples – many of which share their insecurities – but does have its own flavour and style.

Villages in Dogon country along the escarpment are composed of clear-cut social units. A village usually comprises two halves, both roughly equal in size. Each of these halves consists of three wards, one large and two small ones. Each ward includes two or three clans, called *gina*, meaning literally 'big house'. The larger clans are divided into two or three lineages, kinship lines that can be traced directly and in which all living and dead members are known by name. Basic units are the extended families. Dogon trace their clans and lineages along the father's heritage, patrilineally. In the large clans people know that they are descendants of a common ancestor and are related but do not know exactly how.

Each village ward houses two or three clans, large family groupings that trace descent through the male ancestors only. A Dogon clan typically numbers between twenty and eighty households restricted to one village. The larger clans are subdivided into lineages, two or three per clan. Kinsmen tend to live close to each other, brothers and 'cousins' are often next-door neighbours. The farther away, the more remote the clansmen are. Thus, people live with large families, between kinsmen: they work with kin, converse and relax with kinsmen, dance, drink and feast with their kinsmen. Often they marry kinswomen (but not clan members), and in fact all of a village half consider themselves children of the same 'father'. The other village half constitute the preferred 'in-laws', where their wives come from.

Some special buildings mark the wards and clans. Each ward has its dancing square (*tei*), a small flat area on the village slope where the public dances and festivals are held. A heap of stones in the middle marks the ritual centre, a sacred place where no one should ever sit. Overlooking the *tei* is the major *toguna,* the men's house, one of the four or five in each ward. A striking open-sided structure, the *toguna*'s enormous thick roof rests on stone pillars just high enough to

allow men to sit inside. Here, men of all ages discuss important ward matters, chew tobacco, or doze in the heat of the afternoon.

In each ward or village half a special building is reserved for menstruating women: a round hut where the women cook and sleep during the week of their period. Usually this *yapunu ginu* is near the centre of the ward, in view of the men in the *toguna*. In the village's wards, each clan and lineage has a central house, usually a very old structure that is the ancestral abode (the *gina*, like the word for clan). On the cliff side these are usually simple; on the plateau they are decorated with rows and rows of small holes. Inside the building, altars and a small shrine form the focus of the clan cult. In addition, most wards have one major shrine, standing separately, that is used by the ward *shaman*.

Among the Dogon, chronological age holds considerable weight, showing itself in social interactions, as well things as simple as where one lives in the village. The oldest men live in the lineage or family compounds in the centre of the village, high up against the scree. A young man who builds his own house for the first time seeks a spot, usually at the lower end of the village, close to the stream. There he finds his peers, often his cousins, building on a nearby site. When he grows older he gradually moves to the older houses uphill, first to his father's, later perhaps to his grandfather's, and if he lives long enough, to the clan house at the top of the hill.

The old men not only occupy the old cult houses and command the village altars, they are also in charge of the best fields. All fields within view of the village belong to the oldest men in town, as part and parcel of their position as elders of a lineage. Of course, by that time they are no longer able to cultivate these fields, so their young descendants profit and the old men receive food. So for a young man it is imperative to have an old father, father's brother or mother's brother alive: then he can cultivate close to the village. An 'orphan' without an old parent has to go way out into the bush and cultivate more hostile, barren and, in the past, dangerous fields (Paulme 1948).

The oldest man in the village holds a special place: he is the *hogon*, the village priest. In many villages he is not allowed to wash himself or to leave his compound. Once, a *hogon* did not even walk, he was carried on the shoulders of kinsmen. He performs all sacrifices, leads ceremonies, and must excel in benedictions to his descendants. Also, he will name the babies of his clan and purify those who have transgressed against the taboos.

Dogon society includes one or two special castes or classes of people, the blacksmiths and the leather workers, each with their kin. In Dogon country, as in most of the West African savannah, these special groups operate as separate specialist groups, in a specific 'niche' in society, implying several taboos and restrictions. For instance, a blacksmith may only marry a woman from the same

blacksmith group, and has to stick to his trade. Each village should have one or two blacksmith families because their work is essential. Blacksmiths make and repair metal utensils, make guns and carve wood. Their workshops also serve as a ritual centre. For instance, when a new anvil is installed in the village, the whole village gathers to feast and sing, to offer sacrifices and to chant. That anvil may never be removed, even when the blacksmith decides to move his shop or dies. The spike-like anvil indeed is considered the foundation, the root of the village. If it becomes loose, the village may drift.

Leatherworkers, another caste-like group, are less dispersed: they are the tanners of the goat and cattle skins, and their women dye the indigo cloth that all Dogon women wear. Increasingly they serve as the intermediaries for the tourist trade: most of the commerce in statues and masks today lies in their hands. Leatherworkers are not found in every village but live within reach of the most important markets.

Working together

Perhaps as a result of having lived under threat for so long, the Dogon have a strong orientation towards harmony and unity among clan members and villages. Conflicts are largely avoided and differences of opinion are seldom raised in public. Not only are people very much aware of their mutual interdependency, they also cherish it, emphasizing personal relationships wherever they can. A Dogon individual easily gives expression to his or her dependency on and membership of the larger group. Thus, during one of the Dogon's central rituals, the old thank the young and *vice versa*; groups of men praise women, and *vice versa*.

Communal labour, collective action, and group responsibility are characteristic of Dogon village life. Hospitality and openness are essential values: each Dogon, it is felt, should be accessible at all times. In the Dogon language there are many ways of welcoming a stranger. Whereas for numerous other African groups strangers are enemies without any right to respect, the Dogon consider strangers as guests from whom 'new words' may be heard. Greeting one another – neighbours, family and clan members, visitors and strangers – is done all day. The greeting machine shuts down only after sunset when people settle down for dinner and to sleep.

Among the Dogon, the combined need for numbers of people to work together at food production and mutual defence has led to a great sense of communality. The size of villages traditionally varied between 500 to 1,000 inhabitants. Smaller villages could not mobilize sufficient able-bodied young men for defence, and in larger villages the pressure on the land to produce enough food forced cultivation far from the protecting cliff face. For safety reasons, work

came to be organized as often as possible in large groups that were able to defend themselves against the slave-raiders who once roamed the countryside.

Work parties of ten to twenty men were usually considered large enough for self-defence but the fields farther from the villages required larger groups. Recruitment of these groups followed two lines, first that of extended families, and secondly that of age-classes. For the nearby fields, an extended family was usually able to furnish enough men for a working party that could defend itself. Sometimes a combination of two to four extended families formed a working unit together. The older men in the families coordinated the work, either having their people work together in one large field, or arranging for related families to work in adjoining fields. The old men served as lookouts from the *toguna* (the men's hut) that was built high up against the mountain with an unrestricted view over the plains or plateau. Drums served as their means of communication with the workers.

For the larger fields, especially those further away from the village, a larger group of workers was recruited from among various Dogon age-groups, or *kadaga*. The age-class system of the Dogon had (and still has) the organization of labour as its main goal. One age-class of a typical Dogon village consisted of a fixed number of able-bodied males, around fifty in many cases, who gather whenever communal work such as clearing and weeding fields in the bush needs to be done. Age-classes were formed when young men reached marriageable age. Communal labour also served as bride service and is an important part of the marriage proceedings. This type of age-group still functions in the cliff-side villages (Van Beek 1993).

Dogon age-groups still regulate most public labour today. To repair a *toguna* (men's house) roof, to plaster the women's menstruation hut, to fix a road in the village, to restore the steps leading up the cliff side and to dig a well – any public endeavour – calls for work by the *kadaga*. When a job needs doing, the old men meet in the *toguna* to decide how many *kadaga* should be involved. That evening the village crier calls out the task and identifies which *kadaga* are to show up, beginning with the youngest group; the next oldest group being responsible for supplying the beer that must be shared on completion of the work. The next morning the workers turn out, perform the job, get praised and blessed by the old, and drink the beer. Of course, some are more eager to work than others, but loafers are severely dressed down, both by the town crier ('nobody should hide in his house') and by the old men after the work ('let the lazy whither in their huts'). Most importantly, labour creates public esteem and secures social position. Whoever works hard will easily command labourers for any job that he needs done.

The coordinating tasks of the old men in the organization of work have always depended on their position of authority in the community. Theirs was (and still is) a key position, as they control the infields, those within view of the escarpment. All fields where permanent cultivation was possible – close enough to manure – are assigned to the oldest men of the village, ward, clan or lineage. The complicated system of land rotation involves a specific set of fields being assigned to the oldest of the village, another set to the next in line and so on, for each section of the village as well as for the whole community. The old men then parcel out these fields to their younger kinsmen for cultivation. By having control over the most reliable and safest cultivation area, and having their kinsmen dependent upon them for agriculture, the old men are in a position to coordinate the use of their fields as well as the distribution of the harvest. They usually belong to the same age-group, and can base their work on a long-standing tradition of cooperation. In pre-colonial times, the old men seem to have decided as a group which fields were going to be cultivated, what crops would be sown, and how many from which age-groups were going to participate. Shouting in front of the sound-deflecting cliff, they could reach the whole village each evening. Such detailed coordination has been eroding. The management of the fields is left more to the lineages and the extended families but here as well, the old men are still in charge. Conforming with Dogon standards of interpersonal communication, they downplay their own role, extol the virtues of those who turn out for communal labour, shame the lazy, and always stress the mutual dependency of young and old, men and women. Historically, with the opening up of the plains for cultivation, the outfields have become more important, the balance of power has shifted from the collectivity of old men to the individual heads of family. At the same time, the villages have grown in size and the balance of cultivation has shifted away from the immediate vicinity of the village. In the last decennia, however, many falaise villages have seen their populations dwindle due to emigration both to the plains and to the rest of Mali. Many Dogon are flocking to the cities or are trying their luck in cultivation in the south of Mali.

Pathways of coping

Any general picture hides the variety of people's responses to the challenges and exigencies of their habitat, i.e. the pathways of coping. Here two examples of individual Dogon will be shown, each representing a different strategy for gaining a livelihood. The first example shows the flexibility and adaptive dimensions of the long established Dogon millet farming, and the way in which it tries to cope with climate and environmental change; the second household aims at

generating income through cash crops (onions) and shows both the productivity and the vulnerability of that strategy.

Mabudu Say and family: Staple production

He was one of the old and respected men of the village, Domo Say, with his compound just under one of the few open spaces in the village, beneath the *toguna* of the ward. Domo was the elder of a minor lineage, which had in the past split off from the main body of the *ginuna*, the main clan of the Sodanga village half. Respected as a hardworking villager and lineage elder, he had a special prowess in speaking and was often asked to bestow blessings and well wishes, and so are his descendants. When Domo built his house, he took a fragment of the *amayèwè* of his lineage, then under his father's brother, and built his new altar there, thus ensuring the spiritual continuity of the altar. His house was close to the lineage house anyway.

Domo was born shortly after 1890, the youngest of the age-set to which the oldest man in Tireli belonged. He was about twenty when the First World War broke out and was recruited by the French who stationed him at Timbuktu for six months. Here he monitored the desert to see whether enemy soldiers were invading across the Sahara. They did not. He devoted most of his time to keeping an eye on the Bella to prevent them from stealing goats and camels. He remembers it as a boring time. Back home he built his house quite high up on the scree, where he could overlook the clan and lineage houses of his clansmen. Domo, who died around 1980, was a real cultivator who took pride is his agricultural abilities. His father Asama died when he was still young, and he had to look for his own fields in the bush. This was tricky but he liked being on his own; so much so that people jokingly called him *Domo kedyu*, Domo the *shaman*, as the *binukedyu*, the *shamans*, reputedly shun the company of others, behaving differently from the Dogon norm of openness and approachability. Domo brought a sizeable tract of land into cultivation some 9 km from the village. He was one of the first to build cultivation huts, as this was only just beginning to be safe.

His one and only wife, Amakana, came from Teri Ku. She would be the mother of his son and daughter, Akuninyu and Dinge. Dinge married within the village. Her husband, Dimum, would later become the elder of a lineage of Tireli on the plains: quite close to the family but by Dogon standards remote from the village. She was to have four children, and died in 1975. Akuninyu was born around 1911. When Domo died, in 1926, the young Akuninyu and his bride were taken into the lineage house by their uncle Dimum. There they spent a large part of their married life. Domo's widow, Amakana went to the plains to another husband. Domo's compound fell into disuse after that and is now in ruins.

Domo's never was a large family, just as the lineage it belonged to was small as well, just three families, descendants of a forefather five generations removed. Most of them had only one son so the lineage never grew. Dimum Asama, Domo's elder brother, headed the lineage and lived in the clan house. Domo, after his military service, never left the village, never worked elsewhere, nor did Akuninyu, his son. They just worked their fields, concentrating on millet and sorghum, the wife on peanuts and beans, some okra, and hibiscus. They always had enough fields, mostly in the outfield section far from the village. Only later would his son and grandsons get some lineage fields near the village. But those were always in short supply, their lineage being a small one, and way down on the age-ranking of lineages. So cultivation of staple crops, millet and sorghum was the family's main strategy.

Akununyu married Yasama, Yengulu's sister, the later clan elder of one of the other smaller clans, a famous ritual specialist and 'speaker for the dead'. Yengulu was the main *orobaru derene* of Tireli, the one who instructed those who would teach the *sigi* initiates, the ritual that is held every sixty years. Yasama would stay close to her brother all her life. In fact, Domo's old house overlooked the clan house her brother was to live in most of his life. After Akuninyu's death in 1975, she moved in with him, feeling more at home with her brother. Her only surviving son, Mabudu, is too poor to have his mother in the house. Her son does, however, give her some millet; otherwise his *dogo* (shame) would be too great.

The main strategies for survival throughout Akuniyu's life remained more or less the same: cultivation of staple cereals. However, after the 1960s they ventured into some onion farming as well, the dry-season crop that has become characteristic of the Dogon area. One of the lineage fields lies close to the rivulet that carries water throughout the rainy season, providing a spot where people can dig waterholes to irrigate onion gardening. They worked long hours but all the members of the family have a reputation for hard work, even in a village where hard physical labour is the norm. Cash was earned this way but only enough for immediate needs, such as schooling for the children, and nowhere near sufficient to invest in cattle. This family never owned cattle. Akuninyu and Yasama's four sons could do little to relieve the general lack of funds. The oldest Yogodyugo ('Tomorrow I shall know') moved into the clan house after 1975 at some 28 years of age. A great dancer and musician, he was the heart and soul of every party the youngsters of the village threw, his large but agile body dominating each dance. This, of course, made him popular but no richer. As lineage elder he was quite serious as well, and his proficiency in singing and recitation made him one of the respected *baja ni* singers of the great funeral song of the Dogon. He tried to move beyond the limitations of the falaise existence and built a home in

one of the plains villages. There he could cultivate more but the first years were very dry, and only after the rains picked up after the late 1980s did he start to do better in the early 1990s. But then he died, of an unknown cause, in 1993.

Mabudu, his younger brother took over. Of the two youngest ones, Ogotemu had gone to Abidjan for work, and returned almost empty handed. Ana, the Benjamin of the family is preparing to go to Abidjan as well. The women of the family, hard workers though they are, are not among the best brewers, nor among the most efficient potters in the village; so income from and for the women is scant too.

Latterly, the boys of the family tried to gain something extra as '*manoeuvres'*, labourers. Mabudu worked for some white people as a porter or in other odd jobs, and so did the younger brothers. All of them are great dancers, they dance with the masks whenever tourists come and, besides the beer, earn a little through that.

All in all, they just manage. Poor but loved, ritually important but ever in need of money. Mabudu's children go to school but from time to time he has to ask friends for a loan. Having no real close clan brothers, he is restricted in whom he can ask for money and help. His main asset is the respect people have for him, his hard work, his invariably good humour. His is a strategy of odds and ends: mainly cultivation, with some additional onions, labour, beer brewing, pottery, and a short spell of work in the city. The problem is the small scale of the family, the ritual position that restricts it, and the fact that they have never succeeded in breaking out of the spiral of pure subsistence.

Amakana, the onion cultivator

Amakana Dolo, from the village of Ogol Da, in Sanga is primarily an onion cultivator, at least until now, as he is 71 years old. He lives in the crowded village of Ogol da, with his younger brother Piere (53), who is deaf and dumb, his wife Sakara (55) and their children Salemon, Joel, Lea and Sisame, aged 29, 20, 18 and 11. His family have not always been onion cultivators. His father, Akono Dolo, started it to supplement his cereal cultivation. He was about 40 when the first dam was built in Sangha by the colonial government. Still called the *Barrage de Griaule* after the famous French anthropologist who worked in the area for a long time, this dam has been a model for other similar ones. From 1936 onwards, onion cultivation has continued to expand. Domo was reticent at first about the new crop and with good reason. It was an excellent opportunity to grow something during the dry season after the cereal harvest but the crop demanded a lot of manure. The first attempts met with varied success but gradually the Dogon of Sanga learned to administer the proper manure. Later fertilizer was used. As more dams were built around Sanga, Domo started cultivation.

Prices were good and the crop relatively secure. The work required was done by Domo himself, by his wives and by his children. Manure came from the residue of wet-season cultivation, from household manure, and from cattle and goat dung. Once the large labour investment in the gardens had been made with soil having been brought onto the barren rock around the dams, they were lined with stones before cultivation could start. The gardens remained productive in the wet season too when the remains of the manure made for a good, small millet field. These were the fields that one could properly call one's own: without one's own labour the field would not exist. Brothers, lineage brothers and other members of the family could claim no title to it.

Gradually Domo expanded the number of his gardens and so did his son Amakana, with his brother Pierre. When Domo died in 1958, Amakana took over, continuing his father's strategy of intensification of onion production. He became Christian, which gave him easier access to fertilizer and to information on crop manuring. Also, as most blacksmiths were Christians, he got implements at a slightly reduced price. His brother took a new name (Pierre) but Amakana retained his Dogon name which was pious enough anyway, ('God did it'), preferring it to Jean. His millet production did not expand for several reasons. First, his father's family never had many fields in the bush, and the ones they had bordered those of progeny-rich families. Also, Domo's brothers had many sons so pressure on lineage land was high. Gradually Amakana let his lineage mates have a larger share of the family outfields and he concentrated on onion farming. Throughout the 1970s this strategy worked well: his onion production demanded little investment as he could still furnish the manure through what remained of the staple crop production. By the start of the 1970s this was no longer the case. The demands for manure outgrew millet production and additional fertilizer was needed, not only for Amakana but also for most of the Sanga onion producers, many of whom had followed Amakana's path. At first, much of the fertilizer was distributed through the mission but gradually this became an open market, and prices rose. Yet at the start of the 1980s, onion production still provided sufficient revenue to be profitable. Though Amakana could no longer produce enough millet to feed his family, he was able to buy cereals from his onion revenues. His strategy worked. He would need FCFA 18,000 for millet and sorghum, FCFA 10,000 for meat and fish, and FCFA 6,000 for drinks (tea mostly). Some FCFA 23,000 were spent on a bike and other non-food items, such as clothing. Investment in onion cultivation was made through working parties (FCFA 5,000) and the purchase of onion seedlings (FCFA 10,000). The harvest, and a working party, demanded another FCFA 2,000 – mainly through the girls working with his wife Sakara (Sara). He made about FCFA 78,000 from his onions. In those days when fertilizer was not yet needed, he made a profit of FCFA 4,000 per

year, even in a year when he bought a bike. Earlier on, he had already bought a cow, which he entrusted to Ogol Da's herdsmen. Some young Dogon boys took care of that, as the Fulbe were no longer trusted.

The 1980s, however, were more difficult. First, the rains failed during much of the decade and the millet harvest was poor. Some relief aid got in at the end of the 1980s, and Amakana, being a Christian, was close enough to the distribution points to benefit to some extent. But millet prices rose, in fact doubled. They do so every year, from harvest time till the *soudure* in the wet season but in the mid 1980s they rose much more. Also the amount of manure dropped drastically and Amakana had to rely on fertilizer. The increased demand for fertilizer, for all Sanga in fact, made it more expensive as well, but not proportionally so. What did increase a great deal was the money needed to get a good place in the distribution of feritilizer. Another problem was that in the driest years the dams did not fill up well. Only those fields closest to the lake were able to produce crops. Amakana happened to own some of these, and could expand a little, as the area between the closest field and the water would be normally his to cultivate. Still, quite a number of onion plots were not cultivated. He also lost his cow. One of the herdsmen had sold half of the flock to people from the south, and then fled to Côte d'Ivoire. That would be the end of Amakana as an owner of cows for the years to come.

So the 1980s were very difficult for the family. They coped by having their sons Salemon and Joel work abroad. Salemon had done a stint in Abidjan but came home with little other than clothes, a ghetto blaster and a bike. He then started to work in the Campement as a cleaner. Joel, planning to go to Abidjan as well, did odd jobs for the mission. Here, the schooling of the boys paid off, Sanga having the oldest school in the region. So, the family just scraped by. At the start of the 1990s, things took a turn for the better. The rains were better, millet production and manure production took off and Amakana could again balance his budget. He had incurred debts with his lineage brothers, which he could gradually repay.

One problem facing him and other onion producers is the price of onions. Demand throughout the region has been quite secure, slowly expanding; but recently (large) onions from the EU (a lot from the Netherlands) were being dumped on the market, made cheap through EU export subsidies. Sanga producers are worried about this turn of events, wondering why the EU, which built most of the dams on the plateau, is now threatening the success of that enterprise by selling its own onions off cheaply. Amakana still believes in onion production, but plans to try out some new crops on the irrigated plots. The old Dogon chewing tobacco might be an option, though the demand will probably not expand. Around some dams people are experimenting with rice, but a different

type of water management is needed. Watermelons have been suggested but production in the Mopti region is enormous. So for the moment he is still sticking to his onions, though is well aware of the fragility of the market. Expansion of millet production is out of the question: too many people now in Sanga are focusing on the same ideas.

Struggling for scarce resources: Land, cattle and vegetation

Our two examples showed the Dogon to be innovative and eager farmers willing to expand their resource base if possible, and creative in finding new adaptations for a dry environment. Their individual pathways for coping with the issues at hand, are also part of collective problems en tensions, some of them ecological, others political. Like any farmers, they tend to run to the limits of their resources, both in land, vegetation and labour. But one limiting factor, basic to this ecology, is that collectively the Dogon have competing interests between factions of their own expanding population, plus the fact that they are not the only ones who inhabit the area. Fulbe groups are living off the same resource base (De Bruijn *et al.* 1997). Both factors, demographics and inter-ethnic politics, set the stage for the individual performances, and are form the constraints on individual agency. Underlying tensions often are based on scarcity of resources, so we now consider two conflicts that are very much part of everyday village politics, in which the ecology is at the background. The first example is a playful interaction between the genders, with serious ecological undertones, the second example highlights the perennial problem between the horticulturalists and the pastoral nomads, in this case the Dogon and the Fulbe.

The fight over fruit trees

Just before dawn, shrill cries echo through the sleeping village of Tireli: '*hée hee hee, hée hee hee*'. The quiet peace of the village is rudely interrupted as twenty young men dash through the steep and narrow alleys winding along the hillside compounds, shouting at the top of their voices the high-pitched mask cries: '*hée hee hee, hée hee hee*, be warned women, be alert men, the masks are here'. A few youngsters beat small wooden split drums or tap sticks to arouse the villagers. Still dazed from their sleep, the women slowly heave themselves up from their sleeping mats in the compound and reluctantly enter their huts, where yesterday's heat still lingers. From their mats, some men shout a greeting to the masks in the *sigi so*, the ritual mask language: 'Welcome, welcome, how did you spend your day, thank you for coming. Be strong and powerful.' Being men, they are allowed to look upon the shouting youngsters who behave as mask dancers but are not fully adorned as such. In fact, they seem sloppily dressed, not at all like the normal mask outfit in which

good and careful grooming is standard. Some wear a decrepit mask half over their faces, another only has the red grass skirt that is the central piece of his costume, while a third one just tied a bunch of fibres around his head. The *puro,* the march of the masks, has come!

After waking the village, the so-called masks descend the rocky slopes in search of the huge stacks of firewood on the first ridge, where most of the women keep their supplies of wood. The masks are looking for *ponu* wood (*Detarium microcarpum*), a small fruit tree. Shouting, drumming and dancing, they overturn the neat piles of firewood, dragging out all the *ponu* branches they can find. Other youngsters join them, some half masked, others just for the fun of it.

The mask cries rise to an even higher pitch as huge stacks of *ponu* inflame the full wrath of the furious masks. The whole party returns to the village to display the offensive firewood to general male indignation. In the village the compounds are searched in the same fashion. Meanwhile, the older – and cooler – men are gathered in and around the main men's house to discuss the gravity of the female offence and to decide what appropriate fines are required to offset the wrong. A few fully clad masks from the other half of Tireli join in to add to the general feeling of male superiority. However, this feeling is slightly offset by the presence of a woman called Yasigi, one of the ceremonial mask sisters. Undaunted by any mask, clothed or not, this older woman freely mingles with the spectators and dancers. She contrasts sharply with the rest of their Tireli sisters, who sit quietly in their huts, though quite amused by the whole proceedings. At noon, the crowds disperse; all the men slowly return to their homes and daily chores, feeling pleased about the day's work. The women have learned a lesson they will not easily forget. True, it has cost some money, as each husband paid his wife's fine and she will not refund it but it has all been worth their while. The women themselves start from their huts, fetch water, cook millet mush and normal life returns to Tireli.

Apart from being great fun for the men and mild amusement for the women, this particular *puro* is in fact a conflict between males and females in Dogon society on an environmental issue. The women need firewood for cooking and pottery making; on the sandy dunes close by there are only some old and broken trees along the creek bed, where a mild taboo protects the trees, but for the rest the area is practically deforested. The women have to walk about 7 km to find any suitable trees. The *ponu* would make fine firewood but the men like its fruit too much to have it cut down. The fruit does not give much nourishment as it mainly consists of a large inedible kernel, but the men like to suck its thin covering.

So this particular *puro* is a conflict between the need for firewood and the demand for a tasty morsel. The way of expression is strictly Dogon: men oppose the women of the village as a closed group, working by using the traditional means of control, the masks. The one fundamental taboo in the whole complex of masks

and mask dances is the fact that the women should not know that the masks are costumed men. They are not supposed to know that one of their male kinsmen is dancing in that particular outfit. Of course they know very well, and can even distinguish precisely which boy is dancing what mask and judge how well he does it. But they play the game, pretending not to know in front of the men, to joke mockingly about it when no man is present. In the *puro* however, the masks are incompletely dressed and no disguise is possible. So the women are not allowed to see them at all, and are confined to their huts. These *puro* rites can be held for any grudge the men of the village may hold over the collective of women, be it quarrelling too much or running away from their husbands. In recent times trees have figured prominently in them, as in this particular event.

Cattle classics

During the rainy season Fulbe from Pongo keep their herds close to Tireli. Some animals have escaped in the past and foraged in Burema Saye's fields. The Dogon village blacksmith in Tireli and his brother were enraged: the peanuts and millet were destroyed in a considerable part of their field. Burema confronted the culprit with the evidence and the herdsman accepted that he was at fault, offering FCFA 5,000 in compensation. Burema thought this insufficient: they wanted a cow. The discussion got heated and continued for several days but the threat of a court case proved effective. The Fulbe told them that the herd had in the meantime gone to Nombori, some 20 km to the south. Both men from Tireli went to Nombori, and the village chief indicated where the herd was. Burema and his brother selected a good, fat cow from the herd, and took it home. They did not inform the chief of Tireli or the office of the *chef d'arrondissement* in Sangha.

Five months later and well into the dry season, the Fulbe herdsman arrived at the home of Dogolu, the village chief of Tireli, and stated that his patron wanted his cow back. 'Patron?' asked the village chief. The herdsman replied that the cows were not his property but belonged to a 'grand patron' in Bamako. The Fulbe did not disclose a name but hinted at someone at ministerial level. Dogolu summoned Burema and his brother, both good friends of his. They told him the whole story, and had to explain why they had not informed Dogolu in the first place. That clearly was a mistake, a fact that will haunt them throughout the coming negotiations. Still, both fellow villagers pressed Dogolu to join in a united front against the Fulbe, as is usual for Dogon farmers in cases against Fulbe herdsmen. Normally Dogolu would have acceded to his fellow villagers but the ghost of the 'patron' haunted him, and the Fulbe knew that they had not told anyone anything about the matter. The herdsman threatened them with a court case and neither Dogolu nor his counsellor Apomi had any stomach for going to court: they felt that the mistake of not reporting the incident was far

more serious: 'You know who is chief, we all know who is chief, why not go and tell him', Apomi reproached the two blacksmiths. If it comes to a court case, they are not prepared to commit perjury for their fellow Dogon, and they will avoid being present at any official hearing.

So the claim was large now, as a cow easily costs FCFA 75,000. However, they are lucky as the cow has not yet been butchered, and they have persuaded Burema and his brother to return the cow immediately to the Fulbe. That having been done, the matter was closed, and relief has set in: one can never trust a Fulbe, nor anyone like them. They reminisce about someone from Amani who had a similar encounter with a Fulbe, and who had already slaughtered the beast – a bull, which is far more expensive. Eventually he was forced to pay double for the animal, so the men from Tireli consider themselves lucky to have escaped so lightly from the clutches of the herdsman.

That evening another Fulbe showed up at Dogolu's, with a *segèû* in tow. The latter represents a group of professional carpenters of food bowls, *banya*, a wandering group of craftsmen specialized in bowl making only. Not considered Dogon by the Dogon, the group has had a joking relationship with some Dogon villages, a so-called *gara* relationship. However, in 1990 some *segèû* seem to have killed a Dogon in one of the plains settlements of Amani, and since then the Dogon no longer give money to his group. The one showing up is someone the people from Tireli know, as he was here the previous year, and they also know his Fulbe companion quite well. Dogolu tells both that for his family giving money to a *segèû* or touching them is taboo (*dô*), something that has to be respected. This argument does not seem to carry any weight, and both men, with quite threatening postures, remain seated in the compound. At last Dogolu hands over FCFA 500, with a promise that they will never come back. He throws the bill on the ground to underscore the fact that he is not allowed to touch the visitor. Reluctantly they leave.

Apomi, who claims to have 'medicine' against *segèû* and one-eyed people, discusses with Dogolu, his mother's brother, why he gave anything at all to these people. Dogolu is both clear and evasive: they are hungry after a bad season and one cannot let them starve. But more importantly maybe, times have changed and relations are reversed. The Fulbe used to rule the region and now the tables are turned, with the Dogon having the upper hand. 'So we give to reflect the new situation, the new world.' Also, they come to those in power or prestige, and happily ally themselves to a new patron, adding status to his person. Dogolu denies that their magical prowess has anything to do with the ambivalent relationship: 'They are too poor to consult a good *marabout*', but when he and Apomi in the field approach a deserted Fulbe camp, they are careful not to enter

the unmarked area as there are *gris gris* all over the place. And it is obvious that the women in the house were scared of the two visitors.

The relationship with the Fulbe is characterized by ambivalence, based upon a long and arduous ecological interaction between the two groups (De Bruijn *et al.* 1997). There is no love lost between them but they do need each other in many respects. Finally, ecological pressures such as desertification and a diminishing tree cover are influencing internal relations within Dogon society. The next example shows how gender relations are being affected by ecological pressure.

The notion of territory

Several points can be concluded from both the two cases and the four conflicts described. First, the relative isolation of the area is deceptive, as Dogon country has been in constant interaction with the wider world throughout history. The first conflict seemed very clear: a village without fields. But here, what historical and cultural processes shaped this scarcity under the cloak of the conflict? As we have seen, in the early phases it was slave raiding and water availability that not only defined the territory but also the notion of scarcity. The territory was defined as the area that was at a safe distance of the relative safety of the escarpment, all those resources within view of the falaise rim. Both the choice of the first settlements and the order of the subsequent settlements were determined by this situation of political and ecological insecurity. The territory was never fixed and never had a boundary. The Dogon focus their sense of adherence to the falaise area on certain spots: altars, first houses of founders, water spots (Van Beek & Hollyman 2001). Fields were delineated but rotated between the eldest (as the infields still are), and the outfields were open territory but not an open resource. It was not the territory that was important but lines of access.

Like most farmers, the Dogon have a concept for territory but it is one that is closely linked with cultivation. *Minè*, field, is used for any kind of surface, the territory of a village or the fields of a person, but also for all the areas cultivated by the Dogon, *le Pays Dogon*. The latter issue is important here as *le Pays Dogon* has received a quite distinct meaning in the last decades. Dogon country is on UNESCO's World Heritage list, renowned for its visual attraction, for the famous Bandiagara cliff of falaise, as well as for the colourful Dogon culture (Van Beek & Hollyman 2001). The tourist presence, ever increasing since the 1970s (Van Beek 2003), and the recognition of the area as a UNESCO World Cultural Heritage Site, plus the peculiar ethnography of the Griaule school (Van Beek 1991, 2004) have all cooperated to make Dogon country a very recognizable entity. Its centre is evidently the Bandiagara falaise, with the string of villages perched on top of the cliff or huddled against the cliff side. The plateau

itself lends itself to an easy demarcation of territory as well, while the dunes to the southeast extend the area as far as the border with Burkina Faso, where Mali and Dogon country end. The Dogon language is distinct from its linguistic neighbours, so the image of one territory – one ethnic group – is complete. And then of course, Dogon culture produces some very recognizable features: the famous mask dances, the well-known *sigi* festival held every 60 years and funerals, especially through their wide renown and tourist appeal, all give the impression of one homogeneous culture in one specific region, with a clear correspondence of one territory with one culture.

But for the Dogon themselves the habitat was never a unity. The pre-colonial situation was one of defence against marauders and slave raiders: villages on the falaise rim had to contend with their direct neighbours, sporting some links with a few other villages claiming common descent. Tireli counted and still counts itself the younger brother of Pégué, which in itself is the younger brother of Aru, the ritual centre of the falaise area. But for the rest they had to do with the Fulbé threat, with the Saon, with the Mossi and other enemies. Being at the wrong end of a slave system isolates villages from each other. The territory in that period was never marked except for lineage fields near the rim, and the area under cultivation waxed and waned with the intensity of slave raiding. The falaise was a place of refuge and a starting point for any expansion that was possible, often temporary, sometimes, as in the case of some early plains villages, permanent.

The colonial presence brought several changes. First, slave raiding stopped. Though starting with military conquest and with some battles in the Dogon area, like the still famous battle of Kasa, the outcome was increased safety in the region. Second, it demarcated the Dogon as a collective against other similar collectives, as a result of the way in which the colonial authorities administered this part of Africa. Third, new crops and cultivation methods were introduced, such as onion farming and pot irrigation. Finally, it created administrative divisions that more or less coincided with notions of ethnic unity and its divisions, and evidently made maps to corroborate them.

The colonial era is both a period of expansion and closure of Dogon territory. The villages on the rim colonized the plateau and the plains, and daughter villages were established at a rapid pace. The 1956 map of the Dogon area still reflects the fact that a fair number of villages are called *Anakana* or *Anakila*, meaning 'new village'. Other names were formed with the suffix *donyu*, meaning 'low', the high mother being at the falaise. The closure of the region came at the end of the colonial period when most of the open territory between the falaise and the later Burkina border was taken by newly established villages. The demarcation of the border between Mali and Burkina at independence marked the final administrative circumscription of the Dogon area. The northwest part of the

plateau, being ill suited to habitation, also limited Dogon expansion due to the water situation. Independence, from the 1960s onwards, proved a turning point in the expansion of Dogon territory, the end of a long process that was always characteristic of Dogon cultivation practices.

Two other processes that involved mobility presented themselves, the reflection of which we saw in the conflicts. First, the large cities in West Africa started to attract workers from all over this part of the continent: Abidjan was first, with Kumasi and other cities in Ghana as a good second, and Bamako third. The Dogon were quickly appreciated as good reliable workers (Gallais 1984). The habitual Dogon worker is a young man who is married to his first wife, and who has left her with her parents – which is customary anyway in the first phase of Dogon marriage. He uses this opportunity to earn money to set up his family, for his parents and for the village elders. One or two years are usually enough.

The second process started later, when the severe droughts of the 1970s and 1980s hit Dogon country. Villages at the falaise were hit hard and several of the smaller ones saw most of their able-bodied males disappear. Some set out for the plains in the vicinity of the falaise, but they headed for the southern part of Mali near Koutiala. Many of the temporary workers in the cities prolonged their stays, settled in the city and became part of the large expatriate community of Côte d'Ivoire. What the present war has done to them is still unclear.

Thus, the territory of the Dogon was in fact never identical to the *Pays Dogon* of the tourist folders, nor did it ever coincide neatly with the colonial definition of the tribal grounds. One factor should be added to this: cattle. The conflict is called cattle classics, and for good reason. Tensions between the Fulbe and the cultivating groups with whom they cohabit form a constant theme in this part of Africa. The relations have varied over time. From the 19th century, when the Dina was established in Hamdallahi, the Fulbe gradually became marginalized in a modernizing society and in the new nation-state. Droughts decimated their herds, colonization and nation-building favoured the settled populations and their power basis was severely eroded. But they retain some strongholds (De Bruijn *et al*. 1997): they remain the recognized experts on cattle raising, even if not their own cattle, then those of the nouveau riche, often the Dogon, but also those owned by officials in Bamako. Also they still have the 'odour of the bush' with them, with all the notions of magical powers that this entails. Finally, they have an unbeatable sense of superiority, which seems to keep hampering the Dogon in their dealings with them. Respected by history, needed by the happy few and feared by all, the Fulbe not only share the territory with the Dogon, they have just as much right to it as the Dogon. Only those rights are of a different kind, as the Fulbé do not have rights to cultivation, nor to trees and timber, but to grazing, fodder and the right of movement.

The balance of territorial rights between Fulbe and Dogon has been shifting throughout history, and though the balance of power has clearly swung towards the Dogon, the Fulbé still have a clear and uncontested niche in the system. They do have some strongholds in the area, such as the village of Bombou, but they are in full command beyond the expansion zones of the Dogon. Towards the north of the plains, the fields were never owned by the Dogon and in this northern area they are still under Fulbé domination. Similarly in the Douentza region, Fulbé-Dogon relations are on a quite different footing from those described for the plains adjacent to the escarpment.

However, similar processes have occurred between the Dogon themselves. The predicament of Ourou excluded them not only from a firm ecological footing but also decreased their chances of new sources and resources in later developments. They could not send out enough people to the plains, nor could they gain a foothold in the cities, and as a result could not develop the remittance economy that characterizes villages such as Tireli. The limitation of their territory is a historical fact of Dogon seniority rules. But there is more to it. Rules of seniority are of prime importance in Dogon society but the implementation of these rules is never unequivocal. Seniority can mean different things at the same time. In the case of Ourou, the rule is being applied with an iron fist: latecomers have no rights. But on the other hand, the Dogon have a long history of honouring the younger brother over the older, rules of seniority notwithstanding. In fact, it sometimes seems as if rules of seniority are meant to be broken, as it is often the younger brother who is at the helm of power or ritual. This fits in with what is known about Mandé social organization (Jansen 2002) and is recognizable in many Dogon ritual relations. Thus, the *Hogon* of Aru, the leading priest in the falaise area, was chosen from the descendants of the youngest brother of the original immigrants, so the founding myth goes. Though the rules are kept in strict abeyance in many places, in those places that really count, the rule is flaunted and the younger brother rules over the older one (Van Beek & Banga 1992). But this flexibility was totally absent in the battle for land between Ourou and Tireli and throughout, the people of Tireli refused to acknowledge any type of relationship with their neighbours.

Much of Mandé lore states that the younger brother stays home and rules the household, while the older sibling is away, doing his stint of wage labour, earning money for the family. The last conflict, or at least part of it, dealt with this issue. On the face of it, the battle for the fruit trees was a battle between man and women, about scarcity of trees and the conflicting demands of fruit against firewood. But some other themes showed up much later. All the men engaged in this mask frolic proved to be men who had worked in Abidjan, who had come back as ‘men-in-bonus’, with money for their parents and the elders, a bike,

ghetto blaster and lots of clothes. Their women had stayed at home, and had developed their own lives. Moreover, the younger men who had not left Tireli had settled families already. So, what was happening was twofold: the returnees tried to re-establish their own sense of belonging in the village, their own authority over their younger brothers and over their women. They did this through traditional means, with the masks, showing that they not only conformed to Dogon village life but could use them to their own advantage. They were in command. Second, they were the ones who coveted the *ponu* fruits, being used to a different pattern of consumption in the city.

So the 'colonies' of the Dogon were claiming full participation in the 'mother territory', bringing an aspect of their life in the *exode* into the realm of the village. Indeed, the Dogon villages rely on these remittances for their cash income. The status of the returnee is potentially high: leaving for a stint in the city and coming back to settle is well viewed. But one has to regain one's position and to earn respect through the proper handling of traditional means of authority.

Though not prominent in these conflicts, tourism in the Dogon area exerts its influence not only in the social fabric of the villages (Van Beek 2003) but also on the notions of territory and scarcity. Tourist attention for the Dogon spectaculars limits the notion of the Dogon area to the falaise again, and to tradition as well. UNESCO acknowledgement of the area's cultural heritage seems to have had little direct effect on the villages but it does reinforce tourist presence, and generates some conservation initiatives along the falaise as well. But then, with tourist dollars and euros rolling, everyone trying to get a foothold in this racket defines himself as 'Dogon', wherever he may live, and whatever his parents may have been. Thus, for a small but quite visible group of people, the notion of Dogon is detached from the territory as such, from belonging to the villages, and gradually becomes a definition as someone working on a trail, a Dogon trail, starting at the Bamako airport, over the 700-odd kilometres to the falaise and back.

The Dogon view of the village itself is remarkably bleak: it is contrasted with the bush in many ways, and quite unfavourably so. From the bush stem the power, the fertility and wisdom, and from the bush the energy that motivates and stimulates people. Bush animals know the future (the pale fox as the foremost among them) and hunters have to be well versed in magic least no animal lets itself be caught. The village is where all the energy and wisdom comes, and people use it in order to live, a kind of black hole where the goods of the bush disappear (Van Beek & Banga 1992). This coincides neatly with the village as the node in an ever-expanding and contracting network of social and economic relations: to the outfields, to other parts of Mali (cf. Koenig *et al*. 1998), to the cities far away and finally even to the tourists coming in from overseas: the

whole world remitting income to Dogon villages, a view which is readily received by the self-conscious Dogon with their high ethnic self-confidence.

Conclusion

Coping with problems and adapting to changes is not the same as solving the problems and definitely different from riding the waves of changes. The Dogon have had their full share of environmental challenges, both in the diminishing rains, in the internal scarcity of fertile fields and in the intrinsic scarcity of their political marginality. Risk in its many forms is an essential part of daily existence, and the ways to handle it are constantly changing.

Some strategies for coping are quite old and time-honoured, such as expansion of production, intra-local mobility and defensive isolation. Others are more innovative and react to new problems, such as diversification, intensification and a few attempts at centralisation of land control, while still others are more interactive with the larger area and the state, and include transformation of political relations with other groups (such as the Fulbé), remittances and getting the media attention of the larger world. The Dogon have shown to be quite versatile in the 'settled adaptation', quick to adopt new techniques and eager to explore new possibilities for gaining a living. Historically this has been facilitated by the relative stability of the larger area: they have been living in their habitat for many centuries now, have never experienced the trauma of forced displacement and could always add to their habitual repertoire of survival techniques those new coping ways that were geared to new – and not overly threatening – environmental and political challenges. In short, their short-term adaptation tactics never really conflicted with their long-term coping strategies. Conflicts did arise, but up till recently they managed to regulate them – even at some cost – within harmony oriented and community focused measures.

The two pathway cases show such a diversity within this general mould of adaptation, but it is diversity within certain bounds, set well within the functioning community of the Dogon village. Division of tasks and positions within the village easily allows for this variation in pathways, each dependent upon the varieties of personal characteristics as well as upon the concomitant differences in personal agency within that village community. Some diversification strategies are only for the happy few who rise to some eminence in Dogon society, such as a village chief or – recently – a *hotelier* for tourists. For the first option one has to have a very old relative living man in the village, plus the personality to make effective use of the network possibilities the position as village chief offers. The second often is one of the options open for such an enterprising official. The two pathway cases are of course dependent upon the market (for millet and onions)

for their continuing success, but they too depend on the personal characteristics, and do suit the persons in question well: not overly affirmative, more prone to follow than to lead, highly sociable and quite dependent upon peer approval.

The territorial question is dynamic as well. Though tourist policies in Mali strengthen the notion of a circumscribed area with one culture – i.e. that of the escarpment villages – more Dogon nowadays are living beyond these borders than inside. Though the area never was a social isolate (though it long has been a genetic isolate!) these conflicting tendencies are more marked now than in the past. This does lead to tensions, especially with 'insiders/outsiders' such as the Fulbe. Even if part of the ecological picture of the area and the Dogon are inclined to grant them their share of the area, both the historical inequalities and the *volte face* of political power that tipped the scales between agriculture and pastoralistm, tend towards an increased awareness of the crucial position of land and vegetation. Conflicting tendencies as the dispersion of Dogon over the larger region and the increased attention to the escarpment heartland, raise both ethnic and territorial awareness. On the plateau the tensions around the bas-fonds, described by Bouju, serve as another example of the same process (Bouju 1998).

The question remains whether such adaptations-within-the-system in the present and the near future will suffice for the Dogon to generate a sufficiently secure life. The impression is that this will not be the case. In the relations between Dogon and Fulbé violence is creeping in: recently three Fulbé were murdered – by Dogon, is the consensus, but the culprits were never apprehended – while also other villages have witnessed increased violence in conflicts over resources. At the same time the discourse within the villages on human killings, especially on human sacrifices is on the rise, and some strains and stresses on intra-village travel is clear. Territory-*cum*-ethnicity seems to become a way to exclude others, a power base to deny others resource rights. There is some irony in this reversal of historical fortune: whereas the history of the region has highlighted its function as a refuge area, now the refuge of old has become a stronghold and an economical asset.

Thus, even if within the Dogon villages the basis of mutual dependency and the focus on harmony are still there, the differences within the village grow, the differences between villages become more marked and especially the tensions between ethnic groups are on the rise. Borders are redrawn and become ever more important: 'le Pays Dogon' is becoming for Dogon only (and for tourists), and though all Dogon are officially equal, expressed as '*ba turu, na turu, ponu sung turu, iri di turu*' (on father, one mother, one trouser cord, one milk), some Dogon are becoming definitely more equal than others.

4

Coping strategies of Dogon cultivators of the northern escarpment

Aline Brandts

Introduction

The village of Djanwely Maoundé is situated twenty km south of Douentza in Central Mali (see Map 1.1, p. 4) and is a typical Dogon village with small granaries with pointed roofs that stand out above the flat surroundings. While the first impression of the village is quite picturesque, the daily reality is different: life in a Dogon village in Central Mali is harsh. The biggest problem is rainfall, not only the lack of it but also its unpredictability. In the whole of the Sahel, this unreliable rainfall both in space and in time leads to strong oscillations in food production and economic performance (De Bruijn & Van Dijk 1999a). Despite rainfall problems people have survived in this region for centuries. This holds also true for the Dogon. The Dogon of Djanwely Maoundé lived on the Bandiagara Escarpment for a long time. Problems caused by internal disagreements, demographic growth and land shortages made them settle in the northern part of the surrounding plains, the Seeno, at the beginning of the 17th century. They still live there, as cultivators, with millet being their main crop.

This chapter focuses on what the coping strategies of the Dogon of Djanwely Maoundé are and what factors underlie these strategies. Although the chapter is concerned with the whole village of Djanwely Maoundé, a distinction is made between the different categories of villagers to show that these categories have different ways of coping with the uncertainties in their environment.

Fieldwork was conducted between August 1998 and April 1999, in September 1999, and in February and March 2000. My last visit to the region was in February/March 2001. Fieldwork focused on the village of Djanwely Maoundé but particularly on the 'third quarter'. This was coincidental as my host and interpreter was living in the third quarter of the village and it turned out to be a stroke of luck because the inhabitants of the first and second quarters see themselves as noble Dogon and real cultivators and, as such, were not so eager to talk to me about their lives and the problems they encounter on a daily basis. Living in the third quarter of the village gave me the freedom to talk to all the inhabitants and enabled me to observe the life of the noble Dogon from a distance. During my research, I participated in the lives of the people of Djanwely Maoundé, collecting most of the information by conducting (informal) interviews. I also talked with families who had moved to Douentza, and I followed families to their small cultivating hamlets on the Seeno.

I first give a description of the village itself, its composition and the people living in the different quarters, describing the most important changes within the village, physical changes in the environment as well as social changes. The third section describes the history of the Dogon of Djanwely Maoundé: where they come from and why they settled in this particular place. In the fourth section, attention is paid to the problems of access to land. The past has shown that besides internal conflicts, demographic growth and land shortage have been major reasons for people to leave the Bandiagara Escarpment where the Dogon have lived for centuries. Access to land and water is presently the most important condition for the farmers and it will be shown that not everybody in the village has equal access to land and water. Having no access to land may be a driving force in the search for other livelihoods in order to survive. The fifth section focuses on the inhabitants of the third quarter of the village. It is the quarter where the people have the least access to land but I will show that some of them are very successful in agriculture. Often, they are even more successful than the noble Dogon who claim to be the real cultivators and who have the most fertile fields since they were the first to settle in the village. The conclusion stresses that adaptation and mobility are the main characteristics of the livelihood strategies of the Dogon in Djanwely Maoundé.

The Dogon of Djanwely Maoundé

The village of Djanwely Maoundé[1] consists of three quarters and totals about seventy extended families. The exact number of inhabitants varies according to the seasons: in the rainy season some farmers move with their families to cultivate in the small hamlets on the Seeno and during the dry season a lot of inhabitants leave the village to earn money elsewhere. Djanwely Maoundé has, on average, about 1,100 inhabitants.

The Dogon of Djanwely Maoundé claim to have come from the southern Seeno in the early 17th century. Upon arrival they requested permission to settle from the chief of Pergué, a higher village about five km to the southwest, the inhabitants of which claim to have the oldest rights on the territory. The chief of Pergué agreed to their request and they founded the first quarter, *Nikadara.* It is the quarter of the chief and his extended family. When this quarter became too small, some families split and established a new quarter, *Samdara*. One Pergué family, the Pergoeroe family, settled in the second quarter to keep an eye on daily affairs and the members of this family always maintain contact with their village of origin and still pay taxes in Pergué. According to oral history, everybody who arrived later settled in the third quarter of the village called *Badjengere*. Although families settled at different stages, they claim to have a common descent and all speak the same language, *Djamsay*. This language is only spoken by the Dogon of the plain and has a lot of different dialects. It is also the language used in traditional Dogon songs all over the region (Ongoiba 1988).

The division of the village into three quarters has both economic and historical roots. The Ongoiba live in the first quarter, the cultivators *pur sang* as they still see themselves today: 'We are the real cultivators'. They are also to be found in the second quarter; the inhabitants of this quarter claim to belong to the same family. The third quarter has a different economic basis. Here live the blacksmiths, recognizable by the name Maiga, who have a special place in Dogon society (cf. Van Beek 1992), and the traders, political intermediaries and the dyers of indigo, who go by the name of Dem, also known as *kosodjo.* In ancient times, the tasks of these groups were strictly circumscribed and they exchanged their products and services with the Ongoiba for millet. The tasks of the Dem were, thus, the preparation of clothes for the whole village, the typical *pagne noir* (a loose skirt) for the women and short trousers for the men. They also traded with other villages. For example, an Ongoiba who wanted to sell a cow at the weekly market in Djanwely Maoundé would ask a member of the Dem family to come and negotiate the price. The Dem would then go to the market with the cow and try to sell it for a better price, keeping the difference for himself. And when

[1] *Djanwely* is a Fulbe word, meaning 'peace is good', *Maoundé* means 'big' or old.

an Ongoiba wanted to marry and could not find a good wife in the village, he would send a Dem to find him wife from elsewhere in the region. The Ongoiba used to pay them in millet. The blacksmiths made tools for cultivation for the Ongoiba, also in exchange for millet.[2]

The Maiga and Dem have never been involved in agriculture and thus did not need arable land. The situation changed when the region was hit by severe drought at the beginning of the 20th century. The Ongoiba could no longer exchange goods and services for millet, as they needed everything they harvested for themselves. This meant that the people of the third quarter had to start cultivating themselves, and needed arable land. As the fields closest to the village were already being used by the Ongoiba, the Maiga and Dem had to resort to the less fertile fields further away from the village.

Djanwely Maoundé is located in a small depression near a cliff. The village's ecological zone and its surroundings are called the Daande Seeno, the transition zone between the Seeno Manngo and the Ferro where the soils are sandy and the vegetation is sparse. Rainfall decreased during the last century, something which has become a huge problem for the Dogon of Djanwely Maoundé. Even more problematic is the shortening of the rainy season and fluctuations in rainfall. In addition, rainfall can differ greatly from one locality to another. There is often rain in the neighbouring village of Djanwely Kessel and hardly any in Djanwely Maoundé itself, or vice versa.

The sandy soils are vulnerable to the winds of the Harmattan that blow during the dry season and cannot hold much water during the rainy season. Annual grasses and plants dominate the vegetation but this vegetation has degraded to a considerable extent over the last few decades. Older people in the village still remember when the vegetation was denser and restricted their views during the rainy season.

The hamlets where the farmers of Djanwely Maoundé cultivate are Wayre, Tula, Petakooli and Domani, all of which are located in the transition zone between the Seeno Manngo and the Ferro. The soils around the hamlets contain more clay than the soils around Djanwely Maoundé (see Maas, this volume). Harvests in the hamlets are more abundant than in the village of Djanwely Maoundé.

Livelihood conditions have deteriorated as a consequence of the ecological changes in the environment. The rice and millet harvests used to be sufficient for the extended families and there would be enough in their granaries to compensate for drought years.

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[2] In the past, there were also leatherworkers in the village who belonged to the same social category as the Dem but they are no longer to be found in Djanwely Maoundé. If someone wants new shoes or other leather products, it is now necessary to go to Djanwely Kessel.

In the Dogon villages on the escarpment, the oldest man in the village used to be the chief (Van Beek 1991, Paulme 1948). In Djanwely Maoundé, this tradition is no longer observed and at the beginning of the 20th century, when the French colonizers were asking for a chief who was supported by the whole village, one Ongoiba family took its chance to seize the chiefdom. Kansa Ongoiba, a cultivator from the hamlet of Tula and originally from Djanwely Maoundé, negotiated with the French and returned to Djanwely Maoundé to claim the chiefdom. Kansa continued to rule after independence and because he ruled in such a dictatorial fashion nobody dared to challenge him. Anyone who opposed him was left standing in the sun for a whole day. There even was a prison at the back of his house. Kansa died in 1996 at the age of 92 and most villagers felt little sadness at his death. A lot of villagers hoped to return to the old custom of the oldest man of the village becoming chief but Kansa's family decided that the chiefdom had to remain within their family and as soon as Kansa died they went to the commander of Douentza District. Kansa's second son, Bureima, became chief that year and is still the chief of the village. Discord emerged in the village: with part of the village supporting Bureima, and the other part not recognizing the new chief. Some people told me that they could never forget what Kansa and his family had done to their parents or to themselves, and that they would never accept a member of this family as a chief again. Over the years the conflict has become more serious, as can be seen from the fact that the people who want to go back to the old tradition raise all kinds of accusations against the new chief and his family. These range from the disappearance of money given by NGOs to the selling of a part of the millet gift donated by the state.[3] The conflicts mean that life in the Dogon village of Djanwely Maoundé is getting harder: people have to cooperate with each other while trust is lacking. An example is the dispensary: everybody has to pay a contribution to cover the costs of employing a nurse in the village. Villagers who do not support the chief do not want to pay and accuse him of keeping the money himself. Consequently it is difficult to pay the nurse's salary and keep the dispensary open.

More than a hundred years ago, the Dogon of Djanwely Maoundé converted to Islam but nowadays there are also a few Christians in the village. There are two mosques in the village. The first was built during the 1940s, while the other was built just after independence. Despite almost everybody being Muslim, marriage strategies do not follow the rules of Islam. A noble Ongoiba can only marry another noble Ongoiba, or a Dogon with the family name of Goro, Aya or Diémé. A blacksmith Maiga can only marry another Maiga. Finding a suitable partner is not easy and inhabitants have to look throughout the region for a possi-

[3] The Malian state offered the village a gift in July 1998 to try to reduce the effects of the famine caused by misharvesting at the beginning of that year.

ble partner. The rules for the Dem are less strict. If two people want to marry and their fathers have not yet arranged a marriage at an earlier stage, the family members will check the history of the other family. If there has been a conflict, even centuries before, they will chose the safest way and not approve the marriage. Heritage, in contrast, follows the rules of Islam: the fields and houses only go to the man's side of the family and remain in the hands of the extended family.

The past: Migration history of the Dogon of Djanwely Maoundé

Early migration history of the Dogon

When I asked an old Dogon of Djanwely Maoundé where the Dogon come from, he immediately answered: 'From the Mandé Empire'. When I asked him to give more details about where this empire was and when they left, he remained silent. It must have been somewhere to the southwest of their actual settlement. Even the moment they left is uncertain but it must have been somewhere between the 13th and 14th centuries. There are two general explanations for their departure: the first is that they left the area so as not to be converted to Islam by the Fulbe, the second is that they left because of internal conflicts within the lineages (Petit 1998). Four lineages – Dyon, Ono, Domno and Arou – settled on the Bandiagara Escarpment to be safe from the slave raids undertaken by the old empires of Ghana, Mali, Sonrai, the chiefs and kings of the Mossi, Gao and Fulbe (Van Beek 1993). On the overhanging cliffs of the escarpment they had a clear view over the plains of the Seeno. Their oldest village on the escarpment was Kani Bonzo.

Internal conflicts, demographic growth and land shortages resulted in the departure of some families from the escarpment. Those who settled on the plains of the Seeno were among the bravest Dogon, belonging to the Ono lineage. Settlement on the plains was dangerous then because wandering Fulbe were always trying to capture slaves in the region and raids were frequent. The Ongoiba[4] families from the Ono lineage settled around Douma Pey.[5] From there they split up again, in *Pomorou Dodio,* lower Djanwely, and *Pomorou Kou,* higher Djanwely. The ancient village of Djanwely Pey, close to Douma Pey formed *Pomorou Dodio* in Koro District. The village Mondorro formed *Pomorou Kou* where other Ongoiba families settled. Other villages that were created in the same period were Duwari and Dinangoro where the Goro, Aya and Diémé families settled (Gallais 1975).

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4 Ongoiba means '*Ono le goiba*', 'they come from Ono'.

5 *Pey* means 'ancient'.

People telling these stories are not clear about the reasons for splitting up. The Dogon usually do not want to talk about conflicts – even a conflict from centuries ago may be revived when someone talks about it. In view of the number of people who had to live in these villages, it is likely that many tensions were caused by land shortages and conflicts about land (Gallais 1975).

Settling in Djanwely Pey

The Ongoiba of *Pomorou Dodio* settled in Djanwely Pey near the older village of Douma Pey, about eighty km south of Douentza. When their families became more numerous, the Dogon of Djanwely Pey tried to enlarge their fields to the east in the direction of the Fulbe hamlet of Tine. This created conflict with the Dogon in the surrounding area who belonged to the Domno lineage from the villages of Gangafani, Guimini and Giri. These Domno Dogon were also looking for arable land and claimed rights to these fields too.

These Dogon told the villagers of Djanwely Pey they would attack their village. This must have been at the beginning of the 17th century. The Dogon of Djanwely Pey were afraid, as they were less numerous and less well armed than their neighbours. They decided to leave Djanwely Pey during the night and go north but before they left, they wrecked the water wells in their village, and told the Fulbe of Tini to guard their homes during their absence.[6] When the neighbouring Dogon attacked the village, they found it completely abandoned and with no water in the wells. For some time nobody could inhabit the village.

Leaving Djanwely Pey for the northern Seeno

The Ongoiba went to the northern Seeno. They arrived in Pergué, a village on the hill, and asked permission to settle. The Dogon of Pergué told them there was no space or arable land near the village but they offered them a place on the hill near the village of Amba. The Ongoiba refused. Their wives were used to living on the plains and to having water wells nearby; they did not want to go all the way down from the cliff to collect water. The Dogon of Pergué found it too dangerous to settle on the plains, afraid as they were of Fulbe raids. A Pergué villager, who named himself after his village of Pergoeroe, went with the Ongoiba to look for a place. They found a small water source on the plain not too far from Pergué where they built their village and named it after their old village of Djanwely Maoundé. The old men of Djanwely Maoundé relate how two brothers settled in Djanwely Maoundé, Bodero Kandié Ongoiba and Anaka Kandié Ongoiba. They built two quarters, Nikadara, the first quarter where Bodero settled as a chief with his family, and Samdara, the second quarter where Anaka Ongoiba and his

[6] Interview with the chief of Tini (Brandts forthcoming).

family made their home. As mentioned earlier, one Pergué family settled in the second quarter to keep an eye on the village.

After some time the families split up again and the story goes that a member of the Ongoiba family from the first quarter went hunting with his dogs. He had spent the night nearby and liked the surrounding area so decided to take his wife and some other family members to settle there, some five km northeast of Djanwely Maoundé. He called the place Djanwely Kessel, the new Djanwely.

The Ongoiba always kept in touch with their old village, Djanwely Pey, where Dogon from the cliffs settled after the Ongoiba had abandoned it. They see it as their cradle and a delegation visits the old village every year for ritual festivities. But their relationship with their old village goes deeper than that, as illustrated by the fact that, even nowadays, the fields around Djanwely Pey cause trouble for the Ongoiba of Djanwely Maoundé. They are engaged in a conflict with the Dogon of Ireli, a village on the escarpment. The Ongoiba even want to take the matter to court in the capital, Bamako. The Ongoiba had the Fulbe of the nearby hamlet of Tini supervise their fields when they left Djanwely Pey at the beginning of the 17th century.[7] The arrangement went smoothly until the end of the 19th century. After French colonization and the pacification of the plains, the Dogon of Ireli came to Djanwely Maoundé to ask permission to cultivate the fields around Djanwely Pey. These Dogon of the escarpment were in search of new fields because the harvests in the village were insufficient to feed their growing population. They therefore started to cultivate in small hamlets on the Seeno, some as many as twenty or thirty km from their village of origin (Petit 1998; Van Beek 1995). They were sent to Tini, and the Fulbe gave them permission to cultivate. Over the course of time, however, the Ongoiba of Djanwely Maoundé started to distrust the migrants and sent one family back to Djanwely Pey. In 1962 Pangalé Ongoiba thus left the first quarter of Djanwely Maoundé with his two wives and children to settle in Djanwely Pey. And soon he heard stories about the Dogon families of Ireli wanting to buy the fields from the Fulbe of Tini and to put a field chief in Djanwely Pey. The Ongoiba were furious as 'our ancient fields can never be sold to anyone'. They claim to have rights to the fields around Djanwely Pey because they were the first occupants there. Although the fields were never officially sold, the supervisors of Tini earn money from the Dogon who are currently cultivating these fields. This is the reason the Dogon of Djanwely Maoundé are so eager to take the matter to court in Bamako. They want it written down that Djanwely Maoundé has rights to these fields, even though other Dogon families have paid for the use of the fields.

Listening to the stories of the Ongoiba, it seems as if they came to the north alone but other sources relate that they brought political intermediaries, dyers of

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[7] This was exceptional as the Dogon used to be suspicious of the Fulbe (Bonte 1999).

indigo, traders and blacksmiths with them. When I asked the old Dem and the Maiga to tell me their history, they claimed to have come with the Ongoiba and to have negotiated on their behalf. The Ongoiba gave the Dem and Maiga a separate quarter, called Badgengere, where everybody who came later found a place. Anyone who wants to settle in the village has to get permission from the chief of the village and is subsequently appointed a place in this third quarter. When he wants to cultivate new fields, he looks for a piece of arable land and goes to the land chief to get permission to cultivate. The fields will, however, never be his own fields and he will always have to ask permission to the land chief to cultivate again in the following season.

The present: Livelihoods and access to land

Livelihood in Djanwely Maoundé

I first arrived in Djanwely Maoundé at the end of August 1998. There had not yet been any significant rain showers and all the men were in the mosque praying for rain. The year before there had been no harvest: the rain had come too late and when it finally came, worms had destroyed the harvest. People were scared. They feared another year without a good harvest. One farmer told me: 'We prayed and prayed for rain until we got tired of praying'. The villagers sacrified a sheep during prayers and that night rain came, not in large showers but it did finally rain. A brother of the chief, Madjo Ongoiba, who is a *marabout,* told me later that year that many farmers had visited him during the rainy season. He had made amulets and small notes with Koranic verses written on them. The farmers had left the small notes in the sun: explaining that Allah did not like the hot sun and so would bring rain. The food situation remained insecure that year. The farmers who had had a good harvest during the 1996/1997 season had enough millet in their granaries for that year, others were less fortunate. The state offered the village a gift but unfortunately, as mentioned earlier, this gift then became another source of conflict among the villagers. There were still old people without any food left who were forced to gather *éré na*,[8] a small bush fruit that has almost no nutritional value.

Daily life in Djanwely Maoundé revolves around seasonal cycles. During the rainy season everybody works on the land, the men leave the village early in the morning to cultivate; the women follow their husbands later in the morning, taking with them a meal to be eaten at noon. In the afternoon the women help their husbands or work on their own plots. It is the husband who gives his wife one or two plots, which she then cultivates for herself and keeps any revenue for

[8] *Erre nà* is the Dogon word for the fruit of the *Boscia senegalensis,* which has almost no nutritional value. They even have to be cooked for more than once because the first boiling produces toxic water.

herself. Not many women in Djanwely have a granary of their own; they normally store the harvest from their plots in their huts. After a good harvest, women will keep their produce and wait to sell it when prices are high and if there should be a shortage of food, they use the harvest from their own plots as a reserve for the family.

During the cold season a lot of people leave to earn money elsewhere. Some travel through the region, others go as far as Abidjan to earn money from different kinds of work: manual labour, petty trade, etc. The ones who stay behind in the village repair their houses and make bricks for constructing new ones. Building new houses is not easy as space is lacking. The first quarter cannot expand as the village of Fombori-Do is too close, the second quarter has problems because of the mountains, and the third quarter has no space at all because it is enclosed by the road to the school and the dispensary and on the other side of the road there are fields. At the end of the hot season, farmers start working on their lands, cutting small trees, burning them and doing all sorts of small jobs in preparation for the cultivating season.

To gain access to land one has to ask the permission of the *Chef de Terre,* the land chief. Every quarter of the village has a land chief; who is the oldest man in the quarter. The fields around the village are divided in such a way that every quarter has its own fields. The first quarter has its fields closest to the village, as the inhabitants claim to be the first settlers; the fields of the third quarter are farthest away from the village. Nowadays, it is almost impossible to cultivate new fields around the village, as the zone is practically saturated. The fields on the east side of the village reach as far as Djanwely Kessel, and on the west side as far as the village of Fombori-Do. Furthermore, there are fields between Djanwely Maoundé and Douentza where the soil is suitable for cultivation. In recent years when there was sufficient rain, fields on the northern side of the village were flooded, and water erosion made fields unsuitable for cultivation. This meant a considerable loss of arable land in the vicinity of the village.

Recently, rumours spread through the village that one of the three land chiefs had begun to sell the fields in his custody. This is strictly forbidden because the fields belong to the village and cannot be anyone's private property. However, there are stories about people wanting to pay a lot of money for the fields (cf. Brandts forthcoming).

In the next sub-section, two case studies are presented to illustrate that livelihood and access to land are different for inhabitants of the first and the third quarters of the village.

Case studies

- Amadu Samaké: A third-generation 'newcomer' with no access to land

Amadu Samaké, a 56-year-old farmer from Badjengere, the third quarter of the village, has a wife and three sons. At the time of the interview (March 1999), none of his children were in the village. One of his sons was working in Segou, the other two were involved in petty trade somewhere in the region. Amadu has lived in Djanwely Maoundé his whole life but he does not have any fields of his own. When his grandfather arrived in the village, he asked the chief of the quarter permission to settle. That was granted but because of a lack of fields, he was not given any of his own, so he had to rent them from farmers who had already been in the village for a long time. That is why every year at the end of harvest period Amadu asks the land chief of the third quarter, Amadu Dem, for permission to work the same fields the next season. If someone has cultivated the same fields for years and years, the land chief will always grant them permission to cultivate these again the following year but the fact still remains that Amadu will never have fields of his own. In March 1999 Amadu was busy constructing another granary and doing some clearing in the fields. Besides agriculture, he is involved in petty trade: he sells watches and radios at the weekly market in Djanwely Maoundé. His fields are small and a long way from the village, and because he does not have a donkey or a cart, he has to walk to the fields. He does not own a plough either, so he does all the work by hand. Amadu cultivates the same way every year, using the same type of seeds and with the same rotation plans. Amadu usually reserves a small field for his wife who cultivates millet, peanuts and sesame. She can do whatever she likes with the harvest. Most of the time she sells what she grows in order to have some money of her own.

The start of the 1998-1999 growing season was delayed as the rains were very late arriving. Amadu saw other farmers sowing before the first rain but because of a shortage of sowing seeds he did not dare to sow before the rains came. Sowing before the rain arrives is risky and if the first sowing fails, he would not have sufficient to sow again. And as he could not afford to buy seeds, he had to wait for the rain. Amadu went to the mosque every day to pray for rain. He was afraid that again there would be no rain that year and that the harvest would fail. When the first rains came, Amadu's whole family worked in the fields. Amadu and his sons cultivate millet, beans, hibiscus and groundnuts. Amadu does not work in his fields seven days a week since he works one or two days a week in the fields of other farmers to earn some money. He always tries to work his own fields very quickly so that there is enough time left to hire out his labour to others. During the rainy season his sons also work on the communal youngsters' field to sow, do the weeding and to finally harvest. The produce is most often sold; it is up to the young groups in Djanwely Maoundé to decide what they will

do with it. In the end, Amadu was pleased with the harvest of 1998/1999. Rain fell heavily and frequently and there was no disease so he harvested large quantities. He then built another granary.

The 1997/1998 harvest, by contrast, had been bad as Amadu had harvested nothing. The year started well, rain fell early – by the middle of June – and it rained often. Then suddenly it stopped raining, the villagers prayed and prayed but Allah was not well disposed towards them, Amadu told me. It was not only the lack of rain that ruined the harvest; worms ate the millet plants and birds threatened the harvest as well. Amadu went to the *marabout* to ask his advice. The *marabout* wrote some Koran verses on a piece of paper that Amadu buried in his field. He also hung some in the trees against the birds but it did not help. Other farmers bought powder against the worms in Douentza market but Amadu could not afford it. His harvest was completely destroyed. The harvest the year before had been abundant and until mid-July 1998 there was enough to eat. After that, however, they had to eat *erre nà*. Luckily, Amadu and his family received their share of the state's gift to the village. It was not enough for the whole family but it helped a bit.

Amadu works in the fields for his own family, which means his wife and his sons with their wives. He has his granaries on his own compound. He gives one tenth of his harvest to the *marabout* in the form of *zakat*, the rest is for his own consumption. He always saves a part of his harvest to be used as sowing seed for the following year.

- Andogullie Ongoiba: A first settler, access to land

The story of Andogullie Ongoiba is rather different. He is the oldest man in the village and lives in the first quarter. He must be about 76 years old but looks a lot older. He is one of the land chiefs. Anyone who wants to cultivate a new field or a field that has laid fallow and that belongs to the first quarter has to seek his permission. In addition, he is the *muezzin,* the announcer of the daily prayers. He himself does not work in the fields anymore but he gives orders to his son and grandsons. Although Andogullie has had four wives, only one is left. Two died and he divorced the third one. Andogullie has one son and three daughters from his first wife. His son has seven children, and Andogullie's grandsons are now old enough to work in the fields.

Andogullie's father was a farmer in Tula on the Seeno before French colonization. In those days, Tula was only a hamlet with a Dogon quarter where Dogon from Djanwely Maoundé lived in order to cultivate. Tula also had a Fulbe quarter where Fulbe from Dalla had settled. Nowadays, Tula has been officially recog-

nized as a village.[9] Andogullie's family has always been small, meaning a lack of manpower. His father had to make a choice: cultivating in the hamlet and leaving fallow the fields in Djanwely Maoundé, or concentrating on the fields in the village. He chose the latter, although this choice seems surprising, as the harvest in Tula is considerably larger than that in Djanwely Maoundé. I heard from other villagers – Andogullie himself always remained silent about this – that his choice also had to do with the chiefdom of the Ongoiba. His family lived in Tula but they agreed with the French colonizers to take the chiefdom in Djanwely Maoundé. The whole Ongoiba family settled in the first quarter of Djanwely Maoundé, claiming the chiefdom with French help. They sent one member of the family to Douentza to maintain contact with the administration, and this family lives in Douentza until this day.

The Ongoiba's compound in the first quarter of the village differs from the compounds of families in the third quarter. It is much bigger and has many granaries. It is obvious that the extended family lives together. Every morning, Andogullie distributes millet from a granary to the women in his family to prepare food, or he orders a younger man to distribute the millet. Women are not allowed to enter a granary.

The labour on the fields is done by pooling the whole extended family. The men work in the family fields most days and work for themselves one day a week. The harvest for the extended family is stored in the big granaries on the compound. Near the houses of every nuclear family there is a small granary where they store their own harvest. They sell this millet at the market or prepare it for meals for visitors. Work in the fields is facilitated by the use of a plough and a donkey with a donkey cart. Andogullie and his family had a good harvest in 1998/1999. Like Amadu Samaké, they had had problems in 1997/1998 due to insufficient rainfall and crop disease but they could afford to buy powder at the market in Douentza against worms.

Besides lending land, the land chief has to organize collective labour. In the 1999 dry season, the men's house in the first quarter, the *toguna,* was almost falling down. Andogullie called together all the young men in the first quarter aged between 15 and 45 to restore the house. When the job was finished, the men and women sat down and ate together.

There are a lot of differences between the two farmers: they not only live in two different quarters but their compounds have different expectations. Amadu has only one quite small granary, while Andogullie lives on a big compound with large granaries. The difference is that Andogullie's extended family works

[9] This means that farmers pay their taxes to the chief of Tula instead of paying them in their village of origin.

together, while Amadu has no such extended co-resident family but takes care of his own nuclear family.

Another difference between the two farmers is that Andogullie has, as a member of the family of the chief and as a descendent of the first occupants of the village, access to land on a permanent basis. Amadu, whose grandfather settled in the village much later, has to borrow land for cultivation. In addition, Amadu is a member of the clan of political intermediaries, indigo dyers and traders, while Andogullie belongs to a village lineage whose members see themselves as nobles and the real cultivators. This difference influences the attitude of both farmers towards labour. For Amadu it is clear that when the harvest is not sufficient, he has to find other ways to earn money to buy millet. Andogullie, by contrast, sees himself first and foremost as a farmer; and is only engaged in working his own fields.

Differential access for different groups

Access to land and water is of crucial importance for cereal and livestock production in Djanwely Maoundé as in the whole of West Africa. As the aforementioned case studies illustrate, not everybody within the village has the same degree of access. Those who see themselves as the first settlers have access to the best land and cultivate the fields closest to the village. Latecomers do not have fields near the village and, as stressed before, the fields further away are less attractive regarding soil fertility.

Access to land in this Dogon village is related to the time of arrival in the village. The Ongoiba claim to be the first in the village and to hold the ultimate rights over the territory. Everyone who arrived after them had to ask their permission to cultivate. Even when families cultivate some fields for several decades, they will never be theirs, and they always have to ask permission to cultivate the following year in the same field again. When the village became bigger, it was too difficult for one chief to give permission to everybody to cultivate new fields. The new fields were also further and further away from the village. So now every quarter has its land chief. In old Dogon villages on the escarpment, this land chief is also busy with ritual festivities (Paulme 1948). As the residents of Djanwely Maoundé have almost all converted to Islam, the tasks of the land chief are limited to giving permission to cultivate the fields. New allotments are becoming increasingly rare and it is almost impossible to find virgin arable land around the village nowadays.

There is, however, also another explanation for the different modes of access to land. Many inhabitants of the third quarter originally were the political intermediaries, the traders and the dyers of the indigo *pagnes*. The Maiga who also live in the third quarter were the blacksmiths who were not used to working in

the fields. They used to work for the Ongoiba and were paid in millet and later also in cash. As a result of several droughts during the 20th century that caused prolonged periods of food shortage, this situation has changed. Dem and Maiga had to start cultivating for themselves. As the fields close to the village were in use by the Ongoiba, Maiga and Dem families had to bring into cultivation new more marginal fields further away from the village.

Amadu Maiga is the oldest living blacksmith in Djanwely Maoundé. He remembers the time when there was sufficient water during the rainy season. His occupation was preparing the tools for the Ongoiba and shoeing their horses. All his work was paid in millet. He remembers how he constructed sickles to cut rice. It has been a long time since he did this – nowadays it is too dry to cultivate rice in the area. The same is true for shoeing the horses; the village no longer has any horses as the Ongoiba sold theirs during the terrible droughts of the 1980s. They see the horse as a noble animal and did not want to eat them. Amadu Maiga's son is still a blacksmith, making new tools and rifles. The work is becoming progressively less traditional: he no longer searches for iron across the region but buys it at the market in Douentza. If the blacksmith works for the Ongoiba he gets paid in cash. But to survive, the family has to cultivate as well.

Coping strategies in Badjengere, the third quarter of Djanwely Maoundé

Trade and migration

While the strategies of the inhabitants of the first and second quarter were, and still are strongly biased towards agriculture, the people living in the third quarter have always practised more diversified livelihood strategies. Historically, they were involved in activities other than agriculture as the result of a division of labour between different status groups. During the 20th century, agriculture became progressively more important for them but as they only had access to marginal fields, other activities remained crucial too. The last few years, they have diversified their livelihoods to an even greater extent due to unfavourable circumstances but also as a response to new opportunities. In this section, we take a closer look at the multiple livelihoods of the inhabitants of the third quarter. Attention is paid to the traders, political intermediaries and the dyers of indigo with family names like Dem, Guiré, Samaké and Tegena. I do not focus on the blacksmiths, the other inhabitants of this quarter. It was difficult to establish close contacts with this group that, to this day, is surrounded by taboos and secrecy.

Trade and migration are important components of the multiple livelihood strategies of the inhabitants of the third quarter. The Dem are astute and smooth-

talking traders, like Dogon traders in other parts of the country. They try to make profit from petty trade but also trade on a larger scale. They enjoy extended networks across the whole region and have a worldliness that distinguishes them from the Ongoiba. Trade is often, but not necessarily, combined with migration.

Migration for longer or shorter periods is an important way to earn money. Migration is not new and many farmers are eager to tell their stories of their lives *en exode.* The farmers who work in town during the cold and dry seasons return to the village before the rainy season starts. They spend most of their revenues on agriculture. Young people also migrate to the city. For them, it is a way of earning money before they get married and in addition it gives them a social standing in the village, especially *vis-à-vis* other youngsters. That is why they like to speak Bambara[10] together. My host in Djanwely Maoundé, Anta Tegena, had been to Bamako before her marriage and still dreams of her life in Bamako, forgetting the problems she had there. When she talks of Bamako, she thinks about the food they ate, the clothing she could afford and all the *marmites*[11] she bought to bring home with her. She has forgotten about the child she had there by her master and the shame she knew returning home. Her child is not with her anymore; the family left it with a cousin in another village. I never heard this story from Anta herself, I do not even know which village they sent the child to, as she feels too ashamed to talk about it. Her little sister, curious about life in the big city, recently left the village and it is uncertain when she will return.

Despite the revenues generated, the villagers consider the attraction of the city as a problem too: a whole generation of young men and women is missing in the village, as they all went to the urban areas. The result is that effective manpower is lacking in the village, marriages have had to be postponed, and villagers are afraid of the diseases the young may bring home with them.

Below I illustrate the multiple livelihoods of the Dogon with the case of a farmer and a successful woman who live in the third quarter. The examples clearly show that the inhabitants of the third quarter do not rely on cultivation alone. Although they usually describe themselves as cultivators, they used to have all kinds of jobs, looking for the best way to make money.

Bhukar Dè: Making money from petty trade

When I first entered the compound of Bhucar Dè I was astonished: how a family could live in a compound as small and dirty as theirs. Bhukar lives in the compound with his wife Fatimatou Djoengo and his son Amadu. He has three married daughters: one lives with her husband in Djanwely Kessel, another lives with her husband's family in Djanwely Maoundé and the third has gone to

[10] Bambara is the language spoken in the capital Bamako and its surroundings.
[11] *Marmite* is the French word for a large cooking pot.

Bamako with her husband. Fatimatou told me: 'In the beginning our daughter sent us money, but her life in Bamako is very expensive. She and her husband are not earning so much, and it has been a long time since she sent us money; we hardly hear anything of her.'

Bhukar Dè is about 58 years old. He has a couple of small fields far from the village. Bhukar's son Moussa is living with his wife and child on the family's small compound. A few years ago Moussa went to Abidjan during the dry and cold season and had all different kinds of jobs there. Before the rainy season started, he went back to Djanwely Maoundé and with the money he had earned they bought a donkey and a donkey cart. Bhukar and his son work the fields together. Bhukar is not able to cultivate new fields because he lacks manpower and cannot afford to hire workers to help him.

During the dry season Bhukar trades in the region, travelling across the whole region and buying all sorts of small things from small radios to mats. He often returns to Djanwely on market days to try to sell his wares and make some profit. In March 2000, he was not even in the village to celebrate the feast of Tabaski. His wife told me that he had left for Koro District to buy donkeys that he wanted to sell in Douentza and Djanwely. Later I heard that he had not succeeded as the donkeys had been too expensive. Moussa always talks about returning to Abidjan, their donkey is very old now and they want to buy a new one. During my last visit to Djanwely Maoundé in 2001 he still had not left, so they will have to wait another year before buying another donkey. That growing season they had to go on working with the old one.

Hawa Dem: A successful woman from Djanwely Maoundé

Hawa Dem is a woman of about 40 and the eldest daughter of the big trader Moectar Bhucar Dem, who is currently living in Douentza. She is married to Bureima Tegena as his second wife. Shortly after their marriage he divorced his first wife due to her infertility. Together they have six children, two girls and four boys. Hawa Dem takes care of her household and works in the fields her husband gave her when they got married, as is common in Dogon villages (see Griep and Maas, this volume). She cultivates millet, beans, peanuts and sesame in her field and sells most of the harvest at the weekly market in Djanwely or at the market in Douentza on Sundays.

Hawa heads the women's association of the village. In fact, there are two associations due to the earlier-mentioned conflict about the chiefdom of the village. Her extended family chose the chief's side and her association is the older of the two and has more money than the association that does not support the village chief. When an NGO wants to support an association, its staff always chooses the women's group on the chief's side, thinking this is the official one.

Save the Children Fund, for example, donated FCFA 200,000 to the women's association. Each member of the association can request credit in order to make indigo *pagnes* and *bogolans*[12] and to sell them at the markets. Every year around the time of the feast of Tabaski the women have to pay back part their credit to the NGO. Hawa is often in Douentza, not only to sell goods at the marketplace and visit her old father but also to get instructions from the Save the Children Fund on techniques for dying the indigo and to learn new patterns. The women in her association are keen to learn new methods and want to sell their *pagnes* as far away as Bamako.

Hawa has access to land, has different occupations and earns money from all of them. But she also knows the importance of education. She had observed that most of the chief's children and the members of his family are well educated and earn money other than from agriculture. For this reason, she and her husband decided to send their oldest son to school in Douentza. They hope that he will continue his studies just like the chief's children.

Cultivating in hamlets on the Seeno

As described earlier, trade and migration are important components in people's multiple strategies in adapting to changing circumstances. But within the realm of agriculture, new strategies have been developed to cope with the changing environment. Cultivating in hamlets on the Seeno constitutes such a strategy. Farmers are progressively settling in hamlets on the Seeno during the rainy season to cultivate as there is still virgin land on the plain that is more fertile than that in the vicinity of the village. There are a lot of hamlets on the Seeno. Some are quite old, others have been recently colonized, some are big, others are very small consisting of only one or two families (Maas and Nijenhuis, this volume). The biggest challenge facing those living in these hamlets all year round is water. As there are no permanent water points in most of the hamlets, people are obliged to return to the village after the rainy season.

The hamlets where the people from Djanwely go are Domani, Tula, Wayre and Petakooli. Two Djanwely Maoundé families settled in Domani, the first is an Ongoiba family from the first quarter, the other is the family of the great *marabout* Cheick Ibrahim from the third quarter. It is impossible to stay in Domani all year due to a lack of water so both families return after the harvest. Fourteen families left Djanwely Maoundé long ago to cultivate in Tula and because Tula had water points the settlement became more permanent and the families even pay taxes there. Most of the families from Djanwely Maoundé who

[12] A *bogolan* is a *pagne* dyed with mud. This dying is also done by women from the first and second quarters and differs in this way from the dying of indigo *pagnes* that is exclusively done by women in the third quarter.

went to Tula are from the first quarter, one family is from the second, and two are from the third quarter. Wayre is more a hamlet for people from Djanwely Kessel than it is for those from Djanwely Maoundé (Maas this volume). Seven families from Djanwely Maoundé's third quarter, two from the second and one from the first quarter have left for Petakooli. There is only one that lives in Petakooli the whole year, the others return after the growing season.

Men who go to cultivate on the Seeno already have ties with others in the hamlet of destination. Even before French colonization, families from the first quarter went to the hamlet of Tula for cultivation. In those days this was an exception because of the number of raids that took place. But stories lead us to believe that the Ongoiba were very brave, always looking for new fields and taking the risks attached for granted.

After French colonization and the pacification of the region it became safer to go to the Seeno for cultivation. After the droughts at the beginning of the 20th century the need for the Maiga and Dem to cultivate new fields became urgent. As latecomers, they only had access to marginal fields and the need for arable land capable of providing a sufficient harvest to feed all the members of their extended families pushed them to go to the Seeno. They could not go to Tula as they had no relatives there so they went to other hamlets like Wayre, Petakooli and Domani.

The Dogon, like other population groups in the region such as the Fulbe and Sonrai, believe that space on the Seeno is unlimited. However, the only way to gain access to land is to have a relative or a friend who is already there. They talk about their relative or friend as their *logeur,* a host who has a crucial role to play in the new settlement. Nijenhuis (this volume) concludes the same for the Dogon in southern Mali and Van Steenbrugge (this volume) also points out the key role of a *logeur* for the Fulbe. The host will help the new settler find a piece of land and will go with him to the hamlet's land chief. Once permission has been granted, the host will help the newcomer with getting settled. Without a host, settlement in new surroundings is impossible.

An example is the hamlet of Petakooli[13] where a lot of families from the third quarter settled. Fields in Petakooli have been under cultivation for more than a hundred years and nowadays there are around thirty Dogon families in Petakooli, most of them from Petaka, a Dogon village some fifteen km to the north of Petakooli. Ten families originally come from Djanwely Maoundé. Besides these Dogon families, there are seven Fulbe families that cultivate fields a bit further away from the hamlet and also work as herdsmen for the Dogon. Most of these families came from Serma. The cultivators pay their taxes in their village of

[13] The original name is *Fetakoli,* a small area of water (*feta*) near a big tree (*koli*). Because of the bad pronunciation of the Dogon the name of the hamlet became Petakooli.

origin. The land chief of Petakooli always contacts the village chief in Petaka and when someone comes with his host to ask permission to cultivate a new field, the land chief will organize a meeting in Petaka. There, under the *toguna,*[14] the old men of the village will make a decision.

If a farmer already cultivates fields in Petakooli and wants to enlarge his fields, he also goes to the land chief. In such a case, the land chief will make his decision in Petakooli, usually after consulting the oldest men in the hamlet. Once a Dogon family has settled on the Seeno, it is easy for them to expand the area they cultivate. If the farmer has enough manpower and the right equipment – a plough and camel traction – he can increase the size of his fields every year. In fact, the introduction of the plough and animal traction have changed the region a great deal. Land that used to be used as pasture or fallow has been brought into cultivation. In the past, the Fulbe dominated the Dogon but nowadays the Dogon claim to have more rights to the land than other ethnic groups in the region. They do not recognise the rights of others to the land, for example the rights of herdsmen to pasture (see Bonte 1999). These two factors have allowed for the expansion of fields by the Dogon.

Alei Dem is an example of a farmer from Djanwely Maoundé who cultivates in Petakooli. The following section illustrates the way he has expanded his fields.

Alei Dem: A young cultivator of Petakooli

Alei Dem is the son of Daouda Dem, and lives in the third quarter of the village. He is 26 years old and cultivates his family's fields around the hamlet of Petakooli. During the rainy season he lives in Petakooli with his second wife, returning to Djanwely only to visit the weekly market. In the dry season he returns to Djanwely where his first wife lives.

Youssouf, an uncle, and Daouda, Alei's father, were the first in their family to go to Petakooli some fifty years ago. They decided to find new fields for cultivation on the Seeno, as the fields of the extended family in Djanwely Maoundé were too small and too marginal to feed the whole family. Their father, Belco Dem, gave them permission to look for new arable land. The two brothers walked together to Wayre, about five km from Petakooli, where they met their host Issa Djoengo. Issa Djoengo came from Djanwely Kessel and cultivated fields in Wayre. He belonged to the Dem family and was able to help the two brothers by showing them the surroundings and they found some good ground around Petakooli, near to Issa's fields. The three went to the land chief of Petakooli and the latter went to Petaka to consult the village chief. The Dogon of Petaka were the first settlers in Petakooli and have been cultivating the fields

[14] A *toguna* is a house made of wood and millet stalks where the old men of the village come together to talk, discuss, make decisions and find solutions to wide-ranging problems.

there since the beginning of the 20th century. Although the Fulbe in the nearby village of Douma claim to have the ultimate rights to the ground, Petaka's village chief is entitled to give permission for the cultivation of fields in Petakooli. There was enough ground around the hamlet in those days for the two brothers to establish themselves in Petakooli.

During the following years the brothers Youssouf and Daouda cultivated the land around Petakooli, some thirty km from their native village of Djanwely Maoundé. Every year before the first rains they went to the hamlet on foot together with their wives and children. They carried water with them on their heads. Water has always been the problem in Petakooli. There is a pond near the hamlet where they could find water for themselves and their animals during the rainy season but in the dry season, the pond dries up. It was therefore risky to go to Petakooli before the first rains: if the rains were late, there was no water, and the water they took with them was insufficient to cover a longer period.

The fields around Petakooli are more fertile than in Djanwely, as the soil contains more clay. In their first few years, Youssouf and Daouda were successful and had good harvests. After the rainy season they returned to Djanwely. If the harvest in Djanwely had been good, they would leave what they had harvested in Petakooli in the granaries they built in the hamlet for any surplus. If the harvest was not good in Djanwely, they brought what they had harvested in Petakooli to the village. By spreading the risk in this way, there was always something to eat for the extended family but working in this fashion was only possible because the family was big enough. There was sufficient manpower to cultivate their fields in Djanwely while two family members could also work in the hamlet.

Youssouf and Daouda tried to enlarge their fields bit by bit over the years. At first, they did it by hand and had to do most of the work themselves but their children started to help as soon as they were old enough. There were years when harvests were abundant and they sold the surplus and bought animals to use as traction. This made it easier to expand the fields.

Since he was a child, Alei always went with his father to the hamlet to help him with all kinds of tasks. Nowadays his father is old and does not visit the hamlet anymore. Alei is free to make all the decisions alone. One of his uncles, Sidiki, sometimes comes to Petakooli but he, as well, leaves his nephew free to do as he thinks best.

The most important change since Youssouf and Daouda's days is the construction of a well in Wayre and the installation in 1999 of a water pump financed by an NGO. Water is now available within five km of Petakooli, making it possible to live in the hamlet the whole year round. Another change is the ages of the family members: they have more manpower. In addition, the

family has become much richer and has bought a lot of animals. Alei is proud of his cattle. Normally, the Dogon do not let their cattle graze near their village, as the size of one's herd is one of the great secrets of Dogon society (Van Beek 1995). Although Alei has a Fulbe herdsman, he does not really trust him and lets his herd graze near Petakooli so as to keep an eye on the herdsman, even though there is almost nothing there for the herd during the dry season.

During the dry, cold season of 2001, I did not find Alei in Djanwely. He was in Bamako selling his family members' young cattle for the big feast of Tabaski.[15] Over the years, trade during the dry season has become more important for Alei. At first he only traded at the weekly market in Djanwely, and on Sundays went to Douentza to sell sheep and goats there. With the help of his uncle Souleyman Moectar Dem, who is a big cattle trader, he started to go to Bamako for trade. In 2001, he did not even return to Djanwely before the feast of Tabaski. This was a hyge disappointment for Anta, his first wife who had hoped he would return in time for the feast. Unfortunately the prices of small cattle had decreased in the weeks before the feast and Alei could not sell his animals for a high enough price, so he stayed in the capital. In other years Alei had always been busy during the dry season in the village itself, building a new house in Djanwely Maoundé for his second wife and trying to find food for his family's animals in Djanwely. And on market days, when he was not trading, he would work as a butcher to make some money from meat sales.

Before the rainy season starts, Alei goes on his bicycle to Petakooli, followed by his second wife Fanta and their child. His first wife works in the dispensary in Djanwely Maoundé and stays behind. Every day, he works in his fields sowing millet, sorghum and peanuts with his uncle's younger brothers. If the harvest is abundant, he takes the millet on a donkey cart to Djanwely. A few years ago, Alei bought a camel. This changed things for him. Before, he had always returned to Djanwely when the harvest finished. Now he wants to expand his fields and this is easier with the help of camel traction. During the dry season he often returns to Petakooli to plough new arable land. In so doing, he takes a certain risk because when the winds of the Harmattan start, they can blow away the upper layer of soil. He does not stay in Petakooli the whole year because he only has a hut there. For the moment he is diversifying by investing his revenues in cattle and agricultural tools.

Alei Dem is a 'modern' farmer, working with new tools and in a more individualistic fashion than his parents before him. His father and grandfather started with the cultivation of new fields and had the courage to go to the Seeno. But Alei does not take his situation for granted. He wants to enlarge his fields and he has bought a camel to ease this work. In doing so, he does not recognize the

[15] Tabaski is the big Islamic feast, *iedul-ad-ha*.

rights of other ethnic groups to the land. He sees his family as the first cultivators there and thus claims to have rights to the fields. The Fulbe cultivating the land at some distance from Petakooli will have to move the moment he starts to cultivate that land as well, he told me.

But this is not the only way Alei earns money. He also works as a butcher at the weekly market and has begun to trade young cattle in Bamako. He has a multiple livelihood to spread any risks. Alei is not the only member of the extended family to work in Petakooli; other members of the extended family work in the same way as Alei. His extended family is rich, and all the male members are using camel traction to expand their fields.

Although Alei Dem comes from a group of latecomers to the village, his family is doing better than some families in the first quarter. The Dem feel no shame working in other areas than agriculture. They used to work quite individually when trading but Alei also takes most decisions concerning his agricultural activities himself. Not being responsible for a big family but only for a nuclear part of it makes it a lot easier to work in fields far away.

Conclusion

The history of the Dogon of Djanwely Maoundé is a history of movement and adaptation. Coming from the Mandé Empire and settling on the Bandiagara Escarpment, they were forced by demographic growth, land shortage and internal conflict to look for new fields. So they left for the Seeno, taking the risks of slave raiding on the plains for granted. After their settlement in the north near Douentza, they continued to look for new areas to bring into cultivation when land became increasingly scarce in the vicinity of the village. This accounts for why they are settling in hamlets on the Seeno, permanently or only temporarily to cultivate during the rainy season.

Central to these movements has always been the problem of access to water and land but this problem differs between different social categories in Djanwely Maoundé, as do the coping strategies adopted. The Ongoiba family, inhabiting the first and the second quarters, are the descendants of the first settlers and founders of the village. They claim authority over the territory and, as such, have access to the best land closest to the village. They are the nobles and consider themselves the ‘real cultivators’. The inhabitants of the third quarter, by contrast, arrived later and are of a lesser social status, being the blacksmiths, the political intermediaries, traders and dyers of indigo of the Ongoiba. To gain access to land, they have to request permission from the land chief on an annual basis. They are often allocated the more marginal land situated furthest from the village.

The strategies of the Ongoiba were, and still are, strongly biased towards agriculture. The inhabitants of the third quarter have, however, always practiced a more diversified livelihood. Historically, they were involved in activities other than agriculture as a consequence of the division of labour between the different status groups. During the 20th century, agriculture became progressively more important to them but they continued to be focused on other activities as well. In the last few years, they have diversified their livelihoods even more due to unfavourable circumstances but also as a response to new opportunities. As such, they seem to be taking the lead from the noble Dogon of the first and the second quarter. Thus, a young farmer like Alei Dem, aiming at multiple sources of income, appears to be very successful despite the current situation of ecological deterioration and scarcity. His expansion on the Seeno continues unabated.

5

Millet cultivation and climate variability in Wayre, a Dogon village on the northern Seeno

Pieter Maas

Introduction

This case study considers changes in the use of land related to climate variability in the village of Wayre close to the Dogon Valley in the centre of Mali. The decision-making process concerning millet cultivation in the context of the livelihood strategies of the population forms the central theme. Given that any method of land use is closely linked to the social and cultural institutions of the local farmers, these are also considered in detail.

Field research was done in the village of Wayre for several days a week over a period of three months from September to December 1998. During informal conversations a good relationship with three men of different ages, all heads of households, was established. They were specifically selected for in-depth study to assess any generational differences. At first, the village residents did not understand the purpose of our research, and conversations were initially limited to agricultural developments and production but by the end of the three months the relationship had become much more open and discussions on a range of subjects were possible.

This chapter is structured as follows. In the second Section the village of Wayre is introduced. In the third Section the land-use strategies of three Dogon

families are discussed in relation to climatological and agro-ecological conditions. The fourth section treats some factors that are external to agriculture but which have an influence on agricultural activities, such as non-agricultural activities and social relations. Finally some conclusions will be drawn about the livelihood strategies Wayre farmers are developing in a changing environment.

The village of Wayre

Wayre is situated in the district of Douentza in the fifth region of Mali (latitude 2°34', longitude 14°45'). The nearest market is in Toula eleven km away. Douentza, thirty-seven km away to the North West (see Map 1.1, p. 4), is the nearest town. Wayre is accessible by vehicle all year round but access may be difficult in the rainy season.

Wayre is a Dogon village and is called Njemegoko by the local inhabitants, meaning 'the chosen place'. The entire village population comes from the village of Djanweli about twenty-five km to the west of Wayre (see Brandts, this volume). A hundred years ago, a lack of land for cultivating millet drove the people of Djanweli from their village to look for a new area and a number of households (*ourodous)* moved to Wayre during the rainy season to grow millet, the staple food and the most important crop in the region.

Before 1978, there were no wells near Wayre and local residents were dependent on rainwater for their own needs and those of their animals and crops. After the rainy season the farmers would return to Djanweli with their harvest and spend the dry and the cold seasons there. However, after the sinking of a well in 1978, Wayre became a sedentary village and is now home to six (extended) families. They live in six different quarters and are spread over various *ourodous.* During the rainy season there are between 250 and 300 residents. This number decreases to about 150-200 during the cold and dry seasons.[1]

The farmers of Wayre make use of a variety of natural resources. The village is positioned in the transition zone between two agro-ecological areas. To the north of the village one finds the clayey soils of the Ferro, where the vegetation is dominated by trees forming strips of dense bush (tiger bush) alternating with bare land. To the south stretch the plains of the Seeno-Manngo, where sandy soils can be found. The vegetation is dominated by annual grasses and herbs. Trees are sparse here.

Both soil types are less suitable for agricultural purposes than the mixed soils of the transition zone where Wayre is located. Here water gathers in small ponds during the rainy seasons and takes longer to dry up than either on the Ferro or the

[1] here are, however, no official administrative data on Wayre. Officially Wayre is a hamlet not a village and therefore, administratively, it is still part of the village of Djanweli.

Seeno. Soil quality and water availability have encouraged the (temporary) settlement of farmers in this area.

Rainfall is erratic and limited to four months of the year (June-September). The long-term average is 561 mm per annum but over the last two decades it has been around 400 mm per annum in Douentza (the nearest rainfall station). Average rainfall was better during the 1950s and 1960s. Its standard deviation is around 30 per cent. Temperatures are high, with an annual average of around 29.8ºC.

Total rainfall is not a definite measuring point for success in crop production. The intraseasonal variability of rainfall determines plant growth as well. Periods of drought during crucial periods of plant growth may damage the growing millet. Even at the village level, local differences can affect crop production figures from one side of the village to the other.

Wind and dust storms at the beginning of the growing season can cause enormous damage to the small millet plants and may force farmers to reseed several times, to the point when it becomes too late to sow and crop production has to be abandoned for that year.

The use and management of natural resources

In this section, the land-use strategies of three Dogon families are discussed in relation to climatological and agro-ecological conditions. The variabilities in weather and the use of space in this region are the result of human and natural factors. Interaction between manmade and natural factors is particularly important.

The strategies employed by farmers are the result of decisions taken in view of the social, ecological, economic and political circumstances in which they must operate. In a village like Wayre, farmers living in similar conditions may employ different strategies. To illustrate this, there follows firstly an account of the decisions taken by three different families in Wayre during 1997 and 1998. After that, the three seasons and the agricultural activities undertaken during these periods are described and, finally, different factors considered important for the exploitation of natural resources are discussed.

Seidou Ongoiba[2]

At the age of 70, Seidou is a well-known and respected man. He is from the largest and oldest lineage in the village. His half-brother is head of the village, as the oldest member of the Ongoiba lineage, and when he dies, Seidou will take

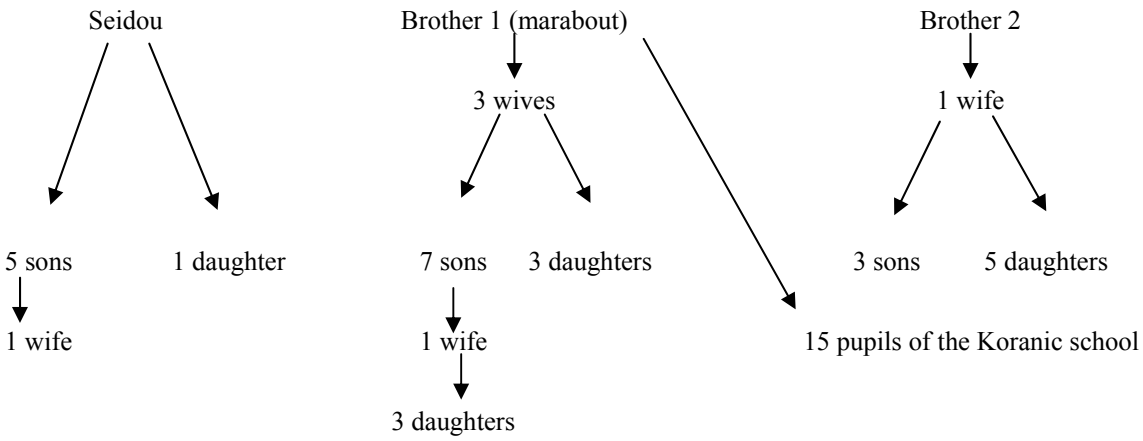
[2] ll names have been changed to ensure anonymity.

over his position. For years, the lineage has been divided into separate households or *ourodous* and Seidou began his own *ourodou* with his two brothers. They live together in a quarter just outside the village of Wayre Ambo. The rest of the lineage has remained where their ancestors originally set up home.

The household consists of 49 people in total: five men, six women, twenty-seven boys and eleven girls (see Figure 5.1). Not all are members of the Ongoiba family: fifteen of the residents are students at the Koranic school run by Seidou's brother who is a *marabout*. They are all boys, and eat and work in their teacher's household. All the male members of Seidou's *ourodou* are Muslim and have attended a Koranic school. Having a *marabout* in the family is reassuring as far as food supply is concerned because a *marabout* earns millet and money from his religious activities even outside the agricultural season. Moreover, the Koranic pupils supply labour for cultivation during the rainy season.

Seidou is the oldest man in the household and his word is final. During the cultivation season, roughly from May to December, everyone has to work in the communal millet fields and Seidou decides every day what needs to be done, except on Fridays. Then the members of the household, as Muslims, have the right to choose what they do, and can, for example, cultivate their small individual plots of millet. All the males in the Ongoiba family who are over 14 years of age work in their personal fields on Fridays.

Figure 5.1
Members of Seidou's *ourodou* and their kinship relations



Each adult has his/her own storage facility and the communal granary is used for storing the millet from the communal fields. It is forbidden to enter someone else's granary without his/her prior permission and only male members of the family are allowed into the family granary. Women may only go into their own

granaries. Each morning the men give their womenfolk grain with which to prepare the daily meals for all the members of the household.

If there are several female household members, one will take on the task of preparing the day's food and the others will be available to help in the communal family fields or they engage in trade in the dry season. The women rarely leave the village. According to Islamic law, men have to provide food and clothing for their women. It is equally the men's responsibility to find all the ingredients required for the main dish at the market and to go further afield in search of foodstuffs that are not available in the village itself.

It is customary for grown-up children to decide when their fathers have worked long enough, so Seidou's sons announced one day that he was no longer needed in the fields every day because of his advanced age. He now organizes the *ourodou* with his brothers and maintains social relations with other inhabitants in the area, the Fulbe and the Touareg. Seidou still has a field of his own although he has reduced the size of his field to avoid problems with his children. His children arrange their free time so as to be able to cultivate millet for their father. For the Ongoiba family, it is traditional to look after one's parents when they become too old to work.

For a Dogon in Wayre, it has always been important to have as many wives as possible to work for you and provide you with children. Seidou is no exception. To 'win' a woman, a man has to provide upkeep for his wife's family for two years, after which the woman joins her husband's *ourodou*. If a man works hard he can provide the upkeep for several women. It is not only money, animals and the quantity of the millet that is important but also the strength and character of the man himself.

In a Wayre household, there are two kinds of property: private and communal. Communal property consists of various fields, a herd, some granaries and agricultural equipment including, for example, a donkey cart and a plough. Private property includes everything a person has earned or acquired through agricultural activities or trade. In addition, money can be earned from a salaried job during the dry season.

The organization of the *ourodou* may at first appear strict but changes easily and frequently occur. If someone finds he has a lot of work to do in his own personal field, for example the day after there has been heavy rain, Seidou and his brothers will decide on the spot how the day's workload should be arranged.

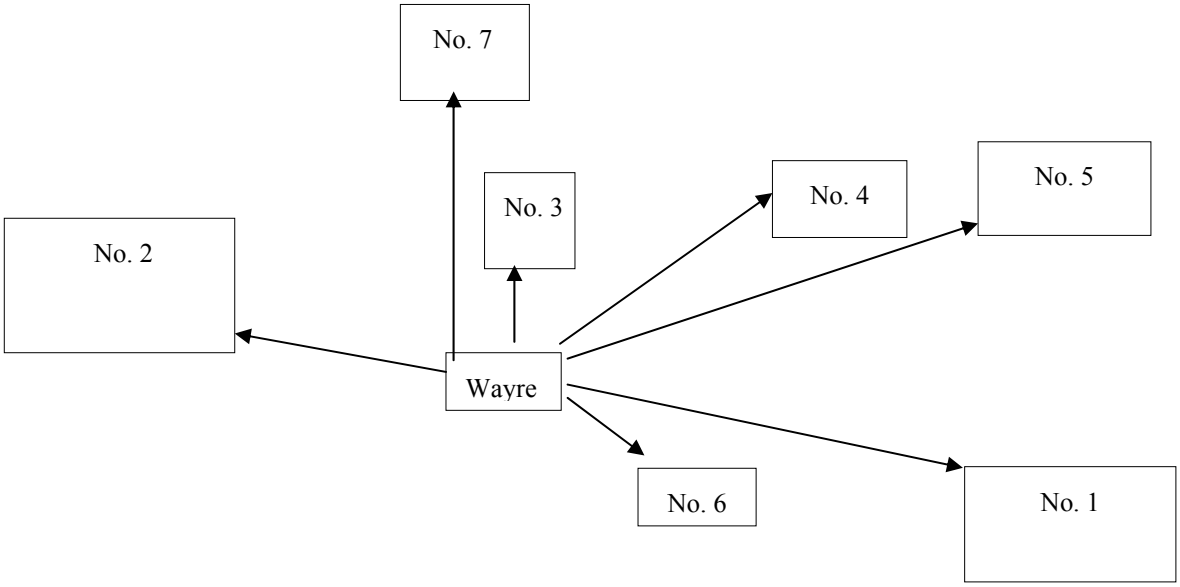
Seidou's household has millet fields around the village but not further away than 2.5 km. Figure 5.2 illustrates how Seidou's fields were used during 1997 and 1998. After the introduction of the plough and the camel as a draught animal, the fields were being extended as the workload became lighter.

The 1997 and 1998 cultivation seasons

Each year Seidou selects the field to be used for intensive cultivation. At the beginning of 1997, Seidou decided to start working on field number one (Figure 5.2). Before the first rains began, the Fulbe and their herds were invited onto the field. The manure fertilizes the soil and increases its ability to retain water. As there were two Fulbe families on the field with their animals, Seidou thought that the soil would be well fertilized and the harvest plentiful.

Figure 5.2

The fields in Seidou Ongoiba's *ourodou*



The field slopes gently with a difference in level of 1.5 metres, so the risk of flooding in the furrows or of having too little water is small. Due to its location on the edge of the Seeno-Manngo, the soil is made up of sand and clay. After the first rainfall in June the field was sown with millet.

Unfortunately, the dry wind destroyed the young seedlings even though Seidou thought all danger from the wind had already passed. The field was resown but destroyed once again by the wind. Undeterred, Seidou wanted to sow the field again since the soil was good and there was still plenty of dung on the field. The third sowing was successful and the seedlings started to grow but due to a lack of rain before harvesting and insufficient moisture in the soil, the millet harvest was far smaller than expected.

Normally weeding takes place twice, once about two weeks after the seedlings first appear and then again when the plants have grown taller. Weeding is necessary to reduce competition for the limited moisture in the soil. In 1997,

weeding was done only once because Seidou thought it better to concentrate on other crops such as beans and fonio, but unfortunately these also suffered from the ravages of the wind.

In the end, there was practically no millet harvest at all in 1997 but luckily 1996 had seen a good harvest and there was still millet left over to cover the first few months after the 1997 harvest failed. The household managed to avoid problems thanks to Seidou's younger brother, the *marabout*, who earned about FCFA 250,000 when he was in Bamako, and who sent 2,000 kg of millet for the household. This enabled the *ourodou* to feed itself without having to resort to selling off any of their animals.

Table 5.1
The characteristics of the fields in Seidou Ongoiba's *ourodou*

Fields	Area (ha)	Distance to village (metres)	Fertilization	Ecological environment	Quantity harvested (in kg) 1998	Kg per hectare
No. 1	3	1,200	manure of Peul herds	Seeno-Manngo	1,750	583
No. 2	6	500	manure of Peul herds	transition zone	3,750	625
No. 3	1	0	domestic refuse	transition zone	750	750
No. 4	0.5	800	domestic refuse	transition zone	375	750
No. 5	2	1,200	manure of own herd	transition zone	750	375
No. 6	2	100	old stalks	Seeno-Manngo	1,000	500
No. 7	1	1,500	old stalks and domestic refuse	Ferro	0	0
Total	15.5				8,375	540

Table 5.2
Number of animals in Seidou Ongoiba's *ourodou* at the end of the 1998 rainy season

Cows	Goats	Sheep	Donkeys	Camels	Horses	Total (TLU)*
20	0	40	7	3	2	21

* Tropical Livestock Unit (TLU) : 1 camel = 1.0; 1 cow = 0.7; 1 goat = 0.1; 1 sheep = 0.1.

After the disastrous harvest in 1997, work began again for the next season. The young men in the *ourodou* worked in the millet trade to earn money and all the members of the *ourodou* looked for fruit (*Boscia senegalensis*) to eat in case of necessity. Before the rains, preparations for the next season started but due to a shortage of food in the area there were very few Fulbe in the village with herds to deposit manure on the fields. Fortunately for the Dogon, the soils in the fields were not too impoverished as they had in effect been left fallow for nearly a year.

Seidou once again wanted to sow field number one but, after the first rains, a dry period ruined all the seeds. After the second sowing, the wind tore up the

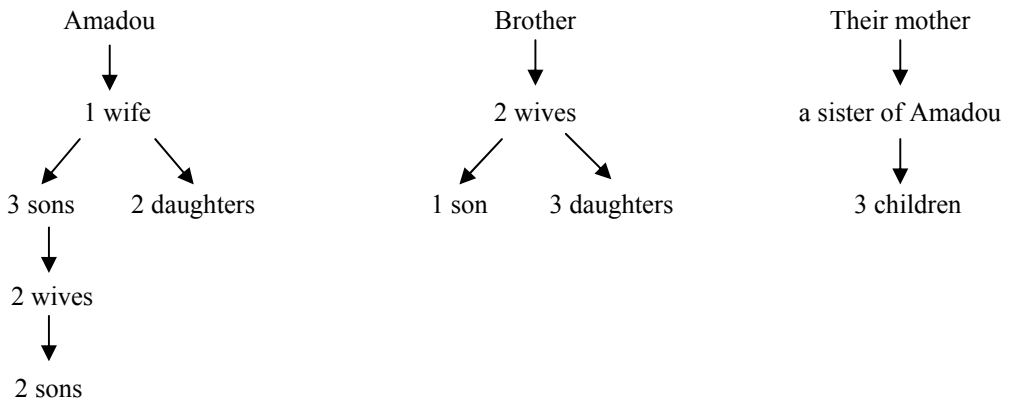
seedlings and water destroyed much of the third attempt. Instead, Seidou sowed sorghum where the water had spoilt the millet. The field was weeded twice, as were all the communal fields during 1998.

This year, field number one produced only 1,750 kg of millet instead of the usual 3,500 kg. Field number two, about three km away, did not experience as many problems. The first seeds were lost after heavy rainfall but the second sowing was successful and the field produced 3,750 kg of millet. The household's other fields fared equally well. According to Seidou, it is above all the beginning of the cultivation cycle that determines the success of the harvest. At this time the plants are susceptible to damage from the wind, pests, excessive water and extended dry periods between rain showers.

Amadou Dem

Amadou lives in a different part of the village from Seidou and his family. Aged 52, he is the oldest member of his household that comprises 23 people (Figure 5.3). Amadou, his son and his young brother are the adult men in the *ourodou* and are responsible for six women, their elderly mother, their ten children and three other children belonging to other family members.

Figure 5.3
Members of Amadou Dem's *ourodou* and their kinship ties



In the past, Amadou and his family were stockbreeders like the Fulbe but during the droughts of the 1970s many of their animals died. Amadou's grandfather owned fields in Wayre and thus they moved to the village. The rules and work in Amadou's *ourodou* are similar to those in Seidou's. They both use a lot more land to cultivate millet since the introduction of the plough and the cart. The biggest difference between the two households is that Amadou's children do not go to a Koranic school.

For the last four years, the same fields have been used every year for the cultivation of millet. Unlike Seidou, Amadou's household does not maintain relations with the Fulbe to fertilize their fields. They do however benefit from the dung left by the animals on fields four and five that are located near the well where the Fulbe take their herds to drink.

Figure 5.4
The fields in Amadou Dem's *ourodou*

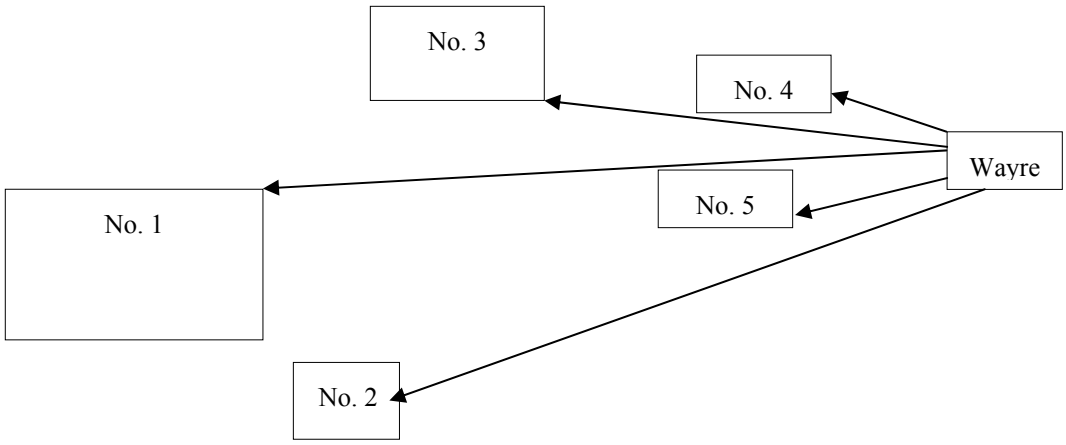


Table 5.3
The characteristics of Amadou Dem's fields

Fields	Area (ha)	Distance to village (metres)	Fertilization	Ecological environment	Quantity harvested (in kg) 1998	Kg per hectare
No. 1	5.5	2,200	manure of own herd	transition zone	4,000	727
No. 2	1	2,100	manure of own herd	Seeno-Manngo transition zone	700	700
No. 3	3.5	1,250	manure of own herd	Seeno-Manngo transition zone	2,500	714
No. 4	2	200	manure of own herd and passing cattle	transition zone	1,250	625
No. 5	1.5	200	manure of own herd and passing cattle	transition zone	1,300	867
Total	13.5				9,750	722

The other fields are usually fertilized with the dung of their own herds. Even during the rainy season there is always a herdsman, one of Amadou's sons, looking after the household's herd. He rounds up the herd at night either in the fields or just nearby. During the dry season, the herd stays on fields four and five, those closest to the village. Two months before the start of the rainy season, the herd starts to spend the night in fields number one, two or three, even when there is millet close by later in the rainy season. The weeds in the bush around the village serve as grazing for the herd.

Table 5.4
Number of animals in Amadou's *ourodou* at the end of the 1998 rainy season

Cows	Goats	Sheep	Donkeys	Camels	Horses	Total (TLU)*
26	18	15	8	1	0	22.5

* Tropical Livestock Unit (TLU) : 1 camel = 1.0; 1 cow = 0.7; 1 goat = 0.1; 1 sheep = 0.1.

Amadou also experienced a disastrous year in 1997, with only field number one receiving a decent amount of rainfall at the end of the rainy season. It proved sufficient for the millet to develop and the *ourodou* managed to harvest 3,500 kg of millet or 150 kg per person. This, in addition to what was left from the 1996 harvest, proved sufficient to survive on for the remainder of the year and the family did not have to look for berries or to sell any of their animals.

Before the new rainy season began, Amadou decided which fields would be sown. Usually three fields are sown before the rains. In 1998, field number one was the most important (Table 5.3). It is the largest field and the members of the household started to plough, hoe and sow it in May. This year the field had a good start and the plants started to grow after the first sowing. Unfortunately, however, there were untended herds in the area as it was one of the few parts of the Douentza region where animals could still find grazing. The animals destroyed all the seedlings in the field and the *ourodou* never received any compensation.

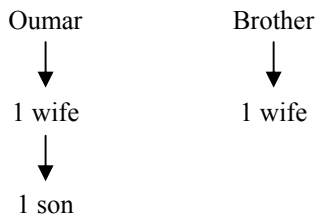
The second and third sowings never received enough rain and the field required sowing for a fourth time. Luckily that year no grasshoppers or birds came to destroy the crop. After the harvest, the household filled four granaries, enough to feed the family for almost two years. Grain from the private fields is not included in this calculation but if it were, the amount of grain per person would increase to approximately 500 kg. This additional millet is used for trading purposes or for small personal purchases such as tea, cigarettes and cola nuts.

Oumar Gienté

Several years ago Oumar Gienté decided to leave his *ourodou* and set up a new household, of which he would be the head. After returning from Bamako he no longer wanted to work with the less able members of his *ourodou* and wanted the products of his labour to go entirely to himself and his wife and young son (see Figure 5.5). At present he heads an *ourodou* of only five people, namely his nuclear family and his brother and his wife.

During the dry season, Oumar and his brother work for a butcher in Mopti, the regional capital situated about 200 km from Wayre. Before the start of the rainy season, they return home to prepare their fields. During their absence, Oumar's wife will have kept up relations with the local Fulbe to have their animals fertilize the household's fields. With their work in town, Oumar and his brother have earned enough money to buy some camels, a plough and a cart. As his previous household had plenty of good soil, he could get enough fields to cultivate millet for himself.

Figure 5.5
The five members of Oumar Gienté's *ourodou*



The household's herd is combined with the animals of another *ourodou* to reduce the workload for both households and for several months of the year the herd can be found on fields number one and three (Figure 5.6, Tables 5.5 and 5.6). Field number three has become a set of smaller fields close together because at the start of the rainy season the seeds frequently died in the large field and Oumar did not have the time to resow the whole field. He divided it for (re)sowing, choosing the parts where crops grew well and concentrated his efforts in these areas. He considered this a better use of his time.

Field number two is Oumar's wife's personal field. After completing her household chores in the mornings, she goes to her field to work for several hours. Oumar helps her with the first weeding but the rest she manages alone. It is unusual for a man to help his wife in her field but in a small household with limited labour all the available labour has to be mobilized.

Figure 5.6
The fields of Oumar's *ourodou*

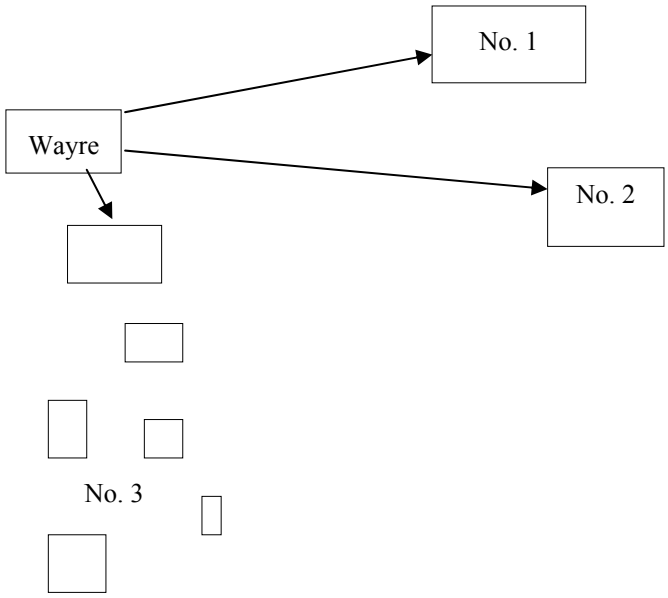


Table 5.5
The characteristics of the fields in Oumar's *ourodou*

Fields	Area (ha)	Distance to village (metres)	Fertilization	Ecological environment	Quantity harvested (in kg) 1998	Kg per hectare
No. 1	3	1,000	manure of Peul herds	Transition zone	1,350	450
No. 2	1	1,100	manure of Peul herds	Transition zone	900	900
No. 3	± 4	25-1,500	manure of Peul herds	Transition zone	1,350	338
Total	8				3,600	450

Table 5.6
Number of animals in Oumar's *ourodou* at the end of the 1998 rainy season

Cows	Goats	Sheep	Donkeys	Camels	Horses	Total (TLU)*
30	40	25	1	2	0	29.5

* Tropical Livestock Unit (TLU): 1 camel = 1.0; cow = 0.7; 1 goat = 0.1; 1 sheep = 0.1.

Aged 34, Oumar is a different generation to Seidou and Amadou and when talking to him it is clear that he has a different outlook on life. This is probably due to the influence of town life and the experience of having had a salaried position of his own. Oumar wants his son to have the opportunity to go to a normal school so that he can escape life in the bush and the hard work involved.

Differences between the ourodous

Table 5.7 provides a quantitative summary of the 1998 millet production of the three households described above. As can be seen, the way in which the different *ourodous* work varies enormously. In Seidou's household, the amount of millet per person, the number of TLU (Tropical Livestock Unit) per person and the area of fields cultivated per person are, in comparison with the two other households, much lower. But they have other activities that generate income. The presence of the *marabout* is an important factor in Seidou's household and probably explains why agricultural production is of less importance to the household than it is for Amadou and Oumar.

Table 5.7

Summary of the differences between the three *ourodous*

	Millet harvest 1998	Household (no. of members)	Area under cultivation (ha)	Area per person (ha)	Harvest per person	Harvest per hectare	Animals (TLU)	TLU per person
Seidou	8,250*	49 (34)**	15.5	0.32 (0.46)	168 (243)	532	21	0.42 (0.6)
Amadou	9,750*	23	13.5	0.59	423	722	22.5	0.98
Oumar	3,600	5	8	1.6	720	450	29.5	5.9

* The personal fields are not included.

** The numbers in brackets refer to Seidou's household, Koranic pupils excluded.

Amadou's situation differs from that of Seidou. In Amadou's household, agricultural production is most important, with members working hard throughout the rainy season. The area under cultivation per person is higher than in Seidou's household and production levels are also higher. During the dry season the members are involved in petty trade but the income obtained from these activities is mainly used for personal purchases.

Oumar works differently. His aim is to produce as much millet as possible with the least effort. With his dry-season salary, he had been able to buy a plough and cart to start his own household. Now the area cultivated is the largest of the three households, as are both millet production per person and the number of animals per person. His salary is sufficient to cover the food needs of his *ourodou* if, due to bad conditions, he was to be unable to harvest one season. If lucky, he will harvest a large quantity of millet with relatively little work and he will be able to buy more animals for his herd.

If more young men had the same approach as Oumar, the number and size of fields would quickly expand. Having seen an increase in the amount harvested per person as a result of the use of ploughs and carts, the idea of expanding the land under cultivation is a logical consequence. The resources available to young

people and the restrictions they face when trying to set up their own household are considered later.

Agricultural activities throughout the year

Although all the members of the three households live in the same ecological zone, the decisions they make are quite diverse. Uncertainty about the climate is only one variable. From one year to the next a number of other unknown factors can contribute to insecurity: the number of members in the household available for work; illness and disease; the return of the Fulbe to fertilize the fields; the price of millet; the political situation, etc.

This section describes the agricultural activities during a normal year with regular rainfall to give an indication of the activities that take place and the techniques that are employed to ensure a good harvest. It has to be stressed that methods for millet cultivation cannot be considered in isolation from the natural and social environment. Furthermore, as the description of agricultural activities shows, uncertainty and risk are perhaps more characteristic of the system than the system itself (De Bruijn & Van Dijk 1995: 223). This means that any description of a normal year will always be somewhat arbitrary.

Preparations

In the Dogon calendar there are three seasons, each of four months. The first, from November to February is known as the *gnougnouvon* or the cold season. The dry season, the *nibran*, starts in March and temperatures soar until about June. The rainy season, *l'esoui*, starts in July. The Dogon call this season, which lasts until October, the *grien*.

Before the first rains fall, all the weeds and trees or bushes still in the fields must be removed or cut down and dug into the earth to give it what the locals call 'strength'. As the first rains may fall in May or June, preparation of the fields is often underway by May. Only the male members of the household are involved in this preparatory work. Over the past years, agriculturalists have been able to remove or burn trees in order to increase the amount of land available for cultivation without having to pay anything to the government. Previously, official permission had to be granted, and dues had to be paid.

With ploughs now in use, the preparation of the fields is no longer as physically demanding as it was. It is only the women's personal fields that are worked by hand. For some ill-defined reason, women are not allowed to use the household's plough on their own land and are forced to use a traditional hoe, the *tervecaudiou*.

Fields are frequently used in successive seasons, in which case tilling is not required. If a household or individual wants to cultivate a new field, it is better to

weed and plough the land and dig furrows before sowing. The choice of fields depends on the 'strength' of the earth. If a certain weed (*Sammagueil*) is found in abundance in a field, it is an indication of a field's fertility. Other weeds (*Gomno*, *Samma*) show that the land is not very fertile (see De Boer, this volume).

The system of field rotation has changed with the introduction of the plough and now several fields around the village are used on a permanent basis. To protect the soil's fertility, good relations with the Fulbe are necessary to ensure that they come each dry season with their animals to fertilize the fields. Alternatively, households may increase the size of their own herds. In many fields there are no longer any weeds as the animals will have eaten them and any remaining stalks during the dry season. Household refuse and old stalks are thrown on nearby fields where the strength of the soil needs building up. Normally this work takes place before or at the beginning of May but it may continue until June. As there are now many more fields in use than in the past, work may in fact begin soon after the harvest in November or December, depending on the number of men in the village.

Sowing and tilling

During the harvest, the best millet is selected to be used as seed and is stored in the granary. Seeds germinate more quickly if they have been allowed to age for a couple of years and grain that has been kept for sowing is never touched, even if everything else has to be consumed. When the rainy season starts, there are two different methods of removing the grains from the ear: with or without the ovary. Grains without an ovary are more resistant to dry conditions but germinate more slowly than those that no longer have their ears complete. If the ear is off, it is possible to treat the grain with a chemical powder to protect it from vermin and even birds. The agriculturalists use a mixture of treated and untreated grains.

When the earth is moist it is easier to sow and till the fields, which is why the members of the households wait to undertake their biggest task: weeding. It is important not to go too deep in tilling so that the manure is not raked away and the plants cannot benefit from it. In June everyone works hard. The first seeds are sown, 10-15 grains to a hole (made by a *tervecaudiou*) on top of the raised parts of the furrows from the previous year. The furrows themselves are about 100 cm apart and between the holes on the same ridges is a distance of about 60 cm. The height of the furrows is between 15-20 cm and the seeds are planted at a depth of 7 cm. Normally the women and children do the sowing in all the fields of their *ourodou*. When the seeds have germinated and the seedlings start to grow, they need to be thinned or transplanted.

If the earth is moist and the seeds have been sown, all the animals in the neighbourhood need to be carefully herded or enclosed. If anyone finds an

animal on their property, the owner of the animal has to pay compensation (Table 5.8). Every year there are problems with animals trampling and eating seedlings or even fully-grown plants later in the season. Tensions of this kind always arise between the Fulbe and the Dogon.

The start of the agricultural cycle is the most difficult because initially the seedlings are very sensitive to the wind, to drought and to excessive moisture. Sand storms, heavy rainfall, vermin and drought all influence the methods of cultivation used. Each hazard has its own specific dynamic. Nobody can predict all the consequences and thus the agriculturalists' answers vary. It is not possible to prepare oneself for unknown events but spreading the risk helps to minimize any damage.

Table 5.8
Fines imposed on stray animals during the rainy season

Animals	Price
Goat	100 CFA
Sheep	100 CFA
Camel	500 CFA
Cow	500 CFA
Herd	1,000 CFA

The soils in the different agro-ecological areas have their own specific characteristics. Normally the sandy soils are sown before the rains start. The earth is not too hard and the rainwater must be used as quickly as possible before it runs away. A heavy downpour at the beginning of the rainy season is best as the soil can then retain some moisture for several days. This is of maximum benefit to the seedlings. However, if there is too much rain, the seedlings wither and die. It is for this reason that the seeds are planted on top of the raises of the furrows.

The soils in the north on the Ferro, which are more clayey, need more showers before the land can be used. The seedlings easily suffer from a lack of water. Sorghum (*Sorghum bicolor*) is grown in this area as it is more resilient to excess and stagnant water than millet. Sorghum is cultivated in both clayey and sandy soils.

For the first sowing a variety of millet is used that has a 90-day growing cycle. This type is chosen because it ripens slowly and is thus less attractive to birds. But the length of the (remaining) growing season and the weather are also taken into account when deciding which variety to plant. If, for example, a field is to be sown in July, millet with a 70-day cycle is used.

After having sown millet, the farmers concentrate on several other crops, such as sorghum (*Sorghum bicolor*), fonio (*Panicum leatum*), beans (*Vigna unguiculata*), wild rice (*Oryza spp*.) and peanuts (*Arachis hypochaea*).

Weeding

Two weeks after the first rain, when the seedlings and weeds are about 5 cm tall, it is essential that weeding takes place before the plants begin to develop. The first weeds are removed with a camel or ox-drawn plough to avoid them competing with the seedlings for water and nutrients. The Dogon say that it is necessary to sow and weed quickly. The weeds around the bigger plants are removed by the women and children, either by hand or with a hoe The amount of water available to the plants increases due to the clearing process and all the places where seedlings have not grown, are resown with the same or another type of seed. This process continues until August, after which time the wet season is too short to allow for the completion of a growing cycle, even of the fastest millet variety.

The second weeding takes place when the plants are about 40 cm tall. Normally by now various stages of growth can be observed in the same field due to the staggered growth in some parts and the (re)planting in other parts. Using a plough may damage the plants, so weeding is done by hand by farmers such as Seidou. Others, like Amadou, prefer to cover a more extensive area and use a plough, allowing them to weed other fields as well. The weeds are left lying in the fields and serve as fertilizer.

Harvesting

In October or at the beginning of November, if everything has gone well and the grains of millet are well developed and have ripened, harvesting can start. During this period everyone in the household has to work hard to help fill the granaries. The millet is cut with a small knife, mostly by the men, and is carried to the village by cart or by the women on their heads. The millet is usually packed in bundles but as the farmers now have carts it is no longer necessary to tie up the plants to transport them. The weight of the bundles depends on the quality and the quantity of the grain but is usually about 25 kg in total. After threshing, 16-20 kg of millet per bundle remains.

The men start harvesting in the middle of a field and work outwards. This way it is clear to anyone who wants his or her animals to benefit from any remaining succulent stalks which fields animals can go on and which are still waiting to be harvested. Incidences of herds invading fields that have not been fully harvested have increased in recent years. Conflicts tend to arise because the Fulbe cultivate much less land and their harvest is completed earlier than the Dogon harvest.

Agriculture is less important for the Fulbe than their herds, while for the Dogon it is the other way round (De Bruijn *et al.* 1997).

After the harvest, the stalks are eaten by the animals or are left to cover the bare earth. The women use the potash from the stalks to make soap and the men use the stalks for new roofs for the granaries. Other work such as the construction of new granaries or houses takes place during the 'free' time after the harvest. In April, people begin to collect small fruits, including *Boscia senegalensis* with its bitter taste, which are found in the bush around the village. If the harvest has not been plentiful, these berries form an essential dietary supplement.

The Dogon in Wayre do not cultivate vegetables such as onions or tomatoes because maintaining a vegetable garden is too difficult due to limited water availability. In the past, every household used to have its own small garden to provide a more varied diet but now Baobab leaves (*Adansonia digitata*) and *gombo* (*Abelmoschus esculentus*) are considered to make adequate sauces to accompany millet. The local diet is not very varied. Limited water is also the main reason why agriculturalists do not plant useful trees around the villages or bushes around their fields to protect them from animals.

The exploitation of natural resources

In this subsection, important resources according to the local people and their influence on the cultivation system and daily life in general are discussed as it is necessary to understand the context in which farmers make decisions. These resources include: water, fertilizer and manure, technology, different varieties of millet and the factors that play havoc with millet cultivation.

Water

It has always been a struggle to obtain sufficient water in and around Wayre. The Ferro, the tiger bush in the north, is used to gather precipitation. The clayey soil stops the water from infiltrating the soil too quickly and it is here that the ancestors of the inhabitants of Wayre dug small ponds. Each family used to have its own pond to provide water for both people and animals after the rainy season, so that they could complete the harvest before returning to Djanweli. The ponds were their only source of water and someone was always present to protect them from the Fulbe. In Djanweli, a spring on the hillside provided enough water year round for the whole village.

Currently about two km to the north only ruins remain and all the small ponds have disappeared. The Ferro, however, is still used for water provisioning and there are two large communal ponds dug by the inhabitants of Wayre from which the women fetch water for washing and cooking every day during the rainy

season. The colour of the water is not very inviting but the local people like its taste.

Close to the village a modern well was installed by the *Opération de Développement de l'Elevage dans la Région de Mopti* (ODEM) in 1977 and 1978 (see Table 5.9). It is about 80 to 90 m deep and provides a continuous supply of water. It was envisaged that it would be a pastoral well for the use of everyone in the region but the residents of Wayre, now a sedentary village, have put the land around the well into cereal production and thus restricted its use (De Bruijn & Van Dijk 1995: 470).

During the rainy season, the well is not used as long as there is water in the ponds because the taste of the water in the ponds is better and drawing water from the well, especially in the rainy season, is time-consuming. Furthermore, the Dogon do not want to attract the Fulbe to the area where the well is located before the harvest has been completed. Table 5.9 shows the distribution of wells in the region. During the dry season and due to the absence of permanent ponds, many Fulbe come to water their animals there.

In January 1999, three boreholes were drilled around the village by a company from Ségou and clean, pure underground water can now be pumped to the surface by foot. This, however, takes a lot of time and energy, the very reason why irrigation has never been applied in Wayre.

Table 5.9
Hydraulic resources in the Kerana rural community

Village	Traditional well	Modern well	Equipped borehole	Non-equipped borehole	Deepened pond	Distance to Wayre (km)
Doulango					1*	7
Douma	10	4	1			18
FétéKoli				1		6
Garga			1*			22
Kéréna		4	1	1	1	24
Patouki						36
Senobènè				2*		10
Wayre		1	3			
Total	10	9	6 (1*)	4 (2*)	2 (1*)	

* Under construction.

Soil fertility

While rainfall is the most variable factor responsible for the success or failure of a harvest, nutritive elements are also important and required to maintain the soil's fertility. This fact is well known and agriculturalists have developed several ways of ensuring the fertility (*la force*) of the soil.

The oldest method is to let a field lie fallow to regain its fertility after having been under cultivation for several years. This method is still used, especially in the case of fields far from the village. The fallow period varies from one to thirty years depending on the land's fertility and the amount of time and work that can be invested in it. The appearance of certain weeds indicates that the fertility of a field has been restored and the land is ready to be cultivated again.

During the dry season, numerous Fulbe and their animals inhabit the region. When their herds move, their dung – and thus potential fertilizer – is lost on the way. However, the fields around the wells benefit as the animals assemble there to drink. These fields are in great demand as this type of fertilization requires minimal time and effort.

Almost all the families in Wayre have contracts with Fulbe families during the dry season. The animals of the latter are enclosed overnight on the fields of the former. If sufficient animals spend the night in the field, the soil will be ready for the arrival of the rainy season. In return, the Fulbe earn millet and receive a leather bag with a rope from the owner of the field to allow them to draw water from the wells for their animals.

The Dogon are currently starting to build up their own herds, which will allow them to fertilize their own fields, but they still require the services of the Fulbe as the number of fields under cultivation is continuing to expand rapidly. The amount of fertilizer is thus a function of the number and the kinds of animals and the relations that the Dogon have with the Fulbe. As the Dogon say: 'It is necessary to support the Fulbe, otherwise they won't come back'. The Fulbe in turn benefit from relations with the Dogon in three different ways: they gain access to water for their animals; they are able to obtain millet which they exchange for milk; and they have access to the fields after the harvest so that their animals can eat the stalks. In some exceptional cases the Dogon even help the Fulbe with watering their animals.

Another way of fertilizing the fields is to cut down trees and bushes in the fields and leave them to decompose naturally. As Pasternate & Morin (1996) wrote:

> Through the use of green and woody manure, the farmers increase the termite productivity. The termites process the dry matter and release nutrients to the soil. As a result of the termite activity, soil porosity is improved which allows faster penetration of water and a better aeration.

The thatch of the old roofs of granaries is also thrown onto the fields to increase the amount of organic matter and water retention. Weeds, as mentioned earlier, are left on the soil after weeding to help fertilize it.

One final and practical method of fertilizing the soil is to throw household waste onto nearby fields. This used to be an arduous task but with the increased use of donkey carts, the task has become easier.

Artificial fertilizers are not used at all because they are expensive and they burn the plants, as does too much manure. If the soil is too fertile and there is not enough water, the plants use up the available water too fast during rapid growth, and drought conditions will follow if there is not enough rain soon afterwards. In addition, artificial fertilizer does not help to increase water retention, as soil fertilization has to be a combination of nutritive elements and organic matter to encourage water retention. Another reason for not using artificial fertilizer, according to the farmers, is the fact that variations in rainfall play a major role in determining the success of a crop. In addition, they state that the fields are too big to be comprehensively fertilized.

Technology

Only a few years ago, the inhabitants of Wayre carried out all their agricultural work with only a simple hoe (*tervecaudiou*) or with their hands. The men worked hard to till and weed the fields, and after the harvest the women would carry the millet on their heads to the village. Old people still say: 'Before, we were tired'. Today many things have changed. The historical calendar shows the introduction of certain technologies that have had a dramatic impact on agricultural production. The donkey cart and the plough have both reduced the workload markedly.

The first cart appeared in the village in 1979. With its arrival, the harvest could be brought to the village more easily, while household waste and other things could be transported to the fields. Now, a household would have to be very poor not to be able to find the means to buy a cart.

The plough was introduced in Wayre by one of its inhabitants, Sidi, who first saw one while he was 'abroad'. The old people remember the plough being used in 1982 to weed and till Sidi's fields. He did not know how to use it to its best advantage and his harvest was no bigger than normal. The elders and the *marabout* felt that the plough was a bad influence and that Sidi's work had to be sabotaged. Some years later, however, several men saw the benefits of drawing a plough behind an animal in other villages, and slowly the plough found its way to Wayre.

The first ploughs were drawn by cattle or horses but recently camels have become the most popular animal to draw both the small and larger ploughs found in the area. Ploughs have made it possible to cultivate a large area. Furthermore, the first weeding has also become easier and faster. Much larger millet harvests are being enjoyed now, thanks to the arrival of the plough.

Different varieties of millet

The people in Wayre distinguish between three varieties of millet (Table 5.10). The main difference is in the length of the cultivation cycle, but the varieties also differ in other aspects. The agriculturalists take all these differences into account when making decisions about the variety to be used.

Table 5.10
Characteristics of three millet varieties

Growing cycle	Market price	Storage life	Taste	Resistance to drought	Length of ears
± 70 days	High	More than 7 years	Very sweet	Good	± 25 cm
± 90 days	Moderate	± 7 years	Sweet	Moderate	± 30 cm
± 120 days	Low	± 2 years	Not so sweet	Not so good	± 40 cm

There are similarities between the three types of millet and the size of the harvest does not vary much. Thus, the quantity of millet in kg per hectare is comparable in similar circumstances. The management of the crop and the time invested per hectare do not vary very much either. So these factors do not influence the choice of variety.

Agriculturalists have to balance various factors when deciding which variety to sow. Storage life, resistance to drought, the market price, the taste and the length of the ears all have their own importance. If, for example, all the previous year's supply has been finished, storage life is no longer an issue. Then the most important factor would be the variety's resistance to drought.

Above all else, the difference in the length of the growing cycle is important. The differences between the varieties are evaluated in the light of restrictions imposed by the social and natural environment. Concerning the social environment, it has to be realized that the area where the Dogon grow millet is inhabited by various ethnic groups. To protect themselves in the case of conflicts, the Dogon have to adapt to the behaviour of the group and they are not free to do what they want. They have to take their own environment and society into account. If, for example, a field is ready for harvesting, they have to wait for the moment when the elders of Wayre say that is the time to harvest. The fact that the harvest draws the Fulbe and their herds to the village even though the millet in the other fields is not yet ripe is the reason for this limitation. The length of the growing cycle is thus an important factor.

Another restriction on the choice of variety is tied to the presence of birds at certain times of the year. If the grains have already formed before the arrival of the birds, the crop will be attacked and the agriculturalists forced to protect their fields. The birds come in August to see whether the grains have formed and then

return in December for the same reason. It is important that the crop is not too attractive for the birds in August. If it is not, they fly on further, and by December the harvest has normally been completed. The third restriction is the length of the rainy season. The rains arrive at a certain moment and the millet has to be ripe approximately two weeks after the last big shower. If the rains start late, the season can be expected to be shorter. In this case a millet variety with a short cycle is preferred.

In the 1960s the 90-day millet was cultivated by most of the inhabitants. There was then no other choice and this accounts for the size of the granaries that accommodate this type of millet best. Even today this is the preferred type of millet.

The variety with a 120-day cycle was first used in the village in the bad years of 1996 and 1997. The agriculturalists had virtually no seeds and were forced to use whatever they could find in the market. This variety is usually only grown in the south of Mali but as transport between different regions of Mali has improved in recent times and this variety was available and the local inhabitants had no other options, they tried it. It was more a cry for help than a well-considered strategy.

The other variety, with a 70-day cycle, comes from the north where the rainy season is shorter and precipitation even less predictable. In Wayre, this variety is not used much but is slightly more common that the 120-day sort. When the rainy season is not good, this variety comes into its own. Most agriculturalists choose the 90-day variety as the 70-day one is quite sweet and attracts the birds as it ripens fast. This variety is more often used in Douentza. In 1998 a lot of millet with a 90-day cycle was planted and the harvest was good.

Pests

Pests are a destructive element that local farmers have to deal with on a regular basis. At the start of the rainy season, there may be problems with the small yellow earthworms (*kowoode*) that climb up the stems and destroy the plants. They have to be removed by hand or disappear spontaneously with the next rainfall. Alternatively, a chemical powder can be used to kill the pests.

Grasshoppers are more of a nuisance when they appear at the end of September as the grains of millet are then ripening. If they are too numerous, they can destroy a whole harvest. It is therefore vitally important to harvest quickly before the grasshoppers get the chance to eat too much of the crop. If they start to pose a real threat, the authorities in Douentza will distribute pesticides to kill them.

Birds cause another major problem. They appear in the Wayre region at the end of August to check out the harvest. If the crop has not yet started to ripen, they will continue their journey southwards. This accounts for the locals' prefer-

ence for the 90-day millet as this does not start to ripen until after the birds have passed in August whereas the 70-day variety is then just about ready for harvesting and is likely to be destroyed. A whole field may be totally destroyed in just one day by a flock of hungry birds. The local people retaliate with guns. They may also invite the local *marabout* to bless their fields to bring them luck, while others go out into the scrub to destroy all the nests and young birds they can find.

Influence of external factors on agricultural activities

Dogon cultivators have to react to and operate in widely varying and unpredictable climatic conditions. These climatic conditions influence their strategies to a large degree. However, economic and socio-cultural factors also need to be included in any discussion of why certain strategies are adopted. The method of millet cultivation is not a goal in itself. Survival is at stake and this determines what is to be done and why and when. Non-agricultural alternatives for income generation are beginning to have a certain importance.

Non-agricultural activities

Over the past thirty years, the inhabitants of Wayre have developed various income-generating strategies and ways of obtaining food from non-agricultural activities. There are four main ways: gathering natural plants from the bush, trade, long-term migration (*exode*), and seasonal labour migration. The reason for an increase in the number of non-agricultural strategies compared to in the past is considered in the discussion on long-term migration.

Gathering natural produce in the bush

In the section on Seidou, Amadou and Oumar, it was mentioned that the fruit called *gigiile* or *éré* (*Boscia senegalensis*) provides a good nutritional supplement if the millet harvest is insufficient. In addition, grasses are collected for use in the kitchen to provide extra taste to sauces that accompany the staple dish of millet.

To build and maintain houses, granaries and village sheds, the local inhabitants use good solid pieces of wood that they collect in the bush. This wood has become increasingly difficult to find with the degradation of the forest around Wayre over the last thirty years. Wood for cooking can still be found locally and the men can find, within a day's trek, enough wood for cooking for several weeks, which they bring back by cart.

Trade

Since the village became sedentary, trade has increased. Small amounts of milk and millet and some animals have always been exchanged between the Dogon

and the Fulbe. According to the older residents of the village, money was often not involved in these transactions, but in the last few years trade has become more formalized and has assumed a more important place in village life.

The women make clothes and soap in the dry season to sell in Douentza. The men take these products to the market when they go to buy animals and foodstuffs such as tea, nuts, sugar and cigarettes. The Dogon say that their animals act as their bank: all their wealth is invested in their herd and in times of monetary need, animals can be sold. Until then, animals produce milk, provide fertilizer for the fields and reproduce.

Two new phenomena have emerged in the commercial life of the Dogon: the purchase of Touareg camels and the millet trade. To pull their ploughs the Dogon have discovered the value and strength of camels, animals that are accustomed to working in a dry climate. In addition, camels are mobile animals, good for transporting people and low in maintenance costs. In the past, horses were the most popular animals but their upkeep demands a lot of work and the Dogon have replaced them with camels. Camels range in price from FCFA 100,000 to FCFA 300,000 depending on the age and sex of the animal.

The trade in millet has only existed for a few years. During the dry season, dozens of Dogon from around Douentza and Wayre leave for the south in search of millet near the Burkina Faso border where harvests are often better and prices are consequently lower. The men leave, often in groups for safety reasons, with regional produce (clothes, mats and salt) and return with 100-kg bags of millet. They may travel up to several hundred kilometres to buy millet (cf. Rutgers van der Loeff, this volume).

This millet is subsequently sold in the Douentza and Boni markets at a price about 20 per cent higher than the price paid for it in the south. The profit on a 100-kg sack of millet may range from FCFA 1,500 to FCFA 3,500. Each household in Wayre will send one or two people with all their donkeys to buy and sell produce for the whole of the dry season. A donkey can carry two sacks of millet for up to fifty km at a time. Households that do not have their own donkeys rent them from other *ourodous*. Another strategy is to buy up vast quantities of millet locally and from far afield at a good price just after the harvest and then to resell it later when prices have increased. People's business sense is well developed in Wayre but the future direction of trade and trade-related activities is as yet unclear.

Exode

Another way of generating income is to go on *exode* (migration) for several years. This entails going to a destination beyond Douentza and often even outside Mali. Youth are attracted by large cities such as Bamako and Abidjan in Côte

d'Ivoire, hoping to find work in the docks or on the cocoa or coffee plantations. Only men undertake such excursions, often leaving their families alone for several years at a time. Life in urban areas is not cheap and taking their families with them is not a financially viable option. Men also feel that town life would have a negative effect on their wives.

Often when the men return to Wayre they bring back enough money to purchase a small herd but there is always the chance that they will not have found remunerative work while in the city and that they have earned or managed to save very little or even nothing at all. Seidou, Amadou and Oumar had all been on *exode* for several years but had eventually returned home to resume farming activities. All three enjoyed city life but their families missed them. In the evenings the men frequently talk about their adventures in town and this encourages younger men to leave on *exode*.

It has become much easier to leave the region than in the past. Transport is more reliable and there are buses that leave daily from Douentza for Bamako. The journey is more predictable than before and the radio encourages young people to leave and to discover other regions. A desire to increase their standard of living is frequently the most important reason for leaving the village but life in the city is not always easy for the young Dogon who may be illiterate and speak only limited French and the local languages of the south not at all.

Seasonal labour migration

Seasonal migration is comparable to the *exode* but is of a shorter duration. It is, as its name suggests, a temporary migration during the dry season. After the harvest, several men leave Wayre for the cities, usually in Mali, to find work. They return in time to prepare their fields before the start of the rains. This accounts for a visible absence of men in the village from December to May. The advantage of such migration is that there are fewer mouths to feed during a certain period of the year, and that additional income may be obtained, while agricultural activities can be continued at the same level.

Social relations

The inhabitants of Wayre depend on each other in many ways. Different social relations can be distinguished, all of which have their own specific importance. I will start by describing the relationships between the Dogon themselves in general. Secondly, relationships between the generations will be analysed in more detail and finally, relations between the Dogon and the Fulbe will be examined. These relationships have an ambivalent character.

Relations within the Dogon community

Wayre was originally founded by the Dogon families of Djan Weli. Their collective roots were one reason for living together, and also their need for security. The political situation was not very stable and it was important to ensure the security of communal possessions. Tensions between the different ethnic groups in the region were significant. The cohabitation of the Dogon in Wayre was further facilitated because of their common economic orientation, which is towards agriculture. The production of millet is particularly highly valued. This is not so for the Fulbe (see De Bruijn & Van Dijk 1995). Living together in Wayre has proved to be advantageous over the years, also in other respects. The presence of a Koranic school, a *marabout*, mutual help and trade are but a few examples.

The rights of access to a field or plot of land have never been put on paper in a land register but local inhabitants, especially the elders, know to whom the land in the area belongs. To be the owner of a piece of land, it is sufficient to have been the first to cultivate it. One automatically owns the land from then onwards. Sometimes, however, it is difficult to prove who was in fact the first owner. For example, Amadou was a farmer in Wayre and he and his brother were allowed to inherit some 'old' fields because they were in the same family. Who one knows in the Dogon community is important if disputes arise as to who the rightful owner of a certain plot of land is.

It must be stressed that these rules are particular to the Dogon and that the other ethnic groups in the region abide by different sets of rules and principles. Differences of opinion arise, particularly since the introduction of the plough and the possibility of cultivating much greater areas of land. The local Dogon aim to cultivate as much land as possible to ensure their rights to it in the future (according to their customary law). The enormous expansion in the number of fields under cultivation by the Dogon decreases the amount of land available for other inhabitants of the region, especially for the Fulbe who see their pastures decreasing in size.

The way in which decisions are taken for the whole village influences an individual's decisions. When the rainy season starts, it is necessary to constantly monitor the movements of all animals in the area. This limits the time an individual can invest in cultivating millet. The time of harvesting is also subject to rules. The farmers have to wait until all the crops are ripe before harvesting can begin in order to deter the Fulbe from chasing their animals onto harvested fields, in the process damaging crops that are still standing and not yet ready for harvesting. According to Seidou, this coordination minimizes conflicts with the Fulbe and with Dogon neighbours. Thus individual decision-making is closely tied to the social framework and collective interests of a village.

The Dogon of Wayre have a collective spirit *vis-à-vis* the other inhabitants of the region and towards the production of millet. Small disputes and disagreements always arise but, on the whole, relations within the Dogon community are peaceful. This does not mean that there is much mutual assistance. For example, the amount of money one has is never discussed publicly for fear of being asked to lend some. During times of famine it is everyone for himself although food assistance may be provided to other members of the household or in extreme cases to other lineage members.

The new generation of Dogon

In the last ten years a number of smaller households have sprung up. Older people remember that households in the past were much larger than those found today. Seidou's *ourodou* is traditional but Oumar's is considered to be modern, the main difference between the two being demographic. A modern household consists of a smaller number of people: the oldest male member only works for his nuclear family, that is his wife and his own children. The nuclear family is increasingly forming the basis of a household.

Older people feel that it is long-term and seasonal migrations that are responsible for this change in mentality. Young migrants are coming into contact with another way of life: smaller families, a more materialistic and comfortable lifestyle, bars and a monthly salary paid in cash. All this is possible if one is lucky. It is generally felt among the older people that men who return after an absence of one or more years have changed. The feeling of solidarity with the family has gone, they do not want to share the money they have earned and no longer want to work for their older brother. They prefer to make their own decisions and work for themselves. Their mentality has become more individualistic and, with the money they have accumulated, they are in a position to buy their own donkey cart and even a few animals. Longer-term migration gives them the chance to become more autonomous.

The small households generally cultivate much more land per person than the larger ones. The smaller the *ourodou*, the more work there is for its members and the harder they have to work. The harvest is subsequently larger per person than in an *ourodou* with more members. Formerly it was the number of hands that determined the amount of land cultivated; now, with the introduction of the plough, more land can be cultivated. Because the risk of not having millet throughout the year has increased at the same time due to climate change, soil depletion, etc., an extensive cultivation system has evolved whereby a larger area is used than in the past. One of the consequences is that, generally, the quantity of millet harvested has increased and with it the possibility of investing in a herd of animals. The result has been an expansion in animal ownership by the Dogon.

Older residents in the village are not happy with the changes they see. Many sons have not returned from *exode* and their knowledge of farming practices, the stars, and medicines is disappearing. Instead of being with their fathers, the youth want to earn as much money as they can, which does not leave a great deal of time over for relaxing with one's family. In the evenings, the younger men talk about the big city and motorbikes. The social distance between those who have been away and those who have not is increasing. The youth are now starting to ask questions about life in Europe, and in particular about France, in the hope of going there one day.

Seidou feels that while on *exode* one is a slave without the freedom to do as one wants and one has to fulfil the wishes only of one's boss. He feels, as do many of the older people, that the decrease in the amount of rainfall is a punishment from Allah due to the bad behaviour of the youth. According to him, respect for one's elders and for Allah is more important than business and money, but nowadays the hearts of the young are not in the right place and that is why God is punishing everyone.

The Dogon and the Fulbe

Relations between the Dogon and the Fulbe have developed in many ways, positively and negatively. In spite of differing origins, the Fulbe and the Dogon have both managed to find areas in their relations from which they can draw advantages.

Interaction between the two groups starts around the end of the rainy season and when the dry season begins. It is at this time that many Fulbe families in the region come to Wayre to settle near the village. This offers them many benefits, the first being the presence of water, with wells full for the whole of the dry season. In addition, they can exchange their milk and butter for millet. For the Dogon, the main benefit is located in the fact that the Fulbe herds fertilize their fields. Almost all Dogon households have Fulbe clients.

Being a client means that the Fulbe receive food from the *ourodou* for the first few days after their arrival in the village and can borrow a leather bag and a long rope to draw water for their animals from the well. If the Fulbe herd is very big, someone from the household will be made available to help with watering the animals. The household will also sell or exchange its millet for the Fulbe's milk and butter. In the months of November and December, the Fulbe women are frequently seen in the village selling or exchanging milk for millet. At the beginning of the dry season butter and milk have more value because millet prices are at their lowest.

For the Dogon, clients are crucial to their system of exploitation. The animal manure is necessary to enrich the soil for the following year. It is thus important

for them to maintain good relations with the Fulbe and to ensure their return the following year. Every year the Dogon households await the return of the Fulbe and need to know who will come and with how many animals. If the rains or the harvest have not been good, the clients leave for other regions where there is more millet available or where pastures are better. For this reason, the Dogon in Wayre try to always have as much millet as possible so that their clients will return each year.

However, the Fulbe do not have a very good reputation. According to the Dogon, the Fulbe are dishonest, unsociable and cannot be trusted. Numerous reasons are given to justify this judgement.

Fulbe history and livelihood activities differ from those of the Dogon and the Dogon find it difficult to understand that the Fulbe like to move with their animals instead of being settled in one place as they are. It is true that the Fulbe have less experience in cultivating millet: they do not use a lot of technology and their women do not participate in agricultural work at all (De Bruijn & Van Dijk 1995). In general, the Fulbe fields are smaller and planted with a type of millet with a much shorter growing cycle that produces a lower yield.

The rainy season thus finishes for the Fulbe much earlier than for the Dogon and this is where the real problems with the Dogon lie. They immediately start to look for the best pasture with fresh stalks for their animals and it is during this period that the Dogon fear the arrival of the Fulbe with their herds. The Dogon sleep in their fields not only to protect their crops from birds but also from the Fulbe herds as a large herd can destroy a field in a very short period of time. Quarrels take place and the atmosphere between the two groups can become tense. Fulbe who are caught by the Dogon have to pay compensation either in money or in animals for the amount of millet eaten or destroyed. If the Fulbe are not known in the district, they are not allowed to leave the village until they have paid.

The number of stories and personal experiences recounted must prove that the Fulbe are frequently in the wrong and in fields where crops are still standing. In Douentza these conflicts take place in November and December. Why do the Fulbe behave in this way? To fully understand Fulbe behaviour, it is necessary to look back to the root cause of the problem.

Wayre is not the only Dogon village in this area. In the transition zone between the Seeno-Manngo and the Ferro there is a string of Dogon villages that have been established in the same way as Wayre. The wells established by the livestock service have helped the villages to become sedentary and they have grown accordingly over the last thirty years. Before the arrival of the Dogon, the land in this region was used as grazing land by the Fulbe for their animals. With the introduction of new technology such as the plough, the better soils are

increasingly in the hands of the Dogon who have worked hard and are now even able to invest in their own herds.

It is not only the growing of millet on their former pastures which irritates the Fulbe but the fact that grazing lands are being used without the official permission of the Fulbe elite in Dalla or Douma. During colonial times, the elite lost their rights to the (colonial) state and the Dogon probably did not bother to ask whether they could use the land for millet cultivation. Today the Fulbe are finding themselves without adequate resources for their animals. At present, the relationship between the Dogon and the Fulbe is based on the fact that they cannot do without each other and are necessary neighbours, but will it always be so? Maybe at some point in the future the Dogon will find that they no longer need the Fulbe and the Dogon's agro-pastoral system will become self-sufficient. The fight for land has been going on for a while and it would seem that the Fulbe are in the process of losing the contest. If nothing is done, tensions between the two ethnic groups will become more palpable and the number of conflicts higher.

Other possibilities must therefore be found to allow both the Dogon and the Fulbe to generate an income. The region is too small to allow the two groups to both cultivate vast quantities of millet and to raise large numbers of animals. Research should look into other livelihood strategies and income-generating activities. The Dogon have already started to be involved in non-agricultural activities as their long-term and seasonal migrations show. But will these periods of time away generate enough income for a whole year? Will it be possible to prevent the Dogon from increasing the amount of land on which they grow millet? Will the system become even more intensive, thereby intensifying the utilization of resources? What conditions are necessary to realize this?

Conclusion

Being a farmer in Wayre demands flexibility and strength of character. The cultivation system for millet has changed significantly over the last thirty years due to, among other things, the introduction of new technology, the fragmentation of households, and climate change. What has remained constant is uncertainty. Agricultural activities do not follow a predescribed pattern but consist rather of a series of actions, whose outcomes do not always correspond to intentions. Farmers are dependent on factors beyond their control. Every year a multitude of variables, such as the availability of means of production and weather circumstances, play a role in the decision-making process. Each year the situation at the beginning of the rainy season may be different from that of preceding years.

Life has become less physically demanding than before but more complex. Workloads have decreased with the introduction of the plough and the cart but

non-agricultural factors are starting to play a more important role. Does a young man leave on *exode* or become involved in trade? Does he prepare his fields for cultivation or migrate for several years? Decisions have constantly to be made, and in this respect the older people and the younger generation often have differing opinions: the older people stress the importance of family relations, while the younger seem to value individual material gain.

Not only relationships between the generations but also those between the Dogon and the Fulbe have changed over the years. While the exchange of goods and services between these ethnic groups are still valued by both, tensions over land and water progressively arise as a result of the expansion of the area under cultivation and the growing numbers of people and cattle.

Uncertainty is felt throughout the year in all areas of people's lives. They have to cope with seasonal variety and different annual conditions, and also with longer-term changes. Strategies vary according to these changing circumstances. Climate change represents only one area of change for the Dogon of Wayre, but it is an important one.

6

Coping strategies of the Riimaybe in Debere (Douentza District)

Selma Griep

Introduction

Ali Samba is a 37-year-old weaver and farmer from Debere. He is married to 31-year-old Ada Kumba, the daughter of his father's brother and they have a three-year-old daughter Soulbou. An important reason why Ali is going to work in Debere during the forthcoming cold season is to spend time with his wife and child. In June he just came back from a two-year stay in Ségou where he worked as a weaver of pagnes.[1] He had FCFA 40,000 left of the money he had earned.

The money that he, his cousin and brother earned was not sufficient to buy food for the entire family until after the harvest. Besides, his aunt had become seriously ill and they had to pay the moodibo (Islamic cleric) to ensure her recovery. The family had sold her two goats but family members still had to live off *giigiile*[2] during the last month before the harvest. Luckily this millet harvest was better than

[1] *Pagnes* are wrap-around skirts that women wear.
[2] Bitter berries that can be found in the bush of the *Boscia senegalensis* species.

the previous year and they had been able to cultivate rice as well. The next rainy season they will probably be able to survive without selling animals or eating giigiile.

Ali Samba is a Dimaajo (pl. Riimaybe). Within Fulbe society, the Riimaybe formed the group of slaves of the Weheebe (the political elite) and Jallube (pastoralists) until the French decided to abolish slavery after World War I. The central question in this research project was to study the coping strategies developed by these former slaves against the background of an insecure ecological environment and their (still) subordinate social and political status.

Between October 1998 and March 1999 field research was conducted in Debere, a village fifteen km north of Douentza with approximately 1,700 inhabitants, most of whom are Riimaybe. Interviews were held with the help of two interpreters: a 45-year-old cultivator from Debere and a 25-year-old woman from Douentza who was setting up a women's organization in Debere. In addition, informal conversations and participant observation were important. An in-depth case study was made of the families of Ali Samba (see above) and Hamsetto Umaru.

This chapter is structured as follows. In the next section the village, its natural resources and social organization are described. The third section discusses the history of the Riimaybe in Debere and the fourth section examines the way people make a living in Debere in more detail by focusing on the coping strategies that households and individuals develop. Finally, the conclusion is drawn in the last section.

Debere: The village and its people

Debere belongs to the region called Haut-Gourma, a region of Mali situated to the east of the River Niger. Spread over the area are villages of Fulbe pastoralists, Dogon and Hummbeebe farmers and Riimaybe and Sonrai farmers. Administratively, Debere belongs to the district of Douentza, and is located 16 km north of the district capital (see Map 1.1, p. 4).

The surroundings of Debere consist of (millet) fields and dry bush with little grass. A few kilometres from the village one can find a luscious green area with a lot of trees, plants and herbs that floods during the rains. When arriving in Debere from June till October-November, one passes a pond just before the village. Behind the village there is another pond that is much deeper and has water in it all year. Here one can find rice fields, the men's gardens and small plots belonging to women

where they cultivate onions. Rice can only be cultivated in years when the land is flooded by rainwater from the hills.

Debere is fortunate in having a high water level. In the two deep, cemented wells (± 28 metres deep) to the north and south of the village there is always water, and the other five cemented wells have water most of the year. A development organization dug another two wells at a short distance from the village and installed two pumps but this water is not used very much because of its bitter taste. In addition, there are several wells dug by the people themselves, either on their own land or just outside the village, but these wells are never deep and dry out a few months after the rains finish. Sometimes the Jallube, the pastoralists, ask the Riimaybe to dig shallow wells in the fields so that they can let their cattle fertilize the land with their manure.

People do not buy or sell land in and around Debere. If you need a field, you can ask a relative, a friend, a neighbour or even a Pullo to lend you one. Or, it is possible – with the permission of the chief – to exploit new land. People have land up to twenty km from the village. Women are given land by the chef de famille but never far away from the village because they do not have access to a donkey cart.

The outskirts of Debere are open and spacious. On the eastern edge of the village is the primary school that consists of three classrooms and was built in 1996 with (financial) assistance from the Save the Children Fund (SCF)s. In 1998 it had approximately 130 pupils, most of them from Debere, with three teachers and one director. From 1998 onwards, the village has been planning to build an extra classroom every year. The Koranic school in the village, with approximately 100 pupils from Debere and the surrounding villages is very important as well, especially for young boys who are taught by the most important *moodibo* who is Weheebe. Besides the big Koranic school there are about five small classrooms with 3 to 7 pupils taught by Riimaybe *moodibaabe*.[3]

Near the road to Joona and the sandy football field, there is a small classroom for adults. The villagers built it themselves with financial and technical support from the SCF. There is also a small clinic but it is usually closed. The 'doctor'[4] from Debere goes there occasionally to pick up medicines. The clinic is used for vaccinating

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[3] In Debere some Riimaybe became *moodibaabe* (sing. *moodibo*) by finishing the Koran school after years of learning. They are not very well known though, and just have a few Riimaybe or Dogon pupils. The fact that one can find Riimaybe who are *moodibaabe* is surprising De Bruijn & Van Dijk (1995: 169) claimed that they never met a *Diimaajo moodibo* in the Hayre and Riesman (1992: 51) stated that becoming a *moodibo* is not possible for a Diimaajo.

[4] he doctor received a six-month training course from UNICEF in the 1980s and has various medicines at his disposal. He should be paid by the villagers but he does not get paid at all, nor do the women pay him when he assists with the birth of a child. He makes some profit from selling medicines.

children, which is mostly organized by the SCF with the help of the doctor.[5] People from Boundoukoly, Tombori or Oualo sometimes ask for the doctor, and he goes there to help with vaccinations as well. Other development organizations helped to construct around fifteen latrines in the village.

The daily market can be found in the centre where women gather to sell rice, dried fish, millet, herbs and sometimes vegetables and baobab leaves. The Dogon visit Debere in December and January to sell mangos and guavas, the Bella who live to the north always come to sell balli, palm leaves of *hyphaene thebaica* for weaving mats, and the Tamacheq craftsmen from Boundoukoly make and sell jewellery in Debere. In addition, there are two small shops with necessities like oil, sugar, soap and batteries. For all other purchases people go to Douentza, on foot, by bike or by public transport.[6] Although Debere is oriented towards Douentza, it is itself an important village for the surrounding villages and settlements because of the school, the doctor, the daily market and shops, and as a stop on the way to Douentza or Joona.

According to the chief, Debere has 1,700 inhabitants but the administrative office in Douentza had 1,386 registered inhabitants in 1996. The higher figure is probably more realistic than 1,386 because not everyone registers in Douentza to avoid having to pay the head tax. There are a hundred extended families in Debere and eleven Jallube families who live on the edge of the village in loam houses and huts. One family is originally from Sinda. They are Hosoobe and former leatherworkers. The *moodibaabe* family are Weheebe from Joona.

Debere is divided into four parts (quarters). The chief of the village, Hammadun Ahmadu Jallo, lives in the central and most lively quarter. When decisions have to be made, he is assisted by seven responsables,who live in different parts of Debere. The Jallube chief does not have anything to say about the Riimaybe, nor do the Weheebe in Joona, the former masters of the Riimaybe.

Besides being divided into quarters, the village is divided into age groups, waalde. Every adult inhabitant takes part in a *waalde*, a group of men or women who organize things together. Boys form a *waalde* when they are circumcised together, usually between the ages of 7 and 12. Girls become members of a *waalde* usually between the ages of 12 and 16. One person is the head of the *waalde* and the members used to help each other, organizing things together and going to festivities, but this has lost its importance. In 1998, payments for the school went through the

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[5] In 1998, 485 children were vaccinated out of a total of 740 registered children.

[6] Public transport (*taxi brousse* or truck) goes approximately three times a week: on Sundays throughout the day because of the market in Douentza, on Wednesdays and on Fridays or Saturdays.

waalde for the first time, and in 1987-1988 the *waalde* worked together in the communal garden. In Debere there are 14 male and 23 female *waalde*. In total 384 men and 373 women over 16 years of age are members of a *waalde*.[7]

In the last decennia, several other groups have been formed to work together. When Moussa Traoré became president in 1968, the village had to form a *groupe de jeunes*, with men and women in separate groups. They were expected to work for the village and to help each other in all kinds of activities. They cleared new land and started cultivating it. During the following years work was still done together, although the members did not always cultivate the communal fields. In 1997 and 1998 no fields were cultivated jointly. The group of young men is still being asked when houses have to be built, or in other cases when work is needed, but the young men and women do not work much together. In the 1980s and 1990s many development organizations started projects in Debere and often formed their own village groups. These groups, however, always ceased to exist after the money had been paid back to the organization that initiated the activity.

History of the Riimaybe in Debere

In Fulbe society, the Riimaybe had always been the slaves of the Weheebe (the political elite) and Jallube (pastoralists) until the French decided to abolish slavery after World War I. As a result of the past, the Riimaybe have a culture that is different from that of the elite. Traditions, taboos and status based on descent do not play an important role. 'A young Diimaajo becoming aware of who he is and what his possibilities are is not attracted to tradition in the first place', Riesman (1992: 60) wrote about the Riimaybe in Burkina Faso. Thus the Riimaybe, unlike the elite, do not have taboos about the division of labour, work traditions and restrictions about communication in public. There are very few sanctions concerning violations of the norms. As former slaves and cultivators,[8] the Riimaybe also have a different way of dealing with the variabilities in the environment than their former masters.

These observations show that it is important to look at the history of the Riimaybe before giving a description of the coping strategies that households and individuals in Debere have developed.

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[7] Approximately 900 people are under 16 (53% of the population). The national (estimated) average for Mali: 47% of the population are under the age of 15 (www.emulateme.com/content/mali.htm)

[8] The slaves were the most important production factor in the Sahel until the beginning of the 20th century. It was not unusual for over 50% of the population to be slaves (Leisinger & Schmitt 1995: 12; Lovejoy & Kanya-Forster 1994: 4).

Although slaves are called 'people without history' by Klein (1989: 210), this does not mean that they have no past. Gibbal (1994) writes that the northeastern part of the region was originally inhabited by Sonrai cultivators. In the 17th century the Weheebe from Wuharbe (Senegal) entered the region. They were hunters with horses and dogs and came raiding and hunting, taking women and children as prisoners and slaves. The Weheebe had a pact with the Jallube pastoralists and they were ascribed leadership qualities. Some who settled in Joona came to Debere and said to the Sonrai living there: 'We won't conquer you if you'll look after our prisoners. We will go to Joona and come back to collect the harvest'. The Sonrai, called Riimaybe Rimbe or free Riimaybe, agreed to their conditions. After a while, the Sonrai mixed with the prisoners of war, among them some beautiful women from the south, Bamana and Dogon. As a result, the difference between slaves and the Sonrai became blurred.

The people had to work hard to produce enough for themselves and the Weheebe. They were able to stay alive by hunting wild animals, gathering honey and plants and working long hours in the fields. Men and women used to work together to harvest enough. In those times, there was more rainfall than there is today, and the Riimaybe cultivated cotton from which they made clothes for themselves and for their masters in Joona.

The Weheebe had their own house slaves as well: the Maccube. The Maccube did all kinds of work but stayed with their masters' family in contrast to the Riimaybe (which means freed slaves or protégés, or as Gibbal says Songhay descendants who have become Fula captives). Islam was not widespread and was the religion of the elite. It allowed the keeping of (pagan) slaves (De Bruijn & Van Dijk 1995; Fisher & Fisher 1970: 44; Gibbal 1994: xiv).

Then in 1818 Seeku Amadu, a political and religious leader, conquered the region and founded the Diina State and promoted the spread of Islam. Gaaribus (Koranic students) were sent to the villages to convert the people and teach them how to pray. The second year they came back and those who had not prayed were killed. A lot of people were killed.

In 1862 another group, called the Futanke and who came from the west, conquered Seeku Amadu and the Diina State. A turbulent period followed with raids, wars and violence. The population suffered until the French got the region under their rule in 1903 and abolished slavery. The slave trade ceased but people were still allowed to keep slaves, so in fact the situation hardly changed. The French needed the former slaves to build roads and other Riimaybe, even some men from Debere, were sent to fight during World War I. Their former masters, the Weheebe and

Jallube, took up cereal cultivation in the colonial period and the Riimaybe began to accumulate livestock to provide manure for their fields and cash for cereals if the harvest failed (De Bruijn & Van Dijk 1994).

Debere remained under Weheebe rule. But regarding Islam, Riimaybe and the elite grew closer and, for the Riimaybe, conversion and adherence to Islam contributed to their social status. After World War II a democratic system was introduced and it was impossible for a person entitled to vote to be a slave. So slavery and the keeping of slaves was abolished, though master-slave relationships continued to exist (Lovejoy & Kanya-Forster 1994: 5; De Bruijn & Van Dijk 1994).

Village life in Debere

Social life in Debere

When staying in Debere, I noticed that the women were often noisy when pounding millet together. Ali said: 'The women often make a lot of noise, they are talking, laughing and quarrelling really all the time, because they are like that, they like it and they can't keep quiet, not even for one minute'. Hamsetto said that it was normal to talk together, to make noise and that it would be abnormal if it were quiet. Men were no different, though one of them said: 'Men learn a different kind of behaviour in town. They have to be polite and quiet there'.

The most striking thing was that Debere was a lot noisier than other Riimaybe villages near Debere, like Joona, Boundoukoly and Dirimbe. The Riimaybe there, not having power and never making up more than half of the population, were quite quiet. Joona, for example, was extremely quiet. The Diimaajo I spoke to in Joona wore beautiful clothes and were not very willingly to speak. It was the same in Boundoukoly, where the Riimaybe form just a small part of the population and in Dirimbe where the Jallube still have power. These villages contrasted with Debere. Especially in the central area of Debere, there were always people gathering together, sitting and talking, women pounding millet, children running and yelling. The Riimaybe always seemed very open and willingly to speak, they often came to see me to talk, to ask things, and children often came into my hut to sit down, and were not at all shy.

The Jallube men can be found in the village as well, sitting and talking together with the Riimaybe. The Jallube sometimes accept paid work from the Riimaybe, like fencing their gardens. The Riimaybe work for the Jallube as well: they build houses for which they get paid (FCFA 15,000 per house), and they still slaughter animals for them, as their forefathers did.

Although Islam is the dominant religion, there are still elements that can be traced back to the Sonrai religion. The Sonrai were known for their genii cults and knowledge about the supernatural and magic (Rouch 1989; Gibbal 1994), and a special kind of Islam has developed in daily life where the belief in Allah, genii, magical practices and praying go hand in hand.

Genii predictions are a way of becoming more certain about the future by giving a feeling of control over the environment. The night after Ramadan the spirits are released, making it the best night of the year for the genii cult. The whole village gathers together in the central square in total darkness because of the new moon and restrictions on light, and having asked God for his protection, the spirits are asked to come down. Then the healer[9] starts to sing, assisted by drummers. The songs are simple phrases in Sonrai, usually repeating the names of the 'houses of the spirits'.[10] When a geni hears his song, he starts dancing wildly, stirred by the drumming and singing of all the people. When I attended this cult, one of them fell to the ground at about three o'clock in the morning and started speaking about the next harvest in Sonrai. He said that the population of Debere had to slaughter a goat and that everyone had to give two cola nuts to a needy person in the village. An hour later, the healer was possessed by a spirit as well and said (in Sonrai) that it would be a reasonable harvest next year if people did what was said and if everybody filled his hand twice with millet and gave it to the moodibo. In this way, the village collects money every year and slaughters the animal the genii spoke of in order to get help from the spirits and to have a good harvest. This 'genii dance' is important for the village.

Apart from the belief in (good and bad) spirits, there is also the belief in 'the only power one should rely on', according to the Koran: God. Every year the *moodibo* reads a part of the Koran that predicts the following year. If the rains are too late, people collect money to ask the moodibo for blessings. The old *moodibo*, who died in 1997, was good at 'calling the rains', as it is known, but his son has not (yet) developed the ability his father used to have.

Another way of controlling forces outside oneself at an individual level is the wearing of amulets. Most people have an amulet written by the moodibo, others buy non-Islamic amulets from the Dogon in Sinda. Amulets are used for several reasons, including protection against harm. Almost everybody has an amulet, and especially

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[9] In Debere there are several possessed who stay with the curer. When they are released from their spirit and are better, they are sent home. They have to pay the curer FCFA 15,000 and a cow or a donkey (for a Diimaajo). This has made the curer's family one of the richest in Debere.

[10] They sing for example *Adjumbeela adjumbeela kimbaso*, where *adju* is the wood where the spirits can be found, or *Koraroembela kimbaso*, *koraroem* meaning a pond where spirits live.

babies and young children wear protective amulets against harmful forces and diseases.

A certain belief in the future and faith in God and good spirits help people to survive during difficult times. It can encourage people to work instead of sitting and waiting for times to get better. Reliance on amulets or predictions, although officially forbidden in Islam, can give people peace and security, or clarity about the near future, although they can also prevent people from taking action to change the situation. People rely on these things instead of relying on themselves, which can lead to a passive attitude of 'waiting for the rains'. The Riimaybe do not show this behaviour and are, in general, active and positive.

In addition to the psychological factors, there is a material security aspect of Islam as well: zakat, the religious tax. Zakat is 10 per cent of the harvest and 2.5 per cent of other possessions, which are given to the *moodibo* and to poor people. Ali explained to me: 'We gave one bundle to the *moodibo* and one to our neighbour, an old woman, and one to a relative in Joona'. Zakat is important for social security, for people who do not have access to enough food. Most of the time people give the zakat to the moodibo and to relatives or acquaintances (cf. De Bruijn & Van Dijk 1995).

Although male and female spheres of life are clearly separate – women work in the village and the household, men work in the fields and go on migration – men and women can work together in the fields and can do each others' work if necessary (except for migration to town which is strictly for men), they talk together and they may even eat together.

Men have to work hard in the fields during sowing and harvesting but women are busy every day fetching water, pounding millet, cooking, washing, cleaning, looking after the children, gathering wild rice, fonio and baobab leaves in the bush, working in their small gardens or the fields, and weaving mats. They hardly ever go further than Douentza. When their men are away, women stay behind. An old woman said: 'Women are always together; they know each other well, talk about everything. The women are very important for Debere'. Maybe because women are almost always in the village, they are more likely to participate actively in development activities than the migrating men. Hamsetto told me: 'Women have to earn money and survive for themselves; you can't rely on the men. Some men "eat" all the money they earn in town. They use it for food, for women, clothes…' So women seem to be much more village-oriented than men, and are important in drawing the village together, in tightening social bonds and keeping the village spirit alive. If women also went to

town, Debere would be a ghost village during winter where only old people lived and went to the mosque.

Debere is a homogenous village with few conflicts between the different groups. It is a loosely structured society, where extended households are the most important units. There are networks and social security mechanisms on which people can rely when needed, based on kinship, friendship or religion. For outside agencies, however, it often appears difficult to intervene in a fruitful and sustainable way.

There have been several development activities ranging from credit schemes and literacy courses to agriculture-related projects that have taught people how to improve their harvests. The first activities started in the 1970s, and at the end of the 1970s there was a loan from the government to give the rural population the chance to buy a plough or donkey cart. Over the last twenty years, Debere has received a great deal of project assistance.

In 1987 a Peace Corps worker lived in Debere for three years and started a communal garden. The men in the village were those most interested in the time-consuming garden. But after 'Sidiki Jallo', as they called him, had left, the committee spent all the money, the participants became angry because all the money had gone and in the end they ceased working in the communal garden. One year later an old man, Jalla Bukaari, began to work his own garden and the year after some other men enclosed a part and began a garden as well.

In 1990 GTZ (Gesellschaft für Technische Zusammenarbeit) granted a loan to the men in Debere on condition that they organized themselves and built a grain bank. They set up a committee, built a storage shed (with the help of people from Boundoukoly), bought millet and sold it in the rainy season when prices were high. In 1994 they paid the money back and because GTZ did not offer a new loan the organization ceased to exist. The women also got a loan of FCFA 500,000 to work with. They made a lot of profit but the money had to be paid back after nine months. They divided the profits amongst the female participants and stopped working. The organization of the men and women was important though: people learned to work in groups and to organize committees.

In 1998 a member from Organisation des Volontaires Maliens came to Debere for two years to work with the women. After some noisy and chaotic meetings attended by at least forty women, they decided to start with onion gardens. A considerable number of women (102) wanted to participate and cultivate onions, although it was the children who watered the gardens over the first few weeks. After a while, the women became enthusiastic, they were able to harvest onions and sell or use them for their sauces. In 1999, the volunteer found funding to teach the women how to

make soap and cream. So they worked together for two years, and the women earned money from their activities. The volunteer left in 2000 and six months later the organization broke up.

At the beginning of the 1990s the Save the Children Fund started to run literacy classes. Over the years there have been several courses for men and women separately, and in 1999 there were about five women and twenty men able to read and write.[11] This was important for the village and contacts with development organizations. The women and men who were able to write have all played an important role in the women's organization and the school, or they are for example a doctor or Fulfulde teacher.

Although development workers sometimes find the village people difficult to motivate, people in Debere are cooperative and willing to participate in new forms of organization. The problem in Debere is that people are not involved in the organization to such an extent that they want to devote a lot of time to it, so when the project organizers leave, the organization or activity usually ends after a while and people return to their own activities. Debere has, however, profited from all the project help and money that has been invested in the village.

Household coping strategies

- Agriculture

The activities households develop are similar at first sight but differ on closer inspection. Every household earns income from the same sources: agriculture, horticulture, cattle, handicraft, trade, services, and migration and it is because of this diversification that people are able to survive. Every household has its own mix of activities, and earns money with the capital available to it. In times of crisis only households with enough capital at their disposal, and that know how to use it and have a bit of luck, will be able to achieve food security (De Haan 1999: 15; Mortimore & Adams 1999).

Ali's family consists of nine people: Ali, his wife Ada Kumba and their daughter Soulbou, Ali's brothers Buri (20) and Sayda (15), his parents-in-law and an uncle and aunt, Walde and Mariamma (aged ± 63 and 58) and their unmarried children Demba (22) and Pende (18). His uncle is the chef de famille. Ali's parents are both dead. His sick mother died eleven years ago, his father four years ago. His aunt

[11] This difference is partly due to the fact that some men went to school in Douentza in the 1960s, that men learn to write faster if they have attended the Koran school and that men (who stay in the village) have more time after the harvest is finished. Women are almost always occupied and often do not see the value of reading and writing.

Mariamma became very ill last year, but luckily recovered after blessings from the moodibo and a special kind of herb from the curer. This cost the family FCFA 6,000.

Ali's eldest brother Amadou (39) met a woman in San and decided to go to live there. Ali and Amadou had a conflict about money. Amadou wanted Ali to give his money to the family for food instead of spending it on himself but Ali did not agree and went off to town. That was one of the reasons for his two-year stay in Ségou. In June 1998 his brother Buri went to look for him in Ségou to ask him to come back to Debere and they returned together. Ali worked the family's three millet fields with his brothers, uncle and cousin for the whole summer, with just a hoe and harvested them. Although he worked hard during summer and went to the fields almost every day before the harvest to chase away the birds by banging a tin, he does not see himself as a farmer. Ali: 'I have to work the fields, but I prefer doing other things'. When asked how much they harvested, he did not know and has to ask Walde. He says: 'forty bundles of millet, and two sacks of rice (100 kg), in 1997 thirty bundles (but the bundles were a lot worse then) and in 1996 we harvested eighty bundles'.

There is a big difference in harvests over the years. Walde commented: 'In 1997 and 1998 we sowed the long variety[12] because it was the only variety we had in store. The millet ripened well in 1998 in contrast to 1997. We were lucky we could use the neighbour's donkey cart, otherwise we could not even have brought the millet back for storage. In 1996 we had a very good harvest. I sowed the middle variety that year because I bought seedlings at the market when I had to sow for the third time. That went very well'.

'Before 1973', Walde says, 'I cannot compare it with now. The bush was full of game, birds, fowl, plants and honey. Even when the harvests failed, there was always enough. The people were more at peace, they didn't want to leave all the time like they want to today. The young men sometimes don't even want to work the land properly! I know that it is very important to earn money, but sometimes they even leave before the harvest! And they do not know when to sow, and when to harvest. All the older farmers know that they have to sow when *hoodere hoonkere*[13] can be seen. Younger farmers prefer to wait for the first rain, it is more secure, as they say, but the harvest is bad as well. I think it is just because they don't want to sow a couple of times'.

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[12] There are three millet varieties used in Debere: *gauri Djoundi* with a growing cycle of 80-90 days, *gauri Hakonderi* (70-80 days) and *gauri Ndabiri* (± 60 days). In the past people used only two varieties but they have had to buy seeds from the north with a shorter growth cycle over the last ten years.

[13] *Hoodere hoonkere* or *aldabrano* in Arabic is a star that can be seen between 15 and 30 June and marks the beginning of the cultivation season.

Walde found it a lot better in the past than nowadays. Other older people I spoke to were also more positive about the old days and they almost all gave 1973 as a turning point, the year when the droughts started. They still farm in the old way, by cultivating according to the calendar of the stars, and the older men who stay in the village devote a lot of time to their fields. Young men sometimes leave the village even before the harvest is finished, like in 1997. A friend of Ali's, Isiaka, told me: 'It is no use working hard on the land, it costs you all your energy and even then the harvest is next to nothing. It is better to go to town, to work hard there and earn money so you can buy millet. That's not to say that I don't work on the land, I do, but it's not useful working and working there till you almost drop dead, one storm and all your work is worth nothing'. An elder said: 'It is because the young people do not work the fields properly that they do not harvest well. Look, I listen to the moodibo, to the genii, I watch the stars, I prepare my land properly and on time and decide which variety I am going to sow. This year I sowed the middle variety (70-80 days) from which I had a very good harvest. The young people just do not take the time for that, nor do they take time to listen to us about how they have to farm. And then they blame the rainfall for their bad harvest'.

What becomes clear is that there is a big difference between the younger and older people regarding agriculture. A lot of young people would prefer to go away instead of devoting time to agriculture. Older farmers still remember the time before the 1970s and blame the young farmers for not listening to them and for leaving. The younger ones say that agriculture is not worth the effort. The young farmers only know the years of decreasing rainfall, whereas the older farmers still remember the good times. This influences their decision-making and priorities. Young farmers prefer the more secure strategy of earning money in town to risky agriculture. Older farmers see the need for going to town but accuse the young farmers of having only one goal, namely that of leaving.

Although millet is by far the most important crop, other crops are also cultivated. Sorghum[14] is cultivated in the same fields as millet but is less popular: people say they prefer to eat millet instead of sorghum because sorghum is too heavy. Sorghum is more risky as well because it needs more rain than millet and the harvest is later so there is a greater chance of cattle destroying it.

The fields are worked with a hoe or a plough. The men do this work, and women help with sowing and with the harvest. About 36 families own a plough. Some of

[14] There are five varieties being used in Debere: *mbayeeri Mbounga* (120 days), *mbayeeri Daneeri* (70-80 days), *mbayeeri Booderi* (70-80 days) *mbayeeri Djibiri* (70-80 days) and *mbayeeri Keloori* (60 days). In the past, they did not have red sorghum*, mbayeeri Booderi* (70-80 days).

them were able to buy one because of a loan they obtained that had to be paid back in three years, at FCFA 25,000 a year. Many extended families (46) own a donkey and a donkey cart. In the last few years there are almost as many families who own a camel for working on the land.

Rice[15] is an important crop when water runs off the hills, as in 1998. Then there are the fields with beans, also behind the village, belonging to about 60 families. Ali's family does not have a bean field but Hamsetto's does. In 1998 insects ate almost all the beans. Beans are extra in the diet, or the women make benge bali, beanflower mixed with sugar and water. They roll balls and sell them for FCFA 25.

Near the bean fields is the area where people cultivate calabashes. In 1998 the harvest was very good and older men were busy with hollowing them out for quite a while. Ali's uncle, Walde, cultivated some calabash plants, hollowed them out and gave them to his wife and daughter. They needed them for the kitchen because their other calabashes had broken and so were not able to sell any that year. Hamsetto's husband harvested a lot of calabashes and Hamsetto went to the market in Douentza and Boré to sell them for between FCFA 50-250 each.

There is one old man who has his own orchard with guava and lemon trees in the same area as the gardens and someone else cultivates cotton plants. Cotton, however, can hardly be cultivated anymore because of the lack of rain.

- Cattle keeping

Hamsetto has two goats, one of which is still small and the other is already big and fat. During the day, her goats always go with a Pullo into the bush. She pays the Pullo FCFA 50 a month for each goat. The head of her waalde collects the money and gives it to the Pullo. In March 1998 she sold an adult goat for FCFA 15,000 and made a profit of FCFA 7,000.

Many women own their own cattle, a few goats and some sheep. There have been loans for women,[16] so they have been able to pay for an animal and sell it when it matured. The women own the animals and can do what they want with them. Hamsetto said: 'I always give my goats the rest of the water after I have cooked the millet, to fatten them'.

There are only a few families in Debere that have been able to build up a herd and they are considered as the richer families. The shop owner's family, for example, that lives on the edge of the village in a big house, has approximately 50 cows and is

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[15] People in Debere use two varieties: *maaro Wallo* (90 days) and *maaro Sossowel* (60 days).

[16] They received their last loan in 1997 from the SCF: FCFA 20,000 each, FCFA 2,500 to be paid back every six months.

considered the richest or second richest family in the village. There are six more families that have over 15 cows and about 26 families that own a couple of cows. Cattle are seen as a good investment and indicator of wealth and the Riimaybe are increasingly investing in them. Other authors have stated that farmers and pastoralists can no longer rely on their traditional strategies and have had to start to invest in activities other than the traditional (Van Dijk 1997; UNICEF 1989: 79).

- Production and services

The Riimaybe women are expert at making and selling various products. Not only do they weave mats, they also go to the market to sell rice, calabashes and onions. Hamsetto reported: 'You weave mats whenever you have time left and feel like doing it. Especially after the harvest you have quite a lot of time to sit together, talk and weave mats. We buy Bali, the small palm leaves, from the Bella for FCFA 150 a bundle. Out of this you can make one and a half mats. A mat sells for FCFA 450-500, so you can make a profit of approximately FCFA 300 per mat. To weave a mat takes two days to a week, depending on the time you have'.

Older children often go into the bush with a donkey cart to search for wood. Sometimes they take it to the market in Douentza, sell it and earn a couple of hundred FCFA per load. Some older men are specialized in handicrafts, like repairing calabashes, working with leather (fringing baskets for example), or working with wood, manufacturing doors and making ropes. They earn a bit of money with these activities. It prevents them from being bored. Old women are often more occupied with weaving mats, helping in the household, especially with the lighter work, like cooking.

- Migration

Ali went to Ségou but spent almost all his money. When I asked him what he spent it on, he said that he had had to live, eat, pay for his room, and that life was a lot more expensive there. Later on, knowing him better and talking more often with him, he explained that life was not that easy in town and that he used to buy a lot of things and sometimes drank alcohol and bought cola nuts in order to be able to work all day. But he says that he liked life in town because of the freedom he had there. 'You can do what you want there without people talking about you. Here in Debere all the people talk about you, they know everything about each other. In town it is not like that. Ségou is a very good town to be in. I always go with some friends so you are never alone. I went to Mopti one year; I didn't like it at all. It was too dirty; I don't like Mopti too much. Ségou is quieter. I have had years that I came back with

FCFA 120,000, but also years when I came back with just FCFA 50,000. If you stay longer in town, you live differently and spend more money on clothes and so on'.

Migration has an impact on life in Debere. The men are generally away for about three to eight months but they return to the village in June even if they do not like working in the fields. They adopt different behaviour and another way of life in town. Young men say they go to town to escape village life, a fact confirmed by Leisinger & Schmitt (1995), who said that men temporarily migrate to escape traditional rural life. Money and the individual become more important and some young men who come back with money are said to withhold it for themselves instead of giving it to the chef de famille. Sometimes they come back without having earned anything, which may lead to conflict within the family. They usually give preference to their own household and build a new house on the edge of the village instead of living in one compound, resulting in divisions in a family. Old people say that this happens more often than in the past (cf. Gilbert & Gugler 1992).

Although migration also took place in the past, the form and magnitude of migration and the reasons behind it seem to have changed. Over the past few decades, people have migrated mainly for economic reasons and were mainly connected with weaving. In the 1960s, just a few went, and to cities nearby like Mopti, Bankass and Bandiagara. Nowadays almost every man goes to town from about the age of fourteen. The Riimaybe can be found in a variety of jobs, like construction work, trade and so on, but they are still known for their weaving skills. Most of the men are involved in the weaving or selling of pagnes; others are bicycle repairers, tourist guides (without speaking French), radio repairers, cattle salesmen, co-drivers or bricklayers. Many of the richest families are said to have earned their money in town. The shop owner in Debere, for example, went to Ouagadougou for a few years and came back with a lot of money that he had earned through trade.

Individual coping strategies

Within (family) groups the same mechanisms of coping as at the household level can be discerned. Individuals have their own ways of surviving with the capital at their disposal. Some people seem to be lucky, earning a lot of money in town and investing it in agricultural equipment or cattle. Others do not seem to care about saving money and spend almost all of it while in town. During fieldwork, I found that young people generally had a different perception of the future than older people. Young men did not see a future in agriculture; older men did not understand the young and their motivation to go to town. This was not the same for women: young and old stayed in the village, and women were together there the whole year

round. Most of the young women seemed to like life in Debere; at least they were optimistic about the village and its future. The women are a great driving force in the village, participating in projects and working hard in the village and in the fields.

- Ali

Although Ali has been married for eight years and has a child, he spends a lot of time on his own or with friends. He is always weaving or wandering around, sitting and chatting, or even participating in the women's literacy classes. Every Sunday he goes to the market in Douentza, usually by bike, to stroll around with a friend.

Ali is a practising magician, something he learned from his grandfather. Sometimes he just sits for hours or he gives half of the money he has to children. He is called a mélange because of the way he mixes things up. Perhaps because of his attitude, he does not give the impression of being someone who works hard; and his mother-in-law Mariamma got angry with him when he once went to Douentza on a weekday. She told him that he did not do anything for his wife (her daughter), that he did not earn money for his family and that he should work instead of going to Douentza to spend his money. Ali said: 'Then she told me that I didn't have to come back for meals anymore. So I didn't. I get my breakfast on the street; I have my lunch with Oumarou or Isiaka as well as my dinner. That's it'. Ali was lucky that this happened in January after a good harvest when there was enough to eat so he was welcome to join friends and eat with them. After a week he went back to talk with Mariamma. He was allowed to come back.

In June 1998 Ali returned from Ségou after working there for two years. The money he had earned he spent on housing, food (rice, fish, tôh and sometimes meat), clothes and shoes. His magical practices sometimes generated some extra income. These practices involved solving problems between partners or getting a partner. He taps on the ground with a finger, draws lines and points, slaughters chickens, buries three nails in blood near a special place such as the mosque, a termite hill or a client's house, and recites Sonrai secrets. Then the magical forces do whatever they have been asked. People pay him, for the chicken of course, and depending on the success and their ability something between FCFA 100 and a few thousand FCFA. Even in Ségou, people came to see him for his magical practices. With this Ali earns a lot of extra money.

In Ségou he earned most of his money through weaving, which he learned in Mopti when he was a young boy. 'I started in Mopti, with my dad, brother and some others, among them Isiaka and Oumarou. We worked there for a couple of years and then we went to work in Bankass. But our boss did not pay us well. Later on,

Oumarou, Isiaka and I went to Ségou. We found a good place there in an atelier, quite well paid. Then my mother died, eleven years ago, when we were in Ségou. They sent us the message as soon as possible, but unfortunately she was already buried when we got back. I stayed in Debere the rest of that year, just walking around, drinking tea and thinking. The next year, I had to go to town to work and earn money. It went very well because I had to teach some young boys, so I earned more. I still have the place in Ségou, although this year I will stay in Debere'.[17]

Ali earns his own money and buys whatever he likes. He does not want to save money, to the annoyance of his mother-in-law. But he has learned something, which is clear from his decision to stay in Debere, where he works non-stop. When Ali has family problems, he always has his friends Isiaka and Oumarou to fall back on. Ali goes his own way, he always earns enough money with the skills he has but he does not concern himself with agriculture at all. Nor does he consider saving money to buy a plough or a donkey cart. That is one of the reasons why his family does not cultivate much and struggles to survive in years of drought.

- Hamsetto

Hamsetto, 35, has a husband, three children, and a younger co-wife, Gaddoru. She, her children and Gaddoru and her child live in one compound. Hamsetto has her own tidy house with two rooms and a cement floor, with posters on the wall and even a table and a chair. She has two goats. Hamsetto is a woman who knows what she wants, she is hard working and participates actively in the women's organization. She attended all the literacy classes in 1999, and now is able to read and write. She plays an important role in the women's organization and in meetings, calling everybody whenever there is a meeting and solving problems. She is well fed, and her children do not have swollen stomachs like a lot of the others do. She buys them milk now and then.

Hamsetto has her own rice field and (small) millet field. Her son helped her with the harvest: eight bundles in 1998, ten in 1997. Her husband cultivated a lot of calabashes and she sold them in Douentza and Boré at the market. From the money she bought daily necessities such as soap, oil and salt.

After the millet harvest she started cultivating onions and weaving mats. She needed mats for a wedding and for her son's engagement. She also sold some mats for FCFA 450 each at the market in Douentza. In January, after the end of Ramadan,

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[17] Oumarou quit his job and found a job as a *pagnes* salesman, travelling between Bamako and San. Isiaka has stayed in Debere the last few years. He became a poultry vaccinator after having been educated by PNVA (an NGO) in Debere.

her husband went to Mopti to weave and he had earned enough after a month to send her a packet with food and presents.

In January Hamsetto's son got engaged and Hamsetto had to pay for the engagement party. She invited a lot of people from Douentza, made rice with sauce ('people from Douentza are spoiled, they don't want to eat tôh'), which cost her about FCFA 5,000. She was able to finance it with the money she had saved from what she sold and with the rest of what she had left from a loan from a project (FCFA 20,000).

Her social network is extensive, which means that in hard times she can rely on relatives and friends. Although the family is not rich they generally have enough millet, even in bad years. Hamsetto is not very engaged with Islam, she hardly ever prays and rarely goes to the mosque. But this does not prevent her from believing in God. She thinks that her children's future will be better because of the knowledge they are getting at school. She has an optimistic view of the future.

Conclusion

The people in the district of Douentza live in a harsh environment. Environmental instability and climate variability generate insecurity in terms of survival, in both the short term and the long term. This research project focused on a particular group in the area, the Riimaybe, who, being the former slaves of the Fulbe elite, occupy a low position in Fulbe social stratification.

The research was carried out in Debere, a Riimaybe village north of Douentza. The Riimaybe own the fields surrounding their village where they cultivate. Millet is the staple crop cultivated in the fields outside the village. Rice and beans are cultivated in the fields closer to the village because Debere is situated in a small valley. Horticulture makes an important contribution to food production. The village is divided into four quarters and the population is organized around age groups called *waalde*, a youth organization (*groupe des jeunes*) and a women's organization. A number of development projects have provided support in Debere by building a school, classrooms, a clinic, wells and latrines. The village is relatively prosperous compared to others.

A characteristic of both Riimaybe men and women is that they are used to hard work. They earn a living through various activities, agriculture being their main occupation. Nowadays the harvest does not provide enough to live off. Since the 1960s men have temporarily migrated to town in search of work and money. Such temporary migration has become a common coping strategy among men, with most

of those involved going to Mopti, Ségou, San or Bamako where they are mainly involved in weaving or trade activities.

Women usually stay in the village and earn their own money. They are active in a large range of activities and especially occupied within the household with their children, with onion production, mat weaving, ruminants, and petty trade. Many women participate in development projects. Older men are usually devoted farmers and good horticulturists.

A generation gap seems to be emerging. Older people do not appreciate and understand the desires of the younger generation to migrate to towns, earn a lot of money and start businesses. Instead of living with their extended families, some young people prefer to live on the edge of the village where they are occupied with their own affairs. The older generation would prefer to see them devoting their time and energy to agriculture and developments in Debere. This sometimes leads to serious conflicts, especially in times of drought.

Every household has its own mix of activities, some of which are very successful, while others have to rely on help when the harvest is insufficient. Every household develops its own pathway depending on the means at its disposal. The case studies of Ali and Hamsetto show that a considerable part of the household capital is provided by work in towns and with this money, the family is able to buy enough food. Some families, that have a number of men who have migrated are able to save more money and these savings are often used to buy ploughs, donkey carts and cattle, investments that usually lead to increased production. The gap between rich and poor families seems to have become larger. Those who are well-to-do manage to ensure their continued economic survival but some families barely survive in bad years.

In general, however, this chapter shows that despite their low status in Fulbe society, the Riimaybe seem to be coping well with the changes in their ecological, economic and social environment. They are managing to shape their own livelihoods, guided by their own energy and cultural attributes.

The Seeno Plain seen from Tireli, Central Mali dry season (Wouter van Beek)

Bandiagara escarpment, Central Mali (Mirjam de Bruijn)

Dogon women bring manure to their fields Tirelli, Central Mali (Wouter van Beek)

Millet harvest of Dogon women in Tireli, Central Mali (Wouter van Beek)

Nomadic Fulbe camping on a field in the area of Bandiagara, Central Mali
(Mirjam de Bruijn)

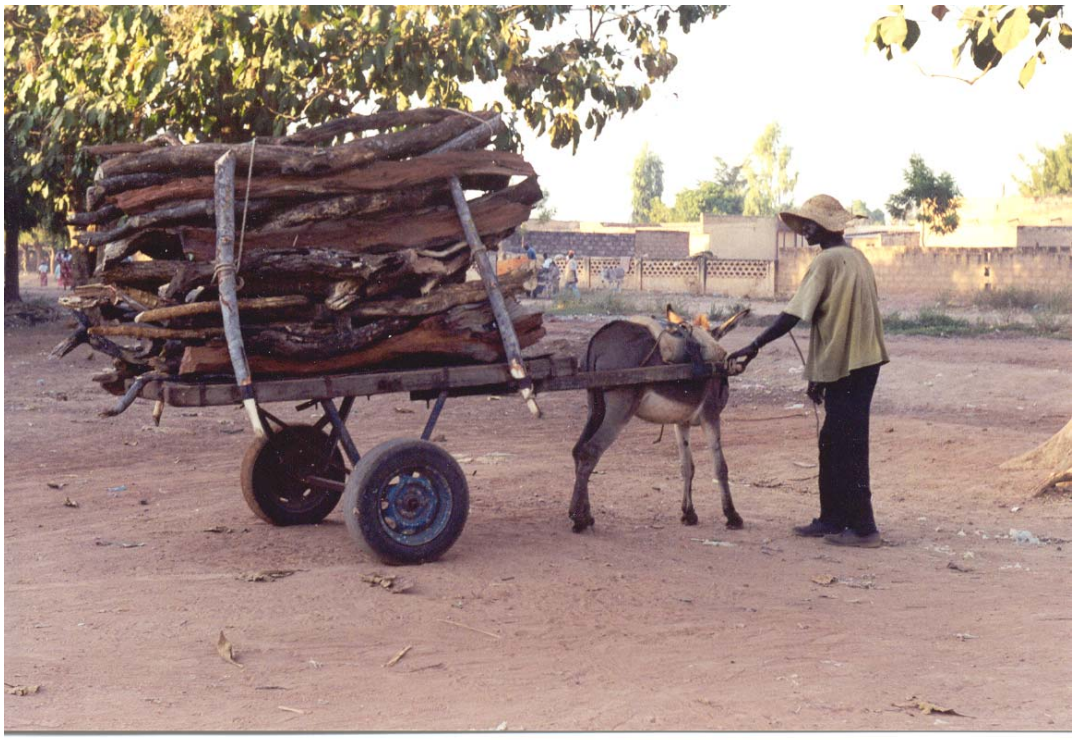
Nomadic Fulbe on transhumance in the area of Bandiagara, Central Mali
(Mirjam de Bruijn)

Salt caravan from Tombouctou on its way to the south in the area of Boni, Central Mali (Mirjam de Bruijn)

Perennial cotton re-appears as a crop in dry season gardens in Debere, north of Douentza, Central Mali (Han van Dijk)

Tobacco growing yields extra income in the dry season in Debere, Douentza district, Central Mali (Han van Dijk)

Cotton field in M'Peresso, Koutiala district, Southern Mali (Karin Nijenhuijs)



Transport of fuelwood, Koutiala, Southern Mali (Karin Nijenhuis)

Dogon migrants harvesting sorghum in the village of Welenguena, Koutiala district, Southern Mali (Karing Nijenhuis)

7

The caravan trade of cereals and salt: Nomads and farmers connected

Mark Rutgers van der Loeff

Introduction

If you leave Douentza, a small town in the centre of the Niger Bend, preferably at sunset in January or February, and follow the tarmac road just a few hundred metres in an easterly direction and pause there for a while, there is a fair chance that you will see a growing cloud of dust appearing on the southern horizon. When this dust approaches the town, you can see that it is being produced by a group of donkeys or camels. It can be a small group, no more than fifteen animals, but could also be a large one consisting of more than a hundred donkeys and camels. The animals carry heavy bags used for millet transport and seem to almost disappear under their loads but nevertheless maintain a faster speed than the average pedestrian. The groups of animals are accompanied by men who clearly do not come from Douentza or nearby. They wear a *tiggelmust*, the protective headwear that only leaves space for the eyes. The men are Tamacheq or Moors, people from the north of Mali. They are constantly yelling and beating their animals to keep them going at a good speed and on the right track. With some difficulty, the donkeys climb the slope up which the asphalt road goes, cross it and continue their journey on the dirt road in a northerly direction. Who

are these people? Where are they coming from and going to? What are they doing and who are they working for? This chapter, based on fieldwork carried out in Douentza from December 2000 to March 2001, tries to give some answers to these questions.

Relatively little was known about the whereabouts, motivations, importance and profits of the caravans, not only among researchers but also among the inhabitants of towns like Douentza. This is not surprising. The caravans move fast, and after the dust stirred up by their passage has settled again on the sandy soils, few traces are left of them. Therefore, a research project was sett up to find out how the caravan trade functions. The subject of trade was approached at two levels. At a macro-level, trade was analysed as a system and at a micro-level, it was analysed as an activity of an individual, a caravaneer. Such research fits into the increasing recognition of trade, and employment in trade, as ways that make food accessible for people (Dietz *et al.* 2001b: 3). This is especially the case in the (semi-)arid regions of Central Mali where food security has been threatened by both natural and human factors over the last decades. Trade assures the complementarity between different regions that produce different commodities. In the future, the role of trade is expected to grow as West Africa becomes a lot drier as a consequence of changing climatological circumstances.

Research methodology

The period of the year in which this fieldwork was done, from December to March just after the harvest in October, was chosen because it represents the peak in cereal trade in this part of the country. The main data presented here were collected in and around the town. The choice of Douentza was based on the assumption that all the caravans pass through Douentza. Its location between two ranges of mountains and rocks creates a funnel-shaped geographical pattern in the trade routes. Trade routes were expected to diverge just to the north and the south of Douentza where the landscape is flatter.

Two basic conditions had to be fulfilled to make this research possible. Firstly, places had to be found where the caravaneers could be interviewed. Their extreme mobility could pose practical problems. After some days of crisscrossing the sands on a motorcycle, it was discovered that two places just a few hundred metres outside Douentza (a well and a rain-fed pond) provided points where many caravans halted every day around noon for some hours to give themselves and their animals the opportunity to eat, drink, rest and to buy provisions in Douentza's market. The second condition to be fulfilled was that the caravaneers should be willing to engage in conversations with us. A reserved attitude on their part could be expected since the caravaneers were near Douentza in 'strange'

territory (i.e. not inhabited by their own ethnic groups). The revolt opposing Tamacheq and Moor rebel movements on one hand, and the Malian army dominated by other ethnic groups on the other, only ended in 1996. However, the curiosity of most of the caravaneers was stronger than their suspicion.

Since there were few preconceived ideas and little information at the start of the fieldwork, research began with low-profile conversations. Later on, interviews became more focused on specific topics. Counts were made over a period of three weeks to ascertain the quantity of millet that was being transported by the caravans. Interviews were also held at the weekly market in Douentza to learn more about the millet trade in general in Central Mali. The data obtained in and around Douentza were supplemented with the results of three one-day excursions to Boni, ninety km east of Douentza, where another caravan route passed, and a three-day visit to Timbuktu, the capital of the region where the caravans originated.

The caravan trade

Price differences

The differences between the prices paid for millet at markets in Central Mali plays an important role in explaining the existence of the caravan trade. As can be seen in Table 7.1, these differences are considerable. The prices of one kg in Koro, the centre of the Seeno plain where the caravans buy their millet, are often two-thirds of the price paid in Timbuktu, 300 km to the north. The majority of the caravaneers live near Timbuktu.

The high prices for millet in Timbuktu can be linked to two factors. Firstly, there are few possibilities for rain-fed agriculture in the Timbuktu area, with an average precipitation of only 125 mm per year. All the millet has, therefore, to be imported. This is problematic since the Timbuktu region is also one of the most isolated regions in Mali. The region is not linked by any asphalt road to the rest of the country. For its food supply, the region is to a large degree dependent on traditional modes of transport, like boats going up and down the River Niger, or caravans. The quantities that can be transported in a wooden boat or on a donkey's back are limited. This combination of climatological circumstances and isolation leads to limited food reserves and high prices for the millet that is available. Poverty, another major characteristic of the region, means that many of its inhabitants cannot afford to pay the millet prices asked at the regional markets. Caravan trade offers a solution.

Table 7.1
Millet prices in Koro, Douentza and Timbuktu, June 2000 - February 2001, in FCFA/kg

	June	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb
Koro	72	73	80	80	80	70	78	78	90
Douentza	90	92	100	85	90	100	102	105	110
Timbuktu	116	110	116	117	125	116	133	130	135

Source: SAP 2001 and own fieldwork

The caravan trade is based on mobility, one of the strategies nomadic societies have developed to cope with the harsh circumstances that have always existed in the regions where the Tamacheq and Moors live. For the caravan trade, the advantages of mobility in Central Mali become immediately clear. Firstly, caravans offer access to cheap millet: millet prices are lowest when bought directly from the producer in his/her village. This is what most caravans do: they go from village to village on the Seeno plain looking for people who want to sell millet. Secondly, caravans are the best method of transportation along the route between Timbuktu and the Seeno. Using animals is practical because the Seeno plain where the millet is grown is a very isolated region hidden behind the steep Bandiagara Escarpment and the sandy access routes leading to the area from the north and the west are hard work even for four-wheel drive vehicles.

Trade volumes

Table 7.2 gives an estimate of the quantities of millet transported by caravans. Financial constraints limited research counts to a period of three weeks, so it was decided to count for one week each month to register changes in the number of passing caravans. Every day, the passing caravans were counted from sunrise (about 06:30) to sunset (about 19:30). The data presented in the table are based on the assumption that a donkey carries on average 100 kg, and a camel 200 kg. Each week was taken to be an average week for the month in question, so that an estimate of the total number of donkeys and camels passing Douentza during the whole fieldwork period could be made. The answers the caravaneers gave to the questions about the regularity of their journeys during the different seasons were used to estimate the quantities of millet transported before and after this fieldwork. The quantitative data obtained by counting were combined with these answers so that a qualified guess as to the quantity of millet transported on a yearly basis could be made. No counts were done for the Boni route but our own observations and interviews with people on the spot would seem to suggest that the Boni route carries roughly one third of the quantity on the Douentza route.

Table 7.2 can be put in perspective by considering two other variables. The first is the total millet production in Mali. Table 7.3 gives information on this subject. Depending on the year, a simple division shows that the total for the two

routes covers about 0.5% of national production. Naturally, in a vast country like Mali with a land area of 1.2 million square kilometres (two times the size of France) the millet trade in a geographically relatively reduced and specific area as covered in this research can only represent a small proportion of the total.

Table 7.2
Millet transported by caravans passing Douentza in tons per month

Month	Tons
October 2000	250
November 2000	300
December 2000	560
January 2001	1070
February 2001	410
March 2001	300
April 2001	200
May-September 2001[a]	200
Total	3290

Source: Own fieldwork
[a] The quantity indicated here is the estimated total for the whole period May-September 2001.

Table 7.3
Volume of millet output in Mali for several years, in thousands of tons.

Year	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Tons	737	890	582	708	898	707	739	641	746	953	803

Source: FAO 2001a.

However, when related to the number of people living in the Timbuktu area, this figure assumes another meaning. No exact number can be given for the population of Mali, especially for the northern part of the country where the population is largely nomadic. So we have to work with estimates again. The total population of Mali in 2001 was estimated at 10.7 million (CIA 2001). The population of the Timbuktu region is estimated at around 460,000 after the return of tens of thousands of refugees following the end of the rebellion in 1996 (UNPAN 2001), around 4.3 per cent of the total population of Mali. It is more difficult to estimate the number of people that are served by caravans taking the routes studied during this fieldwork, but it will be a significant proportion of the 4.3 per cent. The vast majority of the population of the Timbuktu region lives in the southern part, where the caravans also come from. The other areas of the Timbuktu region are mainly uninhabited desert.

In overview, it can be stated that about 0.5 per cent of the national millet production goes to about 3 to 4 per cent of the total population. Based on these estimates, the caravan trade studied here can be seen to be of great importance for the food supply of the Tamacheq and Moors living in the southern part of the Timbuktu region.

A warning about the data presented here is justified. The quantity of millet transported via the Douentza route is an estimate, and the data on national millet production per year differ considerably per publishing institution. So the data presented here are only meant to give a very rough but nevertheless workable indication about the size and importance of the caravan trade.

Money flows within the caravan trade

There are three important ways for the Tamacheq and Moors to finance millet purchases. The first way to get cash is to sell animals at a livestock market in one of the northern towns. The Timbuktu market is important but markets in smaller towns like Ber, Arlal, Mandiakoy and Gourma-Rharous attract sellers and buyers too. For people living further south, the Sunday market in Douentza is the most central. Goats are traditionally the animals that are sold first if cash is needed. At the northern markets, the prices for goats are usually higher than at southern markets, probably due to the fact that the demand for animals in northern Mali is great because many people are still trying to re-establish the herds they lost after the droughts in the 1980s.

The price differences for goats and millet between Timbuktu and Douentza are advantageous for the caravaneers, as is made clear by the parameter known as 'millet equivalent'. This parameter indicates the quantity of millet you can buy if you sell one goat. The higher the equivalent, the higher the quantity of millet you can buy by selling one goat. Table 7.4 indicates the millet equivalent when both transactions (selling a goat and buying millet) are carried out at the same market. However, mobility gives the caravaneer a favourable position in many cases. A caravaneer interviewed in December 2000 near Douentza, for example, sold a goat at the market in Ber for FCFA 9,500. He bought bags of millet in Gunduguru, a small Dogon village not far from Madugu on the Seeno plain. This resulted in a 'cross' millet equivalent of 1.19, higher than the equivalents found at the markets shown in Table 7.4. Table 7.5 shows cross millet equivalents for various market towns in the regions of Douentza and Timbuktu, calculated on the basis of the prices given in Table 7.4.

The second way to obtain money is by having a salary. In the traditional nomadic lifestyle, still the way of life for most of the people interviewed during this project, animals are the most important source of cash income. Since the

Map 7.1. Salt mines in the West African Sahara and the main trade routes for salt

Table 7.4
Average price for a goat, for 100 kg of millet, and the millet equivalent for several markets in Central Mali for December 2000, in FCFA

Place	Goat	Millet (100 kg)	Millet equivalent
Timbuktu	9250	13300	0,70
Gourma-Rharous	12333	12000	1,03
Mopti	11072	11000	1,01
Douentza	7800	10200	0,76
Koro	6464	7600	0,85
Bankass	7600	7500	1,01

Source: SAP 2001
N.B. The millet equivalent is calculated by dividing the average price of a goat by the price for 100 kg of millet.

caravaneers themselves often possess very few, if any, animals, being a caravaneer represents an important alternative source of income for them. Caravaneers lead donkeys or camels belonging to wealthier persons living in their campsite to the south, buy millet and return the bags and the animals carrying the load to the owner. For this work, the caravaneers are normally paid FCFA 1,500 per animal. This salary is usually used by the caravaneers to buy millet for them-

selves and their families. This subject will be dealt with in more detail below, where the focus is on the people involved in the caravan trade.

Table 7.5
Cross millet equivalents for various market towns in the Timbuktu and Douentza regions in December 2000 in FCFA

Goat sold in	Millet (100 kg) bought in	Millet equivalent
Timbuktu	Douentza	0.91
Timbuktu	Bankass	1.23
Gourma-Rharous	Douentza	1.21
Douentza	Koro	1.03
Douentza	Bankass	1.04

The third source of income is salt. Some of the nomadic groups living in the Malian Sahel and Sahara see this trade as an important extra opportunity. Salt traders often indicated that they did not have to sell their animals because they had the chance to work in the salt trade. Twenty caravans (out of a total of 81 belonged to Moorish fractions,[1] three caravans were led caravans questioned) carried salt with them or had already sold it. Sixteen of these groups by Tamacheq, and one was a mixed Tamacheq/Moor caravan.

Taoudenni, where the salt is mined in open pits, is one of the remotest places on earth. It is situated in the centre of the Sahara, 650 km north of Timbuktu, a place always associated with remoteness, although quite easy to reach compared to Taoudenni (see Map 7.1). It is not a single mine but an area of salt fields. Records on salt mining at Taoudenni go back as far as 1595 (Meunier 1980: 133). The salt deposits are the remains of great lakes that were located here in the Quaternary Age, some 600,000 years ago and climate change over many millennia resulted in the receding and finally the disappearance of these lakes, with evaporation leaving the salt behind (Lovejoy 1986: 39).

Two basic types of salt are produced in the mines in the West African Sahara and Sahel: rock salt that formed in layers beneath the surface and that can be mined and transported in slabs, and earth salt that formed in a crust on the surface and is collected in pieces and transported in sacks. The first type is almost pure salt and is used for human and animal consumption. The second type has a much more diverse chemical composition and consists of a variety of minerals in addition to sodium chloride. This type is only used for animal consumption. Only the first type of salt is transported by the caravans described here. From Taoudenni on, the salt is transported in different directions. One caravan route goes to

[1] Fraction: part of a lineage.

Timbuktu, where it is taken further by boat to Mopti or by caravan in the direction of Douentza and Boni, while a second route goes in the direction of Kidal and Menaka.

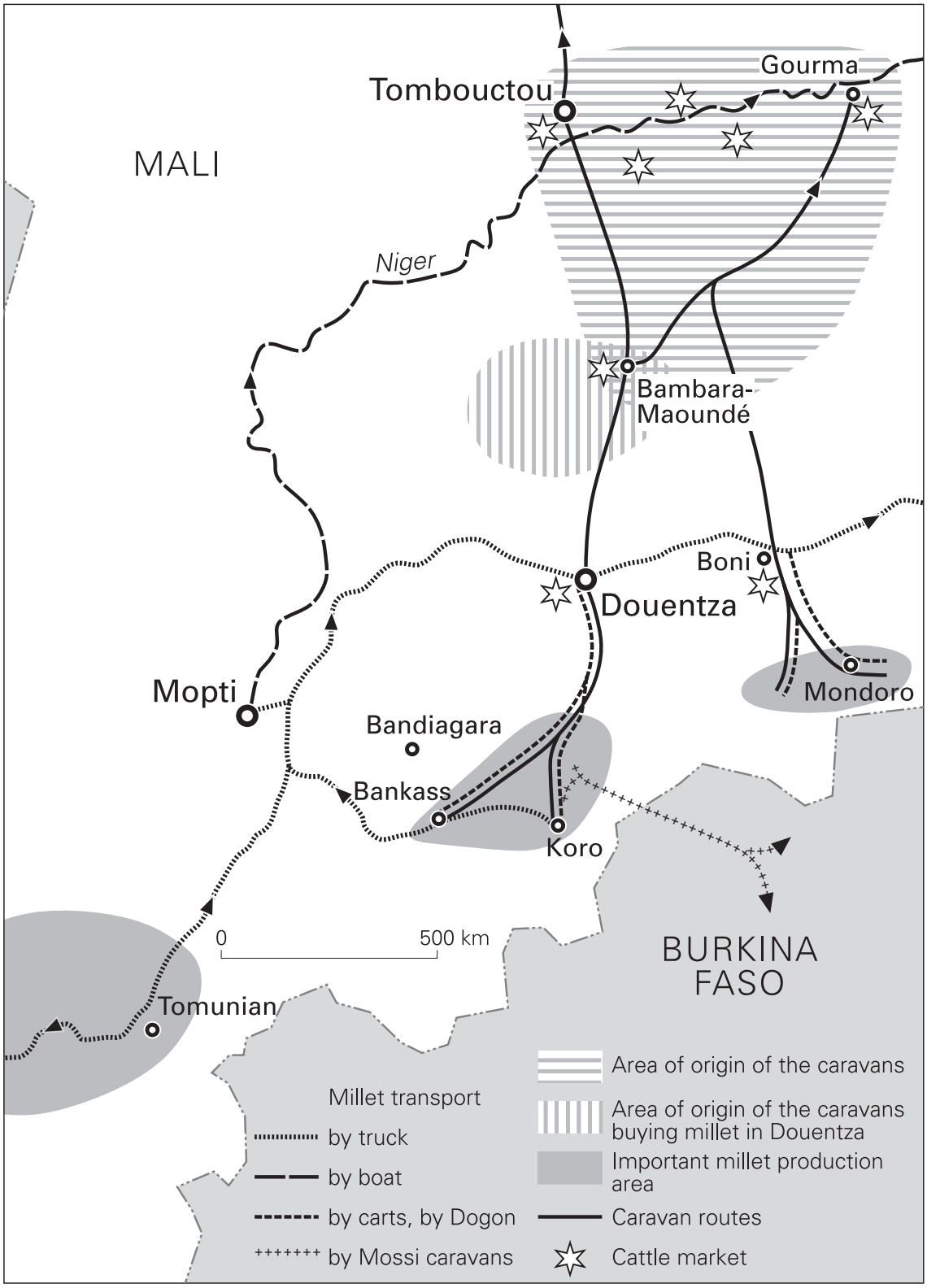
The Moors, who were the most powerful group in this mining area, historically controlled the salt trade. This was confirmed by the Tamacheq salt traders who acknowledged that their own ethnic group was an exception. During the colonial era, the pacification by the French ruled out the use of violence by the Moors to preserve their monopoly on the route from Taoudenni to Timbuktu (Klute 1992: 183). This enabled other groups who were well informed about travelling in the desert, like the Tamacheq, to obtain a (small) share of this trade.

Some authors have argued that the desert salt trade is disappearing since sea salt has become available in central West Africa at low prices and in large quantities in the last few decades (Meunier 1980: 135; Lovejoy 1986: 284; Bernus 1981: 248). However, the data collected during this fieldwork do not support this. Desert salt can be bought in virtually every town and village in Central Mali, and the trade delivers a good income to traders, as is seen in Section 7.4. Another point confirming the strength of the salt trade are the prices paid for desert salt. When this research was being carried out, the average price stated by the traders interviewed for a bar of salt about 65x50x5 cm was around FCFA 7,000. This price is about four times the price for which the bars can be bought in Taoudenni (around FCFA 1,500). Interestingly, this margin is comparable to that of the cold season of 1970-1971, as noted by Swift (1979: 305). Although these data represent only two moments in time, they show that the salt trade can recover from disasters caused by both men and nature, such as the droughts in the 1970s and 1980s and the Tamacheq Rebellion in the 1990s.

Many people in Central Mali and elsewhere in West Africa still regard desert salt and sea salt as two different commodities, a factor that was perhaps overlooked by the authors who predicted the end of the salt trade. Desert salt is judged as necessary for animals because of its specific chemical composition, and is thought to have certain curative values for human beings. For the moment, these qualities cannot be attributed to sea salt. The quantity of the salt traded has certainly fluctuated over the years depending on factors such as the quality of the salt mined, speculation, the temperature, the number of camels that undertook the journey, the political situation, and the terms of trade between salt and other goods.

The Douentza and the Boni routes

During this fieldwork, two caravan routes were the subject of research: one going north-south via Douentza, and another going via Boni, a large village 90 km east



Map 7.2. Trade routes of cereals and salt in Central Mali

of Douentza (see Map 7.2). The caravans taking the Douentza route and the ones going via the Boni route both come from the area around Timbuktu. Comparing the Douentza and Boni routes, the former would appear the most important because the area south of Douentza is bigger and produces more millet than the area south of Boni. Caravans pass through Douentza all week, whereas (salt) caravans passing Boni tend to pass there on Thursdays, the day of the weekly market. For some weeks, prices of millet at the market in Boni and in the villages forming its hinterland were somewhat higher (FCFA 250 to 500 per 100 kg) than on the Douentza route, although for the rest of the time no differences were noted. Nonetheless, traders indicated that both routes have been operating since their grandparents' time, meaning as long as they can remember.

Both routes represent different settings. Various ethnic groups live in Douentza, like the Fulbe, Dogon, Sonrai and Bambara. Tamacheq and Moors form only small minorities. In Boni, there have always been cordial relations between the Fulbe village chiefs and the Tamacheq. During and after the rebellion (1990-1996), the Tamacheq were offered refuge in and around the town, displaced as they were by the Malian army and armed Sonrai groups. Since then, many families have settled in the region and others often return because they know the area well and have relatives there. The atmosphere in Boni is different from that in Douentza: there are many more camels, and there are more light-skinned people in the streets dressed in blue or black. In addition, more salt is available at the weekly market there than in Douentza, although the weekly market in Douentza is much bigger.

Many caravaneers indicated that the Boni route is *the* salt route. Consequently, numerous Moor caravans can be seen in Boni. Salt is sold in many different forms from large 130x50x5 cm bars (as in Mopti harbour), the form in which they are mined in Taoudenni, to small pieces of only a few grams. When the caravaneers receive the large bars, they often break them in two to make transportation by donkey possible. These smaller bars, about 65x50x5 cm in size, are more or less the standard form in which the caravans sell them on their journey southwards. The price of salt in Boni and the villages lying to the south is higher than on the Douentza route. On the Boni route, this was FCFA 7,500 for a salt bar of about 65x50x5 cm. On the Douentza route, the price was lower, around FCFA 6,000. This discrepancy can probably be related to the more isolated geographical position of this area. Imported sea salt from Senegal and France is less well known and more expensive. In Douentza, sea salt is probably more accepted as a substitute for desert salt than it is in Boni. This situation is similar to other remote areas in Mali (see Swift 1979: 306 on Kidal).

Seasonal and yearly fluctuations

The caravan trade's high season is roughly from November to March. The trade starts after the new harvest in October on the Seeno plain when a lot of millet becomes available, leading to low prices in the ssubsequent months. As can be seen in Table 7.2, in 2000/2001, January was by far the most important month for the caravan trade. This means a delay of about two months between the harvest and the highest number of caravans. An important explanatory variable is probably the seasonal rhythm of the salt trade. As was already explained, salt provides a financial input into the millet trade. The first salt caravans leave Taoudenni by the end of October. Temperatures are relatively low from then on, which means that the animals can go for longer without water. In this period of the year after the rainy season, the animals are strong and well fed. For those who do not possess camels, it is now possible to make the journey with donkeys. Travelling during the cold season is pleasant because there is less wind and no risk of dust storms, which can bring a salt caravan to a standstill for days. The salt caravans arrive in Timbuktu or the surrounding areas about three to four weeks later, where the salt is often loaded onto smaller (donkey) caravans. From January onwards, these salt caravans arrive in the millet-producing areas.

The millet caravans' high season finishes about March. Millet prices have started climbing by then. Another important reason for ending the caravans in March is that water gets quickly scarcer at that time of the year. Temperatures between March and May easily exceed 40°C, and no rain can be expected. By the end of February, the few *mares* (ponds of surface water remaining from the wet season) along the route have dried up. These sources of water are free, in contrast to the artificial wells that belong to the persons or group who constructed them. For these wells, the Tamacheq and Moors have to pay according to the number of animals they have, and even some of these wells dry up. So in the dry and hot season, the journey becomes physically challenging for both men and animals. If they are available, camels can take over in this part of the year but the high price of millet makes such trips often unattractive. From June to September, the heat is accompanied by rain, posing another problem to the caravans on this route: heavy rains cause spontaneous and fast-flowing rivers. This is especially the case around Douentza, which is located in a relatively small pass between two ridges of rocks and hills surrounding the town and which makes a collection point for rainwater. The sand becomes heavy mud, paralysing all methods of transport, vehicles and animals alike. Rain is a major obstacle to the salt trade as the salt is spoiled if it is not well protected by plastic.

The end of the caravan season does not mean that no caravans are to be seen anymore. For camels, drought is less of a problem and some salt caravans will be on the move in the dry and hot season. Even donkeys can, to a certain extent,

carry their own water (in the traditional goat-skin bags) and food. Sheer need can also force people to overcome the difficulties. Some caravaneers indicated that they would not have enough millet in stock before March to feed their families so they would have to continue.

The number of caravans varies not only per season but also per year. This is due to the highly fluctuating results of the harvest, and to the resulting price differences. The years 1999/2000 and 2000/2001 represent two extremes in this case. Central Mali enjoyed very good harvests in 1999/2000, whereas in 2000/2001 many harvests failed following a serious drought. In Mali, at a countrywide level, the 2000/2001 harvest was only about 17 per cent less than in 1999/2000. However, satisfactory harvests in the southern part of the country mask the failed harvests in many places in the regions of Mopti, Timbuktu and Gao (FAO 2001b). Caravaneers told us that in 1999/2000 they were able to cultivate some millet themselves, whereas in 2000/2001 all the harvests in the southern part of the Timbuktu region failed. Some caravaneers said that last year they found affordable prices for millet in the market in Douentza and that there was no need to continue all the way to the Seeno. A few caravaneers even felt somewhat lost and indicated that they had to ask fellow caravaneers for information on how to continue after Douentza because they normally never went further south and were not familiar with the area. In years with good harvests in Central Mali there are probably fewer caravans making shorter journeys than in years when the harvests are bad.

The people in the caravan trade

How do people become caravaneers?

In many cases, the occupation of caravaneer is passed from father to son. All the Tamacheq and Moor fractions have families that are specialized in the caravan trade. However, there were also caravaneers who told us that they had not done this work all their life, or do not belong to a family that has done this work for generations. Many people in this group said that the mid 1980s was a turning point in their life. The year 1985 is known in Tamacheq as *idjarawen*, which means ‘the year of the gifts’. During the disastrous droughts of the 1980s, the Tamacheq and Moors were largely dependent for their survival on water and food provided by aid agencies. Many people lost their herds, and were forced to look for other sources of income. The caravan trade was seen as offering such an opportunity. The following accounts give an overview of the various circumstances that forced people to give up their original way of life and to turn to the caravan trade.

Alhamis ag Ibrahim of the Riwile fraction used to work on a small plantation with lemon trees near Timbuktu. He did not earn much but it was enough to buy food for himself and his family. In 1985 the drought came. The Niger stopped flowing. There was hardly any water available for the people and their animals, let alone for trees. All the lemon trees died. After the droughts, there was no money to start the plantation all over again, so Alhamis turned to this work. Being a caravaneer is a much tougher job than working on the plantation. He can feed his family now – just like in the past – but his former occupation was much better. He would very much like to restart his own plantation but he does not see how to do so because he never has any money left over. All the money he earns is needed to buy food. He sees dead wood everywhere, a reminder of the droughts, and it makes him sad to think of his own lemon trees that died.

Although not of noble birth, the family of Ghayshwan ag Abdoullayeh was known to be one of the wealthiest in the Kel Inaguzmine fraction. His father even owned some white camels, a highly valued and expensive status symbol. In 1985, the herd was decimated by the drought. Ibrahim's father died four years later, leaving a herd that was only a fraction of what it had once been. His father never went to the south to buy millet himself, he always hired someone to do so. After the drought, he sent Ibrahim because this way he did not have to pay the fee for the caravaneer. After his father's death, Ibrahim did not have any choice other than to go on with the caravans, so that is why he does this work every year.

Ghabdu ag Falashi started as a merchant. A wealthy family member lent him FCFA 500,000 to start up a business and he became a travelling merchant buying sugar, tea, dates and rice in Mopti and selling them in Kanioumé and Bambara-Maoundé, some eighty km north of Douentza. Unfortunately, it was very difficult to make a living this way because there were many tradesmen selling the same products and going to the same towns. Besides, the people in these towns were poor, so he did not sell very much. He was hardly able to earn enough money to survive. Then he tried to become a cattle trader but this failed too. He was just able to pay back the loan, and he decided to go into the millet trade, something he had already learned from his parents. Now and then he is able to buy more bags of millet than he needs and to resell them at a good profit in Bambara-Maoundé. Compared to the other trades he has tried, this one earns very little but it is reliable because everyone needs millet.

These stories indicate that being a caravaneer is a low-status job. It is engaged in by those who possess very few animals, the main source of income and pride for Tamacheq and Moors. It is symbolic that it is mainly carried out with donkeys, one of the lowest-ranking animals in the hierarchy of domestic animals. Nevertheless, some people doing this work earn sufficient money to feed themselves and their families relatively easily, whereas others hardly ever do so. The

reasons for these differences will be elaborated upon below. Firstly, the position of a successful and a less-successful caravaneer will be described and analysed. Thereafter, the salt traders will be described, because they are in a different position to the caravaneers who only transport millet.

A successful caravaneer

Aljioumagat ag Ghayswan leads a caravan of 55 animals, together with three other caravaneers. He belongs to the fraction named Kel Unukunduk. Personally, he is responsible for eighteen donkeys, three of which he owns. The fifteen other donkeys belong to members of the same fraction, often living in the same campsite but who stay in the campsite and can afford to let others work for them. They pay Aljioumagat FCFA 1,500 per donkey. This brings in FCFA 22,500. In Burumburum, the Dogon village where his caravan bought the millet, a bag cost FCFA 9,000. He bought three bags for himself and his family for FCFA 27,000. His earnings were not enough to finance the whole sum because of the extraordinarily high prices this year, but he was able to add the remaining FCFA 4,500 himself because he had some money in reserve for difficult times like these, and last year the prices were low. This journey, in February, was his third since October. It will be the last this season because water is getting scarce along the route. In total this season he bought six bags with the money he earned, and he thinks this quantity will be sufficient to feed his family until the next harvest.

A less-successful caravaneer

Ahmed leads a small caravan headed by two persons, with twelve donkeys in total. He is responsible for five donkeys. His fraction is named Kel Samagal. Only two donkeys are paid for (FCFA 1,500 per donkey). The other three belong to close family members. (Close family members never pay in his fraction.) He hoped to find orders from affluent people so that he could take some more donkeys southwards but he did not find any. He earned only FCFA 3,000 from his three-week journey. To be able to buy one 100-kg bag of millet for his wife, children and parents he sold a goat at the market in Fifo, not far from Timbuktu, for which he received FCFA 11,500. He only owns six goats but he had no choice but to sell it. Later millet would be even more expensive. He does not have any donkeys himself. The one bag he bought was transported on a donkey whose proprietor lent him the animal for free as a sign of solidarity in this difficult year. This bag will certainly not be sufficient to last him and the five people he has to feed until the next harvest. He does not know yet how he will cope but he might buy some small amounts at a nearby market, someone can maybe lend him some millet, or he could sell another goat and undertake another

journey. In any case, it will be difficult. The high prices this year are a constant worry for him.

What makes the difference between a successful and an unsuccessful trader? From the interviews we conducted, it appeared that trust plays a key role. The caravaneers have an important responsibility: they receive large sums of money and their fraction is dependent on the millet they bring, so it could be anticipated that there would be a strong element of trust and conviction on the part of the persons staying at home that their money, animals and food are in reliable hands. Trust is initially established because the person who ordered the millet and the caravaneer are well acquainted with each other: they belong to the same fraction, live in the same campsite, or have some degree of family connection. Especially among the poorer families, many members undertake a caravan trip now and then, each taking his turn. Affluent families, however, do not have caravaneers in their family ranks. The goodwill of these families has to be won by some of the many caravaneers in a campsite, determined by the level of success an individual caravaneer has.

Trust can be won by a fine record of caravan journeys without problems, by a recommendation by someone, or by a special event. One caravaneer explained that he had gained a reputation as a trustworthy person during the rebellion. He did not flee the country, unlike many other Tamacheq. He managed to survive, which gave him a reputation of being courageous and intelligent. When the rebellion ended and the caravan trade resumed, many people entrusted him with their donkeys. Little by little, as a caravaneer makes more journeys and returns without too many problems, his reputation of being someone who works hard and is serious grows. Trust can equally be lost: care for donkeys and camels is of great importance. They can get lost or disappear, and animals can return with wounds because they have been hurt by overloading. Since every Tamacheq knows that each animal has its own specific characteristics just like human beings, the caravaneers have to herd them accordingly: some are very quick or independent, others are mean or lazy. Even more seriously, donkeys, camels and money can get stolen. If any of these problems occur, they are regarded as serious shortcomings on the part of the caravaneer, who will then find himself leading a smaller number of animals, if any at all, on his next journey.

The salt traders

Salt traders are salaried, just like their colleagues in the millet trade, or work for themselves. Traders of the first type usually work for Timbuktu-based merchants who often own mines in Taoudenni. The caravaneers earn between FCFA 4,000 and FCFA 5,000 for each camel they take from Taoudenni to the markets and villages, and then back again to their campsite or Timbuktu. Traders of the

second type are considerably better off. These caravaneers work for themselves. They have their own camels, unlike those caravaneers working for merchants. Some of these independent traders also have the skills to mine salt themselves, sometimes because they used to work in the mines. To take the example of one trader I met in January: he had bought twenty bars of salt in Taoudenni for FCFA 1,500 per bar, spending a total of FCFA 30,000. He sold the twenty bars again in several villages south of Boni, for an average price of FCFA 6,500 per bar, more than four times the purchase price, giving him a total of FCFA 130,000. His profit on this journey was FCFA 100,000. He bought ten bags of millet with this money, some of which are for resale. In any case, this trader indicated that he would not have problems feeding his family until the next harvest.

The differences between the salt traders and the caravaneers accompanying millet caravans are clear. An average millet caravaneer often earns less than FCFA 10,000 and even the FCFA 22,500 brought in by the most successful caravaneer (see above) contrasts sharply with the FCFA 100,000 earned by the independent salt trader. Even when the fact that a millet caravaneer can often make more than one journey per year (while the salt trader cannot) is taken into account, the difference in profit between the millet trade and the salt trade remains. The difference was also made clear during this research project when comparing the herds of both groups, their most precious possession. The salt traders spoke about their camels, cows, sheep, donkeys and goats, whereas the caravaneers often did not own more than a few goats. The journey to Taoudenni is much longer, more exhausting and demands more navigational skills of the caravaneer than the relatively short route between Timbuktu and Koro. Access to the salt trade is therefore more restricted than to the millet trade, making the salt trade a profession for a limited group, whereas the millet trade is more a job of last resort for everyone who finds himself in a difficult position. Swift (1979: 331) reported that the earnings from the caravan trade are sometimes used to re-establish a herd after a disastrous loss of animals. The salt trade enables people to buy enough food for their families and to put money aside for investing in herds. The millet caravaneers, on the other hand, sometimes earn barely enough to assure the short-term survival of their families.

An average day on a journey

There are other aspects of a caravan journey that merit attention other than only the financial ones. A short description of an average day on a caravan journey is thus given here.

The caravans start travelling at sunrise, between 6.00 am and 7.00 am. They walk until noon. Then they take a break to rest, eat and when they are near a town, to visit the local market. The donkeys are unloaded, led to a well to drink

and they can graze in the bush or from the leftovers of the millet plants in nearby harvested fields. In the caravan season (November–February), with temperatures not surpassing 30º-35ºC, donkeys have to drink once every two days. Camels can go without water for much longer, for more than one month under these conditions if necessary. The caravaneers continue then until sunset when they prepare another meal and spread out their blankets under a tree. They cover a distance of 35-45 km a day, depending on the loads the animals are carrying.

The caravaneers set up their camps preferably near a town or village, where there is often also a well. This proximity to people also offers some sense of security. In Douentza, for instance, there is a police and customs post, and civil guards also patrol Douentza and its immediate surroundings. Another strategy followed by the caravans to increase security is to travel together or within a short distance of another caravan, or at least they will spend the night together. For this reason, they also wait for each other to finish millet purchases. Besides advantages, passing through Douentza can also create problems. Especially on a Sunday, the day of the weekly market, many motorized vehicles go to and leave the town, causing unrest among the donkeys that can drop their bags as a result. Repairing the well-used bags is not an easy task, so caravans try to avoid having to pass Douentza early on a Sunday morning or late in the afternoon.

Although nomads are used to moving regularly, journeys like these are a great physical effort for both men and animals. Walking eight hours a day for three weeks is a more intense schedule than the usual nomadic routine that is based on seasonal more than on daily movements. Their feet are vulnerable to injury and wounds caused by sharp gravel and stones are common. The white plastic sandals, cheap and therefore popular among the Tamacheq and Moors, offer little protection. Drinking polluted water is a cause of disease. Near Douentza, we saw the caravaneers taking water from an almost dry pond containing stagnant water that was also used to wash clothes. Furthermore, as in so many regions on this continent malaria takes its toll. Caravaneers lying shivering with fever under a tree asking for medicine became a familiar sight during our research. During the day, the caravaneers have to do much more than only walking behind their donkeys and camels. Sometimes, on the way to the south when the donkeys are not loaded, the men can sit on them or camels but normally they walk next to them because they have to remain vigilant. Often, they have to sprint up to the leading animal to force it to go in the right direction and at the right speed. Then they run back, driving the slowest animals away from the temptation of a green twig. Delays are also common: a man or an animal can get hurt or sick; a bag of millet can fall or get torn and then has to be sewn up, and once we saw a very young donkey that had just been born.

The Dogon, millet cultivators and traders

Since the introduction of the donkey cart in the Douentza area in the 1970s and 1980s, some Dogon have taken the opportunity to develop lively trade networks between their villages on the Seeno plain and the regional market towns of Douentza and Boni. The Dogon bring products from their own villages – such as millet, peanuts and onions – to the markets. In Douentza and Boni they buy goats, salt, tea, sugar, dried fish, feed concentrates for livestock, dates, and mats to sell again in their own villages.

However, many of these Dogon traders at the markets in Douentza and Boni indicated that they also sell regularly to the Tamacheq and Moor caravans coming to their villages. The caravans are welcome in the Dogon villages since the Dogon do not always have the opportunity to bring their millet to Douentza or Boni, towns that are three or four days' walk away. There can be various reasons for this: because they cannot transport all the millet they have for sale, because some of the animals or people who have to bring it are away (working in the city, or with the herd) or sick, because they do not have the time to go, or because they need money quickly. The Dogon make the caravans pay for more than only the millet: they have to pay FCFA 20 to 25 per donkey to drink at a well. Furthermore, caravaneers told us that during the early caravans in October or November, at a time when some fields have not yet been harvested, the Dogon watch their passage closely. Fierce disputes arise if damage is caused. One caravaneer reported that he once paid FCFA 3,000 in such a case. A last tribute the caravans have to pay is the illegal taxes: paper receipts were shown to us indicating that each person in the caravan paid FCFA 150 to pass a certain Dogon village. In Mali the local authorities levy a tax on motorized vehicles on the main roads approaching an important town like Mopti or Douentza, and evidently the Dogon felt that if cars could be taxed, donkeys could be taxed too!

Some remarkable features characterize the interaction between the caravaneers and the Dogon. Measuring the quantities of millet subject to trade sometimes gives rise to conflicts. To fill the bags of the buyers, metallic cooking pots known in Tamacheq as *alikin* are used. These pots are widely used by Malian families all over the country. The type most often used in this trade has a radius and a depth of about 25 cm. All Tamacheq and Arab traders said that an *alikin* contained 5 kg, so 20 fill a 100-kg bag. The problem is that several types of cooking pots exist – smaller and larger ones. Both the buying Tamacheq and the selling Dogon own many cooking pots. Even, or maybe especially, when two pots seem to be of equal size at first sight suspicions are aroused on both sides. Several groups reported that the failure to agree about which *alikin* to use was a reason to interrupt negotiations and continue the journey. As one caravaneer related: 'Last year I was in a village on the Seeno plain where I found good

quality millet, and the Dogon were eager to sell. But they insisted on using their *alikin* to fill our bags. I never like that, I want to use my own one because I am familiar with that measure. We filled first their pot with millet, and then we poured it into our pot. There was a difference of one tea glass. They continued to say that their pot contained exactly 5 kg but I was sure that mine did. So we left the village without having bought anything. Two days later we found another village, and we bought there without any problems.'

Another interesting element of interaction is the language. The two parties meeting each other in this trade do not speak each other's language. Neither are they able to understand key words, as the languages involved (Tamacheq, Hassaniya Arabic and Dogon) belong to different language groups. The language most often used to complete the negotiations successfully is Fulfulde, the most important *lingua franca* in this part of Mali. Bambara and French, the official national language, are used only very sporadically. But especially among the nomadic Tamacheq and Moor people, knowledge of Fulfulde is not widespread. It is known only by certain groups that have contacts with the outside world, like civil servants or traders. Many traders consider a knowledge of Fulfulde as part of their job. The interesting observation to be made here is that almost half of the respondents indicated that they are not at all fluent in Fulfulde. Some do not know a single word, others know only the Fulfulde word for millet, or can count in the language. However, almost no one sees the lack of possibilities for verbal communication as problematic. Often, the way of communicating is described as *bras-bras* (French for improvised gesture language). As one Tamacheq trader remarked: 'When we arrive in a village, the Dogon know immediately what we want. We never buy anything other than millet. The intentions are clear on both sides. When they do not have anything to sell, they just wave their hands, and we leave immediately. When they have millet to sell, we only have to talk about the quantity and the price. It is just a question of knowing a few Fulbe words for certain numbers.' Importantly, non-Fulfulde speakers did not report having had to pay higher prices than Fulfulde speakers. It is interesting to note that various measures and a lack of language may delay trade but they never prohibit it.

Conclusion

The caravan trade in Central Mali has always ensured a connection between different agro-climatological zones. Climatological circumstances, a lack of modern infrastructure and widespread poverty have meant that the caravan trade has retained this function in its more or less traditional form. The caravan trade is of considerable importance for the food-security situation of the people living in the southern part of the Timbuktu region, considering the quantities of millet

transported by the caravans and the estimated population of the Timbuktu area. The millet caravan trade provides these inhabitants with a product cultivated in regions where the climate is less harsh and the salt trade is important for exporting one of the few resources the desert has to offer.

Being a caravaneer with a millet caravan is not work that enjoys a high status: it is something done by those people who do not own enough animals to support their families. There have always been poor people who have provided labour for the millet caravan trade. After the droughts of the 1970s and 1980s, many more Tamacheq found themselves destitute and the caravan trade provided a safety net for some of them, although the work is hard. Some caravaneers have been able to establish themselves as trusted professionals. Their pathways in the caravan trade are successful, while others are always wondering how they can earn enough to feed their families. The Dogon who cultivate millet welcome the caravans because, for them, they mean earnings for which little effort is required.

A salt caravan in the field looks at first sight exactly like a millet caravan such as the one described at the beginning of this chapter. However, the salt trade has proved to be a source of wealth for a relatively small but privileged group of (mainly) Moors. Observations in the literature about the disappearance of the salt trade would appear unfounded.

8

Douentza: The dynamics of a rural centre in the semi-arid Sahel

Renate Zondag

Introduction

In many drought-prone areas in West Africa, small towns are expanding rapidly due to migration and commercialization. Unfavourable climate conditions have forced large numbers of rural people who used to depend on agriculture and cattle-breeding to move to these towns to find work. The facilities the towns offer, including weekly markets, shops, health clinics and schools, attract migrants who settle for a period of time and, in turn, contribute to the dynamics of the town through the activities they undertake. Because of trade and migration, small towns are playing a crucial role in urban-rural exchanges in many parts of Africa.

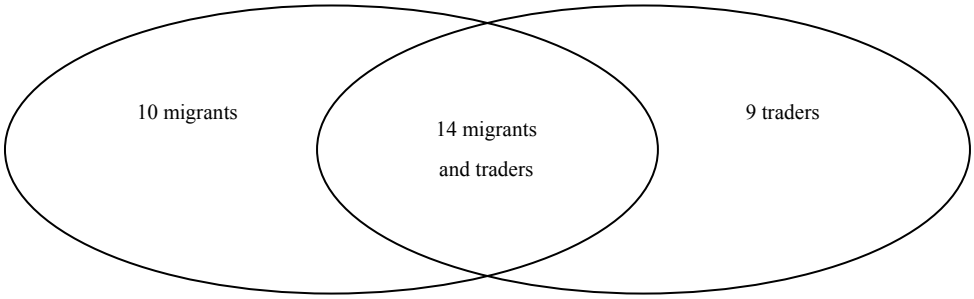
One of these towns is Douentza, a small town in Central Mali. Douentza is situated on the asphalt road that connects Bamako with Gao, via Ségou and Mopti (see Map 1.1, p. 4). The town is located to the west of the Gandamia Mountains and is surrounded by the spurs of the Bandiagara Escarpment. The area around the Gandamia Mountains is known as the Hayre and is considered a transition zone between the Seeno-Manngo, the dune savannah south of

Gandamia, and the Gurma that lies north of the mountain range. In the last thirty years, Douentza has developed into an important rural centre with a large rural hinterland. Nowadays it has a flourishing market providing food and non-food products for its own inhabitants and for people from the surrounding villages. Such development is not what would have been expected in a region badly affected by drought in the 1970s and 1980s and where the population is extremely poor. The central question is how this development has been possible and whether there are any linkages with the changes in climate and the vulnerability of the region. The dynamics of the rural centre of Douentza were investigated with a particular focus on trade and (temporary) migration.

Fieldwork was carried out in 1999 from mid-July until mid-September. Prior to this, a literature survey was undertaken, which formed the contextual framework for the study. To gain insight into recent developments in Douentza, in particular in relation to new settlers (migrants) and trade, interviews with key informants were essential. The village chief and the former director of the school were very helpful, as were staff working with NGOs and local government agencies.

A sample of thirty-three respondents, twenty men and thirteen women was selected. Initially, it consisted of twenty-two people who had migrated to Douentza in the past, and eleven who were involved in the commercial sector. However as many of the former migrants are nowadays involved in trade and some shop owners do not originate from Douentza, it was not possible to make a clear-cut distinction. Only ten people in the migrant sample were not engaged in any form of trade and fourteen people were both migrants and involved in commercial activities. Nine people originating from Douentza were traders or shopkeepers. Figure 8.1 illustrates the sample of respondents.

Figure 8.1
Sample of respondents



This chapter considers the dynamics behind the growth and development of Douentza as well as the individual strategies of some of the respondents. It is structured as follows. The first section discusses the dynamics contributing to the development of rural centres and small towns in West Africa, focusing on rural/urban interaction and the strategies people develop when confronted with change and risk in their environment. The next section describes the dynamics of the research area from an early historical perspective up to the present day. Next, the characteristics of the migrant respondents in the sample, their income-generating activities and their ties with their home villages and relatives are investigated, followed by the people's opportunities and achievements in commercial activities. The conclusions are presented in the final section.

Dynamics behind the growth of rural towns

Throughout Sub-Saharan Africa, and especially in West Africa, a rapid growth of small towns with 5,000 to 20,000 inhabitants has been observed since 1970. It appears that migration to capitals and large cities is declining while small towns are rapidly developing. In Mali the percentage of the population living in small towns as a percentage of the total population has doubled from 3 per cent in 1970 to 6 per cent in 1980 (Giraut 1997).

For many years, the establishment of civil administrations appeared to be the key factor in the increasing size of West African towns and their subsequent dynamism. Furthermore, during the 1960s and 1970s, a road axis location became a major factor in the emergence of new centres. Being located near a road, and more particularly near crossroads, facilitates the entry of a place into the exchange network by providing good infrastructure and urban services. The dynamism of local traders can be added as a secondary factor. Both factors have an influence on the importance and the reach of the market. The market is considered to form the main pillar of economic life, and rural centres are progressively organized around the market and its related commercial activities (Giraut 1997).

Apart from these location-specific factors, the dynamics of surrounding rural areas also constitute potentially important determinants for a town's growth. There are several kinds of interactions between a town and its hinterland. A distinction can be made between politico-administrative, economic and socio-cultural interactions (Nyassogbo 1997).

Politico-administrative interactions include, for example, trips to an urban centre to obtain administrative papers. Economic interactions are generally intensive in both directions: the urban population is supplied with foodstuffs from the rural zones and the rural population can buy commodities they cannot

get in their villages. Socio-cultural and family-based interactions include visits to a son or daughter living in town, or visiting relatives in one's home village. A distinction is made between these different kinds of rural-urban interactions for analytical purposes. In practice, however, they are often combined, for example someone visiting a sick relative in town might buy essential commodities or arrange administrative papers on the same trip.

Migration often contributes to rural/urban interaction and to the strengthening of rural/urban connections, both socio-culturally and economically. Socio-culturally, a person or family leaves his socio-cultural environment to settle in another but maintains regular contact with the place of origin by visiting relatives and attending cultural and religious celebrations. Economically, the person is available for work and spends his income in his new place of settlement but sends remittances to relatives in his place of origin (Salih 1995).

The frequency and intensity of rural/urban interaction depends not only on the strength of the communication networks but also on the level of development and the changes occurring in both zones. Thus, during the last two decades there has been a dramatic flight from the countryside to towns due in part to the attractions of the towns themselves. On the other hand, rural people often had no other choice because of deteriorating conditions in the rural areas as a result of population growth, scarcity of and pressure on natural resources and extreme drought.

Salih (1995), for example, argues that one of the causes of pastoral migration to towns is the fact that the area under crop production is expanding due to the emergence of the cash economy and population growth. Furthermore, administrative control, game reserves and large-scale irrigation schemes restrict access to lands that were previously perceived of as traditional grazing lands by pastoralists. Finally, herd decapitalization either by market forces or natural disasters has also caused large-scale migration of impoverished pastoralists to urban centres.

In unfavourable climate conditions such as those in the Sahel, people have developed a whole range of livelihood strategies to cope with insecurity and to minimize risks. Migration to small rural centres has progressively become part of many rural households' and individuals' strategies. In town, people invest in different formal and informal economic sectors, and in social networks in urban and in rural settings.

Strategies differ from season to season and from year to year. As stressed by De Bruijn & Van Dijk (1995: 255), people's responses to various conditions are essentially creative and based on a day-to-day adjustment to climatological fluctuations and all kinds of economic and social insecurities. Strategies thus emerge from an iterative process whereby procedure, goals, preferences, means, etc., are constantly reassessed in view of new conditions with which the decision-

maker is confronted. In this chapter, it is shown how people's pathways develop in the context of urban Douentza.

Douentza and its hinterland: Past and present

History of the Hayre from the Gao Empire to French colonialism

> In the early years of the 18th century two Bambara brothers entered the area where Douentza is situated today. During those times it was a wilderness: the habitat of lions, elephants and other animals. Both brothers cleared a part of the bush so as to be able to cultivate land.
> At the same time Muslims were trying to establish Islam in the northern parts of West Africa but the two brothers did not want to convert to Islam. After some time the eldest brother left and the youngest remained behind to cultivate the land. His name was Dogoza. The Fulani who lived in the area could not pronounce his name and so called him Douentza. After Dogoza had settled permanently in this place, many others also settled. This was during the years of Seeku Aamadu. (The present village chief is related to Seeku Aamadu.) And so Douentza became a village.[1]

From historical sources it is known that the areas of the Seeno-Manngo, Hayre and Gurma have been inhabited for a long time. The history of Douentza is closely related to the history of the Hayre, which was reported in detail by De Bruijn & Van Dijk (1995).

In the 15th and 16th centuries the Sonrai Empire, named the Gao Empire, stretched from Gao-Timbuktu in the north to the south of Bandiagara. Their king, Sonni Ali, captured Fulbe and Kel Tamasheq during the many razzias and raids and probably incorporated them as slaves in the empire. In 1591 the Moroccans defeated the Sonrai to secure their interests in the salt mines near Timbuktu. Under the Moroccans there was anarchy in the Inner Delta with the Fulbe organized under warlords. It is assumed that the situation was similar for the Hayre (De Bruijn & Van Dijk 1995: 47-49). Sources indicate that by that time Islam was playing an important role in the area through contacts with courts of Savannah empires, trade and markets. The state of chaos after the conquest by the Moroccans probably reinforced the role of the already existing *moodibaabe*[2] in the spread of Islam in the countryside.

Until the beginning of the 19th century the political organization was characterized by a loose federation of several Fulbe chiefdoms. In 1818 this came to an end with a *jihad*[3] led by Seeku Aamadu, who turned the Maasina or Diina Empire into a well-organized state inspired by Islamic ideologies. The Hayre also became deeply affected by all aspects of its organization (see De Bruijn *et al.*

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1 Source: Moussa Dicko, key informant and former director of the school in Douentza.
2 *Moodibaabe* (sing. m*oodibo*) is the Fulfulde term for the Islam clergy. The French term is *marabout*.
3 A *jihad* is a holy war in the Koran.

2001a). A strong bureaucratic apparatus was established including a military force with divisions in all provinces to protect the country, and a permanent cavalry was based in Douentza (Bâ & Daget 1984: 70). The old custom of inherited chiefdoms was abolished and replaced by appointed chiefs. During wars and raids people were captured and made slaves. Those who refused to convert to Islam also risked becoming slaves and many were forced into agriculture to produce for the elite.

In 1862 another Islamic empire, that of the Futanke, seized power from the Diina Empire. The Futanke established their capital in Bandiagara and as their economy was based on war, a time of insecurity, violence and raids followed.

The colonial era and the influence of French policy began between 1893 and 1918 when the French consolidated their power. Because the French left Maasina (of which the Hayre formed part) as a 'protectorate' in the hands of the Futanke very little changed in the Hayre in this period until 1905. However, the abolition of slavery and the establishment of an administrative system took place around this time, with Douentza becoming one of the administrative centres. Many chiefs in the Hayre and the people of Douentza resisted the French and a rebellious situation lasted for a long time until the Hayre was taken out of the hands of the Futanke and incorporated into the colonial administration directed from Bamako and Dakar. From then on, the social hierarchy was radically transformed and the last rebels were defeated in the mountains near Boni before the area finally enjoyed peace.

From 1918-1945 the French tried to gain more control over the economies of their colonies and established services to intervene in natural resource management. Markets were installed, taxes collected for the use of transhumance routes, and forest and tree products and the cultivation of cash crops were all promoted.

Developments after the Second World War

After the Second World War, Douentza developed at a constant rate because of its role as an administrative centre. It had more facilities than other villages in the region and the market became a central meeting point in the district. Douentza was also a religious centre and the presence of many *moodibaabe* encouraged people to practise their religion communally or to send their children to one of the many Koranic schools in town.

Douentza was a flourishing centre until the 1960s. The Sahel's repeated droughts in the 1970s and 1980s, however, led to poverty at all levels of society and affected most aspects of life in the region. In the droughts of 1972-1974 and 1984-1985 people lost considerable numbers of cattle; some even lost their entire herds (see Gallais 1984). They could no longer survive in the countryside and fled to towns – with no assets – in search of food and work. National and inter-

national food distribution attracted many to Douentza and it became a centre for refugeese, full of displaced people. Very little food was available and people did not have money to buy their daily needs at the market. Douentza's wealth started to vanish as rich families lost their possessions.

The 1990s: Asphalt roads, trade and the arrival of NGOs

In the last ten years, however, Douentza has begun to flourish again. In 1985 construction of an asphalt road started and when it was finished in 1986 Douentza found itself at an intersection of major routes to Bamako, Mopti, Timbuktu, Koro, Burkina Faso and Gao. This has proved a great stimulus for trade. Traffic has not only become more efficient, products from other regions are now available at various markets and many of the inhabitants, both autochthones and former migrants, have found opportunities to earn money from trade. The Sunday market and the weekly cattle market are crowded with vendors from Douentza and beyond.

Many people from the surrounding areas have settled in town attracted by pull factors: economic advantages, possibilities for trade, the presence of a health clinic[4] and the market. Important push factors are ecological and social: insecurity, recurrent drought, poverty and lack of economic possibilities in places of origin. Often people arrive as temporary migrants but stay because the situation in their villages does not improve. Although Douentza is still a small town with a population of around 4,958 in 1996[5] (see Table 8.1), the number of migrants nowadays exceeds the number of original inhabitants. Ten years earlier, in 1986, when the town was full of drought victims, it numbered 4,747 inhabitants. With the arrival of these new inhabitants the demand for food increased and prices (especially of rice and millet) have risen.

Almost all inhabitants cultivate land. The staple crop is millet, grown for people's own consumption, and on some low-lying lands where water gathers the cultivation of rice is possible. In the last decade, women have become involved in horticulture during the dry season. They irrigate vegetables such as onions, tomatoes, cabbage, eggplants and beans by hand and use them both for consumption and for sale. Peanuts have become an important cash crop.

In 1975 the first development organization, *Medicins Sans Frontières* (MSF) later replaced by the Save the Children Fund (SCF), was established in Douentza. The town became a popular base for this type of organization because it is in one of the driest regions in Mali with all the related problems that these organizations

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4 Because the costs of transporting sick persons from the countryside to the clinic in Douentza are high (up to FCFA 50,000), people prefer to move closer to the health services on offer.

5 The most recent population census was carried out in 1996.

Table 8.1
Population of Douentza according to the 1996 census

Sex	Age < 1 year	1-13 years	14-17 years	years	60 > years	Total
Male	41	850	222	1209	214	2536
Female	42	773	254	1150	203	2422
Total	83	1623	476	2359	417	4958

are supposed to address and because it was easily accessible due to the construction of the new asphalt road.

About ten national and international development organizations have set up offices in Douentza: the Near East Foundation (NEF), USC Canada (GAT), *Projet d'Appui aux Collectivités Locales* (PACL), the Norwegian Lutheran Mission (MELM), the Peace Corps, MST-Sida, PGRN (the World Bank & the IMF), the Swiss Asaren, and the German GTZ. Apart from a few minor projects,[6] these organizations are not active in the town itself but in villages in the Douentza region. Their interventions involve all aspects of development, for example, health care, literacy programmes, agriculture, horticulture, soil and water conservation, credit, etc. There seems to be a certain degree of collaboration between development organizations and they may, for example, make a division of tasks among themselves when starting a new project, especially if they are working in the same villages.[7]

The presence of these outside agencies has brought about important changes not only through their interventions in the countryside, which may prove to be a stimulus for the expansion of the economy in Douentza, but predominantly through the creation of employment. Low-level employees, like drivers and guards, are hired by development agencies in the town itself while other employees, usually from wealthy families and educated at university level, are recruited nationally. Their consumption patterns and those of their Western employees, both of whom spend their incomes in town, are different from those of the local people. The demand for luxury goods has increased and nowadays shops sell products like cheese, toilet paper and Coca Cola.

The use of ploughs and draught animals has increased considerably in the Douentza region. Until recently, such innovative technologies had not yet been introduced. In 1968 a government programme started that enabled farmers to obtain the necessary credit to buy a plough. Participants were supposed to pay it

[6] Urban projects in Douentza include improving the health clinic (SCF), granting credit to women's organizations (NEF), and support in literacy, health care and agriculture (MELM).

[7] According to Youssouf, an employee of PACL.

back within three to five years but a coup d'état took place in the same year and caused the programme to end prematurely. In 1977 another programme started but ended when in 1991 a further change in administration was introduced. Since 1992 two development agencies, NEF and PGRN, have assumed responsibility for the credit programme, enabling farmers to buy ploughs, carts and/or draught animals. The normal pay-back period is three years. It seems, however, that farmers prefer to buy their draught animals from their own resources without taking out a loan.

Migrants

Migrants coming to Douentza

No statistics exist on the number of migrants arriving every year but according to the village chief and the data collected from the sample, it may be concluded that in the years after the persistent droughts during 1968-1975 and 1983-1984 the majority of the migrants who came to Douentza were displaced persons. They were all pushed to move to Douentza by unfavourable conditions in their home areas. Though some have now returned to their villages, many have remained in town. New migrants still continue to arrive in Douentza.

Fifty per cent of the migrants are Fulbe and another large group are Kel Tamasheq. There are smaller numbers of Moors, Dogon and Bambara. The majority were pastoralists before coming to Douentza. This can be explained partly by the fact that pastoralists predominantly inhabit the area north of Douentza and their heavy reliance on their cattle for a living makes them vulnerable in times of drought. If they lose a large number of cattle or even complete herds they do not have an alternative survival strategy in their places of origin.

Farmers from villages as far as 35 km to 220 km to the north and east come to Douentza after the harvest when they are not working in their fields. They are prepared to take on any kind of employment before returning to their villages the next year to cultivate with the onset of the rains.

Still other migrants come from the mountain areas. Due to population growth, there is nowadays pressure on land for cultivation and many migrants come to look for new land in the Douentza area.

More than 50 per cent of the migrants came alone to their new place of settlement. The majority were male, exploring their chances of finding temporary jobs to support their families back home until the situation there improved. The rest came with their families, although a few migrants came with other relatives such as parents, uncles, aunts, etc. Only one woman came on her own to Douentza to earn money because her husband had died and she could no longer survive in her village. Marriage also caused a few women to follow their husbands to town. A

smaller percentage (less than 25 per cent) of migrants were attracted by the facilities the rural centre of Douentza had to offer. Douentza's function as an Islamic centre was a pull factor for others.

Case 1: Djeneba Bura, ecological refugee during the 1985 drought

Djeneba from Mboula, a village 35 km northeast of Douentza, arrived in town in 1985 after severe droughts had killed all her cattle. She came to Douentza on her own as her children were already married. Three of her five children from her first marriage had died of malaria and she was divorced from her first husband. Her second husband lived in Mboula with his other wife. In Douentza she stayed with a good friend, but her house was small and it became too crowded. Now she lives in a spacious loam house on the edge of town with a friend's daughter who provides her with food. It is close to pastures and convenient for her cattle. Her son was in Côte d'Ivoire for two years and when he returned he bought her three cows, but unfortunately, one already died. A relative takes the cows to the pastures and Djeneba sells her cows' milk at the market every day. She tried to generate income by making mats but she is old and works too slowly to earn enough. Five years ago, she became involved in the peanut trade. She buys peanuts at the market, shells and then sells them. In July, peanuts are expensive: FCFA 10,500 for 30 kg.[8] *It takes her a week to shell a 30-kg bag and she sells them for FCFA 375 per kg. The peanut harvest is in October/November and the price then drops to FCFA 250 per kg. She sells mainly to women who make peanut butter but also to consumers. In general sales are going well but in the period after the harvest profits are extremely low as many vendors are active. When she started this business there were fewer vendors than there are now. Djeneba does not have land although her son does and provides her with millet. She often returns to her village to stay for a month or two but does not work there. She says that she might go back permanently when the rains return to their normal pattern.*

These two categories, people being pushed out of their habitats by unfavourable conditions and people attracted to the facilities of a town, are not easily distinguishable. When forced to leave their homes, people simply need to find food or work elsewhere. Thus it depends on their particular situation as to whether people emphasize the push or the pull factors. In my sample, women tended to emphasize push factors related to their decision to migrate and men stressed the fact that they were in need of money and work and this was their main reason for migration.

When relating age to these push and pull factors, the male respondents between thirty and forty years old at their time of arrival in Douentza said they had come to find work. Women from the same age group and men and women

[8] FCFA 1,000 (fixed rate) = € 1.52 (three bowls of millet, which is approx. 2 kg, cost FCFA 250)

over forty all said they had been forced to migrate due to drought and poverty. Of the people who were between twenty and thirty years old at the time of migration (with an equal number of men and women) more than half said they had come to look for work. The rest had been pushed by drought or had married someone already living in town. The majority of respondents who were under twenty when they arrived in Douentza were women. One came to get married, the others either came with their parents or were accompanied by their husbands.

The commercial sector is by far the most popular among migrants looking for work. Almost half of the men have opened shops and a considerable number have become involved in petty trade. Others found work as *moodibaabe*, mechanics, blacksmiths, mediators at the cattle market, herdsmen, hut constructors, wood gatherers or labourers making bricks, building houses or constructing wells. Practically all the women were involved in petty trade, earning money from washing clothes for neighbours, grinding millet, making mats, or selling home-made pastries or local herbs. Their success differs greatly.

Rural-urban linkages

An important group of the migrants came to Douentza on a temporary basis to overcome hard times in the countryside. Many men came alone, leaving their spouses and children at home. Sometimes this temporary state lasted for five to ten years, before they finally settled permanently in Douentza and were able to have their families come to join them. Of the migrants who came with their families, the majority did not intend to stay for the rest of their lives. Old people tend to cherish close relations with their place of origin. Among them the majority would like to return one day, while younger people, both male and female, think that their lives will be more successful in Douentza. They do not see many possibilities in the villages, and the contacts they maintain with people in their place of birth are loose.

Case 2: Ali Hama, a jeweller from Petaka

Ali Hama makes ornaments and jewellery from silver bought in Bamako. He sells it at home and in Douentza on Sundays. On the other days of the week he visits Douma, Kerena, Bore or Yale. He does not visit the same markets every week. When the rainy season has finished he even goes to Sewery in the Inland Delta of the Niger. During and after the harvest, he is so busy with orders that he cannot visit other villages but stays in Petaka. Sometimes, he trades his jewellery for cattle, which he resells. His three wives work with leather, making colourful ornaments and pillows that they sell in Douentza and the surrounding villages. His wives buy condiments in Douentza or in Petaka. He never buys millet because he cultivates enough. He owns a plough and a camel, both of which he inherited from his father.

In general, people visit their home villages for special occasions such as weddings, birth celebrations and funerals, bringing money or goods for their relatives. The few respondents who no longer visit their places of origin have been quite successful in commercial activities and have become relatively wealthy.

All the inhabitants of Douentza, rich and poor, still largely depend on agriculture. The size of their plots differs from a few hundred square metres to several hectares. Millet is cultivated, mainly with hand tools, for home consumption and it is only bought at the market when stocks run out. Credit to buy a plough with the obligation of paying it back within three years can be obtained. Only richer migrants work with a plough and draught animals (cows, donkeys or camels) to till their land. Although it is widely known and accepted in the district of Douentza that cultivating with a plough is easier, two reasons have hindered its widespread use. For the majority, the purchase is still too expensive unless they can secure a loan, and many people are reluctant to use a plough fearing possible negative implications for the soil.

Half of the migrants still own land in their villages of origin with relatives caring for it during their absence. A large group returns to their villages every year during the rainy season to cultivate their land. In this way they renew their social ties and networks on an annual basis.

Only a very few migrants manage to buy fields in Douentza. The majority cultivate plots owned by others and although they are entitled to use the land as though it were their own property without paying any rent, they have no guarantee of being allowed to use the same land the following year. This system leads to bad land management because cultivators are not prepared to invest in inputs like manure or chemical fertilizers for someone else's land. The only sanctions owners use to prevent their fields from this kind of mismanagement is allocating the land to someone else.

In town, people still keep goats, sheep and cows. Especially in the new residential areas on the edge of the town where Kel Tamasheq migrants live, large numbers of cows enjoy the space between the houses; pasturelands are nearby. These people succeed to a certain extent to live as they used to in their places of origin, while now living in town, and they try to maintain their pastoralist way of life as far as possible.

Some of the Fulbe migrants still live in traditional huts but most live in a *banco* house made of loam bricks, in an urban fashion. Only a few migrants manage to buy their own houses in Douentza. Most live with friends or relatives. Another possibility is to occupy an empty house. Since proprietors usually allow people to live without paying rent, this is the cheapest form of accommodation.

Although migrants do not intend to settle in Douentza permanently, most of the early migrants are still residing there. Many would appear to be waiting for climate and rainfall patterns to regain some semblance of regularity. Not having been able to reconstitute a herd of cattle is a major constraint on their returning home. Many respondents express their doubts about the insecure life waiting for them if they were to return to their villages. However in their minds they remain nomadic herdsmen and see themselves as only temporary town residents. They are waiting for the moment when the life they once lived can become a reality once again. Only the most successful of the migrants, predominantly wealthy merchants, claim not to be intending to ever return to their villages at some point in the future.

Trade and traders

Markets and trade activities in Douentza

About twenty years ago, the market in Douentza consisted of traders who displayed their goods on the ground or on a table. Nowadays, the centre of Douentza is full of shops and in front of them and in the alleys running off the main road where the shops are located, vendors sell their commodities on tables or on the ground. After a long period of drought and poverty in the 1970s and 1980s, the town is flourishing.

Three factors can account for this. The construction of the asphalt road has encouraged a rapid expansion of the trading sector in Douentza. Not only has traffic become more efficient but products from other regions are now more widely available. Climate conditions form a second factor. The 1990s experienced relatively good rainy seasons except for 1991 and 1997 (Put & De Vos 1999), harvests were good and pastoral products (meat, milk) were of good quality. The relative well-being of people during this period formed a solid foundation for the further development of the market and trade activities.

A third factor that can help account for the relative prosperity of the town is the presence of an extensive labour pool due to the large number of migrants who have moved to Douentza. As mentioned in the previous section, many migrants have become involved in commercial activities. This has enhanced the growth of Douentza as a trading centre.

Douentza's weekly market is on Sunday and attracts people from the whole district and from further afield. The centre is packed with stalls full of food products, shoes and kitchen utensils. Vendors occupy every vacant space on the ground with only a small path is left for customers. An essential part of the market consists of cattle. The cattle traders drive their animals to the market

Case 3: Seeku Touré, owner of Alimentation Générale, a luxury shop

Seeku was born in Djenné, a town famous for its Islamic influence in the history of Mali. He never attended a regular school but he went to a Koranic school for sixteen years where he studied Arabic. When he finished school, he went to an evening school for one year before he started to work as a farmer.

After four years he thought it was time for adventure, and he left for Burkina Faso and Côte d'Ivoire. He was abroad for two years working on cocoa and coffee plantations. The money he earned was sent to his father to pay for a plough and a draught animal.

In 1986 he moved to Douentza to work in his uncle's shop. He did not receive any wages but was given board and lodgings. He stayed until 1994. At that time, his uncle gave him money (FCFA 250,000) to thank him for his support and he used the money to start his own business. He became a cereal wholesaler and bought millet in Koro, Djenné and Bankass. After four years he had earned enough capital to open his own shop, Alimentation Générale. He wanted a shop filled exclusively with luxury products for foreigners in Douentza working for NGOs and officials from Bamako who worked for the local government and preferred goods like canned vegetables and fruit, jam, cheese, toilet paper, chocolate, etc.

Seeku buys his products from a wholesaler twice a month in Bamako. In the beginning he went there only once a month but now a group of shopkeepers often goes together by bus to Bamako. In Bamako they rent a truck and driver to transport their merchandise for FCFA 500,000 to FCFA 600,000 while they return by bus. He makes about 10 per cent profit on the products he sells. Other shopkeepers do not buy their goods from him because his products are too expensive. Not many can afford his prices and he does not have many customers but he enjoys a monopoly position in Douentza and earns a good living.

where they occupy their own area. To outsiders, any form of organization seems to be lacking, which makes it difficult to keep the different herds of cattle separate.

Two groups can be identified at the market: those who come to buy and sell at a household level, and large professional traders who buy and sell in bulk. The first group consists of farmers, herdsmen and small traders from Douentza or the neighbouring villages who buy ingredients and food and sell handmade products, milk, butter and other groceries. The other group consists of shopkeepers and large traders from as far away as Hommbori (155 km), Boni (100 km), Ngouma (80 km) and Koro (135 km). Traders from Gao and Timbuktu come to buy their cereals and fruit in Douentza. It is the last town where people going north can obtain supplies before entering the desert.

The market is at its busiest during the long dry season when agricultural occupations are minimal. In the rainy season, most farmers are too busy in their fields

to visit the market, a fact reflected in the prices of milk, meat and animals that all drop considerably in this period.

Small traders

As already mentioned, many migrants have succeeded in their commercial activities, mainly petty trade. Traders and vendors visit all the markets in the district of Douentza and small-scale traders at the Douentza market come from Dirimbe, Toula, Dalla, Kikara, Kerena, Tebi, Dansa, Patouguy, Gono, Petaka and Boumbam. They used to go on foot to Douentza but nowadays only the women still walk, the men arrive by public transport or by donkey cart.

In Mali, women are well represented in the petty-trade sector. Welloore Diallo, for example, is a small trader who sells fish from Konna, about 120 km west of Douentza, on the banks of the River Niger. She buys her fish in Douentza and sells to consumers as well as to other vendors. She also attends the markets in Dalla and Diamweli every week. Many women like Welloore sell agricultural products such as mangoes, spices and herbs, displayed on a table or on the ground. On the outskirts of Douentza, where large gardens are to be found, fruit is sold directly to petty traders. These vendors either resell immediately in Douentza or sell the products at other markets in the region. Women from Fombori sell millet, beans, peanuts and herbs, and vendors from Petaka sell *makari*, a homemade ingredient used in meals. From Walo, Kombena and Badiari women come to sell wild fruits like *liane*, wild raisins and karité. A small number of traders make artisan products, for example, Petaka indigo clothes. The white fabric and indigo are bought in Douentza and the women sell the coloured fabrics, *pagnes*, in Petaka, Douentza and Gono.

Almost all the women in Douentza and the Riimaybe women from Debere, Dirimbe, Douma, Baundoukoli, Djoona, Dalla and Kerena make large sleeping mats from *balli* fibres (*Hyphaene thebaica*) and come to Douentza every Sunday to sell them. *Balli* grows more abundantly around Douentza than in other districts yet few women gather the fibres themselves. Usually, they buy the material at the market. Plaiting does not require much investment: material for one mat costs about FCFA 500 and the mats sell for about FCFA 1.250 each. However, the women work for a whole week to finish one mat, which makes their earnings extremely low. Mat making is perceived as a common leisure activity for women, therefore the social aspect is emphasized. The women all get together during the day to work on their mats, talk and drink tea. When they have finished several mats, they sell them in the market but they also produce on demand. The mat makers cooperate as a team and often sell for each other at the market, with some being sold as far away as Burkina Faso. For some women it is their only

income-generating activity but since earnings are low, women may sell other products too, like milk from their cows or vegetables from their gardens.

For many women, Douentza is the place where they buy their merchandise on weekdays. Some petty traders also sell their goods on other weekdays in Douentza. For example, many women from Debere, Sen, Dirimbe, Tombori and Boundoukoli come to Douentza every day to sell milk. The fact that on weekdays a large variety of products are offered by vendors and in shops can be seen as an indicator of the increasing affluence and importance of Douentza as a rural centre.

Those involved in retail trade are usually not obliged to register and consequently pay no taxes. The women in this survey had been engaged in trade for more than fifteen years and although they sometimes varied the items they sold, their economic positions have remained unchanged. None had ever opened a shop, and they rarely increased their material possessions.

Most of the male traders started on a small scale, with a table at the market selling industrial products such as soap, cigarettes, sugar and salt, but their businesses often developed well and many have managed to open their own shops. Some of the male petty traders from surrounding villages buy their supplies in Douentza in one of the larger shops. It is quite common for shopkeepers to sell goods to these traders at a price below the consumer price, even being willing to give credit if necessary.

Large traders and shopkeepers

The majority of the migrants surveyed earn a living from petty trade. The traders' sample showed that almost 65 per cent had a shop. Among the 25 per cent who owned large shops were some former migrants (see Case 3: Seeku Touré); most of them were autochthones from Douentza. The shops are all located around the market place, except for one, which is close to the new road.

Small shops are only a few square metres. In the middle of the room, the goods, a basic assortment of industrial products such as tea, sugar, dates, soap, peanuts, condensed milk, powdered milk, torches, sandals and cigarettes are displayed on a table. The large shops are more spacious with a counter; the commodities are displayed on shelves. Here the same basic assortment is offered and supplemented with clothes, canned fruit and vegetables, cookies, cosmetics and other luxury goods. Since all the small shops in Douentza have been more recently established than the large shops this might be an indication of the chances small shops have of eventually expanding.

Many wholesale traders buy and sell their supplies in Douentza. For small shopkeepers from surrounding villages but also from the town centre, Douentza

Case 4: Jeneba Ongoiba, a petty trader

Jeneba is married to Bura and they have six children, one daughter and five sons, ranging in age from fifteen to five. They also used to take care of a niece when she was young. The niece is now married and has a child herself but she is still perceived as a daughter of the family. Jeneba makes 'furfur-gawri', small millet pancakes that people eat plain or with meat or fish gravy. She sells them at the market. She and her daughter start in the morning and stay until everything has been sold. Her daily outgoings amount to FCFA 2,200:

Millet	*FCFA 500*
Oil (1.5 l)	*FCFA 1,125*
Wheat flour (0.5 kg)	*FCFA 350*
Sugar	*FCFA 200*
Yeast	*FCFA 25*

She sells the pancakes for FCFA 10 each and makes a profit of around FCFA 500 a day. Sometimes through savings or with credit, she is able to buy a 100-kg bag of millet. She disposes of the proceeds and she keeps the savings, buys gold or silver ornaments, carpets for her daughters or other things to furnish their houses. If the harvest is good, Bura gives her a bag of millet as payment for bringing meals to the field when the men are busy cultivating. When she started her business, she sold salt. The starting capital was acquired from making and selling mats. She hardly made any profit with the salt business and therefore changed to rice. She bought a 100-kilo bag of rice in Douentza with a relative who was involved in the wholesale business. For a certain period sales were profitable and she sometimes made between FCFA 750 and FCFA 1,500 a day. When profits started to decline she switched to selling manioc, which she bought in Douentza from a Dogon who lived in Koira. The profits were very low, sometimes only FCFA 250. In 1988 she started selling furfur. She is a member of a credit association of the NGO NEF and every week she deposits FCFA 1,000 so as to be able to obtain credit later on. Recently she borrowed FCFA 50,000 to buy millet and oil. She is also part of a 'tontine', an informal savings and credit association. If her furfur business continues to prosper, she hopes to buy animals for her children and wedding items for her daughter. And if not, she will try something different.

is the place to buy their supplies. Cereal traders from Koro, San and Ségou come to Douentza every Sunday with a large truck with millet to sell their supplies. Many cereal wholesale traders from the region only buy millet supplies in Douentza because here they can select different qualities of cereals and arrange transport expenses. The millet brought in from Koro is of better quality than that from San and Ségou, a fact reflected in the price.[9]

[9] Millet from Koro is bought at FCFA 12,000 per 100-kg bag and sold again for FCFA 12,250 or FCFA 12,500. The quality of millet from San and Ségou is less good because it contains more sand and

Many large traders from Douentza cooperate when buying their merchandise. They used to go to Mopti but since the new road has been finished they usually buy their supplies in Bamako. They go there by bus with a group of traders, buy what they need and together rent a truck and a driver to transport the goods while they return home by bus. The large traders in the district of Douentza have formed an association that consists of ten people. Every member of the association pays a small amount of money each year. The president[10] of these traders functions as a mediator for members in the case of professional disputes and problems. Each trader has an identification document or a license (*patent*) and all shopkeepers must register their shops.

When people's earnings reach a certain level they are obliged to pay tax. The *chef d'impôt* conscientiously checks whether new shops have been registered. In general, regulations are not complex and the only distinction is between traders that do and do not come to the market with a vehicle. Traders in the first group pay FCFA 10,525 each year and the second group pays FCFA 50,000 annually.

Seasonal migration and trade activities

•Temporal migration

Many young men from Douentza and its surroundings leave the homestead temporarily to work abroad, a phenomenon known as *exode* and which is common throughout West Africa. More than 70 per cent of the male inhabitants in the survey had migrated for a period of time ranging from a few months to five years. The main destinations were Burkina Faso and Côte d'Ivoire, but Libya, Nigeria, Ghana, Congo, Algeria and the capital of Mali were also popular destinations.

The most important reason for this temporal migration is income generation. The men are willing to accept jobs in the service and construction sectors that do not require education, like making bricks, carrying luggage, transporting wood, etc. These are low-status activities and are usually executed by migrants and poor people. A characteristic of this type of migration is that the temporary migrants all travel as individuals and do not have to support family in their new environment. When they return, they are supposed to give their relatives some of the money they have saved. Amounts may be considerable and the money is invested in trade or agriculture, for example to purchase a plough and/or draught animals.

Of the young men who had indicated in the survey that they had gone on *exode*, a quarter had stayed away for several years. This long-term migration has proved financially rewarding with 75 per cent of the migrants managing to

gravel. This millet is bought at FCFA 11,250-11,750 a bag, and sold again at about FCFA 12,000 a bag.

[10] The present president has been in office since 1980.

accumulate enough capital to start a prosperous business or new shop on their return. This category tends to focus on more modern types of business, for example a mechanics workshop or a specialized shop with luxury articles.

•Cattle trade

Situated in the pastoral zone, Douentza is famous for its cattle market[11] with the cattle in the Hayre and Gurma regions known to be a good breed. The cattle trade is typically a man's business and can be extremely profitable, attracting producers, brokers and traders from as far away as Burkina Faso, Côte d'Ivoire and Ghana.

The cattle come from villages in the district of Douentza, for example Fombori (3 km away) or Boni[12] (100 km east of Douentza). Trips to bring herds of cattle from surrounding villages to the market in Douentza are an enormous undertaking and herdsmen accompanying the herds are paid FCFA 250 per animal per trip.

In general the professional cattle traders do not visit the market themselves but send herdsmen instead who hire a mediator, often a migrant, to negotiate on their behalf at the cattle market. By using mediators, who earn about FCFA 1,500 for each animal sold, all risks become the responsibility of the mediator involved and claims cannot be put on the trader.[13] The mediator is responsible for settling disputes between the salesman and the new owner.

The cattle market is most active from December until March. From April to September the cattle trade does not attract many visitors because in the months following the dry period, the animals become thin and pastures are completely dry. Prices depend on the time of the year and their condition. Adult cows are much cheaper in August, for example, than in February.[14]

According to some mediators, the cattle market could benefit from some innovations. For example, to prevent animals from mingling with other herds, the market needs to be divided into compartments separated from each other by a low wall or fence. Furthermore, the market lacks a weighing machine to calculate the price of a cow effectively. At present, traders and clients just determine the

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[11] At the cattle market, small ruminants like goats and sheep are also sold. The latter are usually sold when their owners need to buy cereals or other products. Cattle are not often sold for these purposes.

[12] One Sunday, 103 cows arrived from Boni. Five different salesmen owned the cows and hired herdsmen had accompanied the cattle to Douentza on foot. They left Boni on Thursday night and arrived on Sunday at 11 am at the market in Douentza.

[13] For example when an animal sold turns out to be sick. In the past, incidents of merchants killing salesmen have caused great commotion and contributed to the installation of mediators.

[14] For example, at the end of February 437 cows, 603 sheep and 569 goats were offered for sale at the cattle market; 336, 428 and 431 animals were sold respectively In the first week of August, only 156 cows were presented, of which 113 were sold. Together 411 goats and sheep were offered of which 356 were sold. The average price of a bull weighing about 300 kg was FCFA 130,000 in February. In August people paid the same price for a much smaller bull.

price by the appearance of the animal. These improvements are starting to be implemented in some other important cattle markets.

Case 5: Haralla, a 68-year-old ecological refugee, Tamasheq

Haralla lives in a small hut with his wife. He is originally from Yamahamane, near Tinahabou, about 90 km north of Douentza. In Yamahamane he had cattle but they all died in the bad years in the 1980s. Since then he has been coming to Douentza every year after the harvest. When the rainy season starts he returns to Yamahamane to cultivate his land. Every year he lives somewhere different in Douentza. This year he is living with another family in a courtyard where a brick house, belonging to someone who is on pilgrimage to Mecca, is under construction. The man is sending his parents money to build this house but nobody knows when he will return and until then Haralla and his wife can live there without paying any rent.
A long time ago Haralla's sons were in Côte d'Ivoire. When they returned they gave him money. His three children are married now and have children of their own. They all live in Douentza, and return to Yamahamane with him during the rainy season. He chose Douentza because it is the rural centre closest to his village. He is already old and prefers to stay near his village.
He would like to borrow some money to buy cattle and return to his village where he owns land but is not exactly sure how much. He inherited the fields from his father.
In Douentza he earns a living by constructing huts and by working as a mediator at the cattle market where he guides the negotiations on the price of cattle and intervenes if there are problems. He earns about FCFA 500 per transaction. However, the construction of huts is a more important source of income. The inhabitants of Douentza saw him build his own hut and asked him to help construct others. However Haralla's income is not stable and he is earning less than before. Nowadays there are many people constructing better huts than he can. His wife makes small covers for water jars.

Discussion and conclusions

In this chapter the dynamics of Douentza, a rural centre in central Mali, were discussed, with a focus on trade and migration. Taking into consideration that the fieldwork period was confined to only a two-month period, the results must be seen as an overview of the factors determining and contributing to rural-urban dynamics. The results are far from complete but may serve as points of departure for further research.

Douentza developed as a result of different push and pull factors. Firstly, periods of severe and prolonged drought in the 1970s and 1980s pushed a lot of people to migrate to town. Many of these ecological refugees were nomadic pastoralists who had lost their cattle and since climate change makes it difficult

for people to reconstitute their herds, many former refugees have settled more or less permanently in Douentza. Secondly, services and trade opportunities served as a pull factor, stimulating many people to come to town to try to earn some money. The commercial sector started to develop after the asphalt road between Bamako and Gao was finished in 1986. The presence of development organizations has stimulated the trade sector further. Economic advantages and urban facilities continue to attract people to town, whereas insecure rainfall and pressure on natural resources in the countryside continue to push groups of new migrants to move to town.

The commercial sector is the most popular sector among migrants looking for income. Half of the men from the migrants' sample started a shop and many others were engaged in petty trade, selling all kinds of industrial retail goods. Practically all the women were involved in petty trade, selling predominantly agricultural or handmade products. Men more often succeeded in accumulating means and capital, whereas women were often engaged in trade for years without notably improving their economic position. This is because the profit margins of agricultural and handmade products are generally very low. Furthermore, men have more opportunities to obtain credit than women. Those who succeed best in starting a flourishing business whether in the wholesale trade, cattle or in the form of a shop appear to be young men who have worked abroad for a short period of time and in so doing have saved money to invest as starting capital.

The importance of the maintenance of social and cultural ties with people's places of origin is underlined by migrants returning to their home villages during the rainy season to work the land and for ceremonial occasions when they bring presents for family members. Among former nomadic pastoralists the ideology of a lifestyle centred on cattle raising is still cherished, and in Douentza some Kel Tamasheq and Fulbe migrants living on the outskirts of town close to the pastures succeed, to a certain extent, in keeping this ideology alive. Most former nomadic pastoralists, however, will probably not be able to ever regain the lifestyle they used to have. In fact, virtually no migrants intended to stay in Douentza or any other urban setting for the rest of their life, but in reality most of the earliest migrants are still there.

In the course of two decades, the market in Douentza has changed from a place where people displayed their goods on a table or on the ground to a busy commercial centre with many shops open every day. The Sunday market is important for the entire region and Douentza now serves as a collection and distribution centre for agricultural and industrial products that arrive via large traders from various regions of the country. The hinterland is largely dependent on Douentza for the provisioning of all kinds of necessities. The town has become a prosperous trading and commercial centre. A major problem in the

market today is lack of space and a start is being made with moving traders to the bus station next to the market. There are no indications as yet of a saturation of the market or trade sector.

It can be concluded that climatological conditions, with the droughts in the 1970s and 1980s, reinforced the process of migration and have added to the prosperity of Douentza. Even though the 1990s were characterized by relatively heavy rainy seasons with qualitatively good agricultural and pastoral products, many migrants have remained in Douentza. The relative well-being of the people has laid a solid foundation for further developments in the market and trade activities.

9

Migratory drift of Dogon farmers to southern Mali (Koutiala)

Karin Nijenhuis

Introduction

Many people in Mali, as in other parts of Africa, are very mobile. Geographical movements of all kinds are part of daily life and of making a livelihood. Young men leave their villages in search of employment in the towns and return after a number of years, nomadic cattle keepers roam with their herds in search of pastures and water, and children in Koranic schools travel with their Islamic masters (De Bruijn *et al*. 2001b: 1-2).

Although the phenomenon is old and essential for an understanding of African reality, it is only recently that mobility has become a central issue in research on African societies. Increasingly, researchers are becoming aware that mobility might be the normal situation for many Africans instead of more or less permanent settlement. In previous research the focus was often only directed towards one type of mobility: the long-distance, rural-to-urban labour migration of men. Attention to rural-to-rural movements was rare and if it was even considered, the emphasis was on the travelling culture of pastoral people, such as the Fulbe (De Bruijn & Van Dijk 1999b). Less known is the displacement of farmers because it is assumed that they practice a sedentary livelihood. Paradoxically however,

many of them, such as the Dogon in Mali, have been moving in search of arable land over the past century.

In the first half of the 20th century Dogon farmers expanded their fields on the plains in Central Mali, a process that has been documented by a number of authors (Gallais 1975; Petit 1998; cf. Bouju 1984). With regard to more recent agricultural migration of the Dogon to southern Mali in the 1970s and 1980s, only two studies can be mentioned. Koenig *et al*. (1998, 1999) conducted a more general study on agricultural migration in which Dogon are considered among other ethnic groups, whereas Cissé (1993) carried out a specific study on Dogon agricultural migration. The Dogon migrations to southern Mali as described in these two studies were largely due to infrastructure development such as dam construction and cotton development. There is scarcely any specific information on recent Dogon migration towards rural southern Mali that is not related to such infrastructure work but instead seems to be spontaneous. This is surprising because numbers of Dogon migrants are impressive in some areas, up to about 10 per cent of the total population (Cissé 1993 and this research). We might, therefore, speak of a massive – though for outsiders largely hidden – rural Dogon migration towards southern Mali from the 1970s onwards.

In this chapter, the focus is on this migratory drift since the 1970s of Dogon farmers from their home area, the Dogon country in the Mopti region in Central Mali, to the cotton belt of southern Mali, some 400 km to the southwest in Koutiala region (see Map 1.1, p. 4). It is an exploratory introduction to the rural migration of poor Dogon farmers. As will be shown, Dogon rural migration is closely related to the Sahelian droughts of the 1970s and 1980s. Yet, in the increasingly densely populated zones of southern Mali it is equally difficult to make a livelihood. The combination of poor soil quality and the unfavourable location of fields allocated to poor migrants, the lack of agricultural equipment and inputs, and insecure tenure positions often force them to move further.

This chapter is structured as follows. After a section on the research methods used and another on the research area, the subsequent sections deal with the following questions: How widespread is the phenomenon of Dogon rural migration to southern Mali? What are the motives underlying their migration? How do they gain access to land and how do they try to make a farming livelihood? What problems do they encounter and how do they deal with them? And finally, what are the perspectives for these people in southern Mali?

Research methods

The empirical data presented in this chapter are based on preliminary results from my PhD research (which was started in 1999) on agricultural expansion in semi-

arid and sub-humid Mali since the 1960s. This research examines the spatial and temporal evolution of agricultural expansion, the underlying forces of this expansion and its legal-institutional embedding. The fieldwork data used in this chapter were gathered between January and March 2001 and in October and November 2002 in two villages in the sub-humid Koutiala District in southern Mali, called M'Péresso and Finkoloni.[1]

The methods used were mainly qualitative. On the village territory of Finkoloni and M'Péresso all hamlets and homesteads[2] (hereafter referred to only as hamlets) were visited over the first few weeks. The head of the hamlet or his representative was interviewed briefly with the assistance of an interpreter. Questions concerned their settlement history and land use. Then, the location of the hamlets was registered by means of GPS (geographical positioning system) in order to process maps on the settlement process. To my surprise, many more hamlets existed than expected and more than the village chiefs had indicated beforehand: over the vast territory of Finkoloni more than 80 hamlets were registered, while in M'Péresso the number was about 40.

Subsequently, I did in-depth research in M'Péresso. In the village and in selected hamlets interviews were held with family heads and other family members such as women and youngsters, with clan chiefs, the village chief, descendants of the last earth priest, the communal counsellor and the secretaries of the two village associations. The questions mainly concerned the allocation of land, entitlements to land, land use, and the position of newcomers *vis-à-vis* earlier settled people. In the selected hamlets, fields were also visited and registered with the aid of GPS.

Finally, statistical data were gathered. Data on agriculture and rainfall were provided by the village association, the parastatal cotton company CMDT (*Compagnie Malienne de Développement des Textiles*) and the research institute ESPGRN (*Equipe Systèmes de Production et Gestion des Ressources Naturelles*). Census data were gathered at the various administrative levels (the municipality, the district, and the former sub-district) as well as at the CMDT.

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1 In 1997, I spent a couple of months doing MA research in six villages in Koutiala District, M'Péresso amongst others. This previous research project dealt with the influence of the so-called local convention Siwaa on land use and land-use rights (see Nijenhuis 2001).

2 Silberfein (1998: 4) distinguishes a village and a homestead as two extreme settlement forms, with hamlets in the middle. However, distances between different settlements or the number of individuals living in a settlement may vary considerably. Therefore, a settlement labelled as a homestead in one area might be a hamlet in another.

The research area

The research area consists of valleys and lowlands, interrupted by meandering sloping plateaux, whose height often does not reach more than 30 meters. Villages are located in the valleys near small rivers. It is also in these valleys and lowlands where most arable land is found, as these areas with sand-clay soils are the most suitable for agriculture. However, when rainfall is abundant, which was the situation in the relatively wet 1950s and 1960s, the lowlands risk flooding and the possible collapse of mud houses, forcing farmers to cultivate higher areas. In contrast, the plateaux are covered with thin gravel layers with a very restricted capacity to retain soil humidity. This makes them less suitable for agriculture. In addition, the slopes of the plateaux are subject to soil erosion and to combat erosion, efforts have been made since the 1980s by the cotton company CMDT to construct lines of stone and plant bushes horizontally on the slopes.

The two research villages are M'Péresso and Finkoloni. M'Péresso is a small village of about 900 inhabitants, situated twenty km southeast of Koutiala and five km off the main road towards Burkina Faso. Finkoloni is a bigger village of about 1300 people. This village is located fifteen km south of Koutiala, along the main road towards Sikasso and Côte d'Ivoire.

These two villages are situated in the so-called Sudan zone, a sub-humid zone where rainfall is 900 mm per year on average and concentrated in one rainy season that lasts from June until October. The trend in rainfall figures in the Koutiala area, as well as in the semi-arid Douentza area, was downward between 1960 and 1985, but since 1990 the situation has improved (Dietz *et al.* 2001a: 20). Particularly the relatively large fluctuations between years, varying from slightly more than 500 mm in 1984 up to nearly 1400 mm in 1961 and in 1995, and long periods of drought within one rainy season make cultivation risky.

The amount of rain in the area enables the farmers to cultivate cotton as a cash crop in addition to maize, millet and sorghum as staple foods. Seeds and fertilizers necessary for cotton cultivation are supplied by the parastatal cotton company CMDT. Besides cultivating, most farmers keep some cattle. Cultivation and cattle keeping are considered as complementary. Draught oxen are necessary to plough and make compost, whereas crop residues are used as fodder. Other important rural activities include the cutting of wood and fruit collection, most often carried out by women in addition to their domestic work.

The dominant ethnic group in Koutiala District are the Minyanka people, who have a long history in the area. Over the past decades, population numbers have much increased in the district due to high fertility rates in combination with immigration, with annual growth rates of over 3 per cent (Raynaut 1997: 47-49). The total population increased from 200,019 in 1976 to 286,244 in 1986 (Cissé 1993: 21-22). Koutiala town is booming due to cotton production and it attracts

many people who are in search of labour. But also the countryside attracts migrants. Over the past decades a considerable number of Dogon farmers and, to a lesser extent, Fulbe pastoralists have arrived from the northern Mopti region (300-500 km away) to make a living in Koutiala District, although numbers seem to vary from village to village. In addition to Dogon and Fulbe people, many Minyanka migrants from nearby villages have settled on the village territories as well as a handful of Bambara migrants from the Segou region (150 km away). All the migrants are living in small hamlets scattered over the village territory.

Numbers of Dogon migrants to southern Mali

Dark numbers

The home base of the Dogon migrants is in Central Mali and consists of three habitats: the sandstone Bandiagara Plateau, the Bandiagara Escarpment that stretches 150 km from the southwest to the northeast, and the adjacent sandy plains called the Seeno. The Dogon population increased from an estimated 100,000 at the beginning of the 20th century (Van Beek & Hollyman 2001: 27), with an estimated 150,000 in the 1930s (Paulme 1940: 16) to at least 300,000 in the early 1970s, and about 450,000 at the end of the 20th century (Van Beek & Hollyman 2001: 27).

Unfortunately, official data on the number of Dogon living in and outside Mali are lacking, let alone the number of people that have migrated to southern Mali. The Malian census data do not make a distinction on the basis of ethnicity. Data on the number of Dogon migrants in southern Mali can be obtained by recording all members of Dogon families in separate village census books in southern Mali. This method can, however, only be applied from the 1997 census onwards, with the setting up of municipalities in Mali. Formerly, migrants were registered in their village of origin, not in their village of residence, so older migration data cannot be derived from older village census books.[3] Moreover, it is well known that available census data are frequently incorrect. The size of many families is often deliberately underreported in order to minimize the obligatory poll tax for people as well as for cattle.

Figures on Dogon migration to southern Mali are provided in the few studies that were carried out the last few years (Cissé 1993; Koenig *et al*. 1998, 1999). Cissé (1993: 14) was surprised by the magnitude of Dogon migration observed in his study area in 1985 and 1991 but apparently he was not able to estimate the total number of migrants. He carried out research in two zones in southern Mali: Selingue and Klela. Selingue is situated in the southwest part of southern Mali,

[3] Moreover, many older village census books from before the 1970s or 1980s have not been archived so detailed historical data are difficult to obtain in any case.

while Klela is situated about 100 km south of Koutiala. In the Selingue zone, construction work (a dam, an artificial lake and an irrigated perimeter) was undertaken in the 1970s and it attracted many migrants, including Dogon. Cissé reports that between 1979 and 1991 their percentage of the population rose from zero to 7 per cent, though the number of villages researched is unknown. In the Klela zone, the massive influx of migrants started in the early 1980s, in particular in 1984 during the devastating droughts. In 1985, as Cissé observed, 10 per cent of the population consisted of Dogon migrants. The map of the agricultural colonization front presented is interesting, although it is unknown on the basis of what information it was drawn (ibid: 29). The front is situated in the northern part of southern Mali, and runs from the southwest to the northeast. The front is about 100 km wide by 200 km, covering almost the entire Koutiala District.

Koenig *et al*. (1998, 1999) do not provide exact numbers of Dogon migrants. They conducted research in 1989 at six sites in southern Mali, including two near Selingue and Yanfolila in the southwest part. The four others were situated around Dioïla (halfway between Bamako and Koutiala), Tienfala (near Bamako), Finkolo (near Sikasso) and Manantali (halfway between Bamako and Kayes). Dogon were only found in the Selingue and Yanfolila zones. In the Selingue zone, the authors reported two villages amounting to 104 Dogon households in total. Curiously, the Dogon who first settled here to cultivate were *Wahabiyya*, orthodox Muslims, who had been expelled from Saudi Arabia in the late 1980s. They were probably not able to return home due to drought conditions (Koenig *et al*. 1999: 72). Other Dogon came spontaneously later on because they had heard about the agricultural opportunities thanks to the Selingue perimeter. The first Dogon migrant in the Yanfolila zone arrived in 1977. By 1989, he had become the head of a small Dogon community (Koenig *et al*. 1999: 73) but the size of this community is unfortunately not mentioned.

Number of Dogon settled in M'Péresso and Finkoloni

In this research, different sources, such as village census data,[4] data belonging to the cotton company CMDT and the researcher's own fieldwork data, were combined to estimate immigration into the villages of M'Péresso and Finkoloni.[5]

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[4] The secretary of the village association in M'Péresso is charged with the census, including visiting all hamlets to register the inhabitants there. He told me that this is problematic as many hamlets are located far away and he has to pay his own transport costs. Therefore, for some hamlets he made an estimate. The mayor of N'Gountina, the municipality to which Finkoloni belongs, admitted that the 2001 census for Finkoloni was not well performed. Older census data were not even available at the municipality level and the former sub-district level. CMDT data were therefore used.

[5] CMDT data may differ from census data and fieldwork data because local CMDT data only refer to farming units that are affiliated to the village association. The CMDT does not necessarily cover all families in the village. On the one hand, a handful of Dogon farmers are excluded from the village association because they are too poor to buy inputs for cotton and cereal cultivation, while on the other hand some member-families from neighbouring villages are included.

Such estimates must be handled with care but they are, nevertheless, useful in that they give an indication of the magnitude of the Dogon population in southern Mali.

Table 9.1
Population of M'Péresso, according to ethnic composition (1986-2001)

	1986	1996		2001	
Minyanka	n.a.	521[a]	(80%)	721	(80%)
Autochthones	n.a.	n.a.	n.a.	610	(68%)
Migrants	n.a.	n.a.	n.a.	111[b]	(12%)
Dogon	n.a.	81[a]	(12%)	92[b]	(10%)
Fulbe	n.a.	37[a]	(6%)	71[b]	(8%)
Bambara	n.a.	10[a]	(2%)	12[b]	(1%)
Total	457[a]	649[a]	(100%)	896[a]	100%)

a) data from village census books
b) fieldwork data
n.a. = not available

Table 9.2
Population of Finkoloni, according to ethnic composition (1976-2001)

	1976		1986		1996		2001	
Minyanka	965[a]	(96%)	1036[a]	(91%)	1200[a]	(93%)	1686	(88%)
Autochthones	n.a	n.a.	n.a.	n.a.	n.a.	n.a.	1546	(81%)
Migrants	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	140[b]	(7%)
Dogon	0[a]	(0%)	42[a]	(4%)	36[a]	(3%)	102[b]	(5%)
Fulbe	33[a]	(3%)	58[a]	(5%)	25[a]	(2%)	57[b]	(3%)
Bambara	0[a]	(0%)	0[a]	(0%)	28[a]	(2%)	10[b]	(1%)
Other	6[a]	(1%)	n.a.		n.a.		52[b]	(3%)
Total	1004[a]	(100%)	1136[a]	(100%)	1289[a]	(100%)	1907[a]	(100%)

a) CMDT data
b) fieldwork data
n.a. = not available

From Tables 9.1 and 9.2 it can be deducted that the population growth is enormous in both villages. In M'Péresso, the population almost doubled between 1986 and 2001, with a growth rate of 42 per cent between 1986 and 1996 and an even more spectacular 38 per cent increase between 1996 and 2001. This growth is quite evenly spread over the several ethnic groups. In Finkoloni, population growth seems to be less between 1976 and 1986 and between 1986 and 1996: in both periods, population growth was 13 per cent. However, the 48 per cent growth between 1996 and 2001 is impressive. Here too, all ethnic groups have grown quite evenly, although the proportion of autochthonous people has decreased in favour of the migrants. Still, relatively fewer migrants live in Finkoloni (19%) than in M'Péresso (31%).

Secondly, these figures indicate that, although the Minyanka migrants outnumber Dogon migrants, a considerable proportion of the total population is Dogon: approximately 10 per cent in M'Péressso and 5 per cent in Finkoloni. When comparing fieldwork data from 2001 with CMDT data from 1996, the number of Dogon has almost tripled over the past five years.[6] Fulbe migration to the south is also considerable, although less than Dogon migration.[7]

The surprisingly large Dogon numbers are in line with Cissé's findings (1993), as indicated above. It may be speculative to extrapolate them to district and regional level because the Dogon may be spread unevenly over southern Mali, and numbers may differ widely from village to village, among other things due to the hospitality of the receiving village.[8] Nevertheless, their numbers are so impressive that we could speak of a massive rural Dogon migration to southern Mali from the 1970s onwards.

In and around M'Péresso nine Dogon families have settled, while ten Dogon families are settled on the territory of Finkoloni. Each family consists of on average ten members.[9] All Dogon families live in hamlets outside the village just like other 'strangers', such as Bambara and Fulbe, as well as many Minyanka farming families (migrant families and scattered native families). The difference is that most Dogon families prefer to live together in one hamlet ('it is our habit to live together') and to form a small community, while families of other ethnic groups live dispersed by family in homesteads all over the territory.

Although the number of Dogon families is quite similar in the two villages, their share of the total differs considerably. In Finkoloni, 12 per cent of the families living in hamlets is Dogon, compared to 23 per cent in M'Péresso. Remarkably, 68 per cent of all Minyanka families living in hamlets in and around Finkoloni are autochthonous, compared with 43 per cent in M'Péresso (see Table 9.3). This is due to the numerous family conflicts in Finkoloni's past that have resulted in family subdivisions and their dispersion over the territory.

Over the last few decades, the Dogon have trickled into Minyanka Country, one family after another. The Dogon families settled in Finkoloni in the 1970s and 1980s, according to the village chief, starting after the drought of 1972-73, whereas in M'Péresso Dogon in-migration started later (around 1980) and is still continuing, although the pace has slowed down. Since 1997 no strangers have arrived here except for one Dogon man who came to join his brother and a

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6 CMDT numbers concerning Dogon inhabitants in 1996 are probably too low.

7 See Van Steenbruggen (this volume) for Fulbe migration to southern Mali.

8 For instance, Dogon settled on the territory of Finkoloni reported that in the neighbouring village of Kapala there are only a few Dogon due to the hostile attitude they met there despite the fact that land is more abundant in Kapala than in Finkoloni.

9 This number often includes family members who are temporarily absent, for instance, a brother who is earning money in town or a child who is living with a Koranic teacher.

Minyanka family from Koutiala in 2001. The reasons for the difference between the two villages are unknown.

Table 9.3
Number of families living in hamlets on the territories of Finkoloni and M'Péresso, according to ethnicity (2001)

	Finkoloni		M'Péresso	
Minyanka	68	(81%)	25	(63%)
Autochthones	57	(68%)	17	(43%)
Migrants	11	(13%)	8	(20%)
Dogon	10	(12%)	9	(23%)
Fulbe	5	(6%)	5	(13%)
Bambara	1	(1%)	1	(2%)
Total	84	(100%)	40	(100%)

All Dogon families in M'Péresso and Finkoloni originate from the villages and hamlets of the southern parts of the plains and the Bandiagara Escarpment in what is called Dogon Country. In Finkoloni, most originate from Koro District, while in M'Péresso the majority come from Bankass District. In both villages, a minority are from the plateau of the Bandiagara region. Often the Dogon migrants have joined family in the south or they came because they had heard stories about the earlier southward migration of acquaintances.[10] The regional regrouping in the south is also reflected in the religious composition of the Dogon hamlets: in M'Péresso where all the Dogon are Muslim, while in Finkoloni the majority are Protestants.

In Finkoloni, where land pressure is higher than in M'Péresso, a Dogon out-migration is currently taking place, and autochthonous people are also leaving. In particular the Dogon who arrived most recently, in the late 1990s, are moving on. Due to land shortages, they were allocated fields with unfavourable soil properties on the plateau, while previously settled Dogon often have sufficient arable land of higher quality. Another reason mentioned for leaving is a shortage of agricultural equipment, such as carts and ploughs. They move to the countryside near small towns – such as M'Pessoba (40 km), Bla (75 km) and Niono (270 km) – northwest of Koutiala. Some Dogon have migrated to urban centres like Koutiala and Sikasso to make a living there, while others have moved further south towards near the river Banifing (50 km from Koutiala), where land is more abundant. Even in M'Péresso, where out-migration has not started yet, the move

[10] Cf. Bouju (1984: 123) for Dogon migration to the Seeno; cf. Laurent *et al.* (1994) for Moose migration to southwest Burkina Faso, and Breusers (1999) for Moose migration to Côte d'Ivoire and southwest Burkina Faso.

of people from neighbouring villages towards the river is being reported. Remarkably, some returned from the south after a few years due to the hostile attitude of the autochthonous people there. Some older people want to return to their native villages in Dogon Country where they have access to family land as an elderly person, while their children, for whom there is no place, want to move to the north towards Niono to cultivate millet and rice.

The migration of Dogon farmers

An important question is why Dogon farmers have been migrating to rural areas in the south of Mali since the 1970s. Unfortunately, specific literature on this topic is scarce. Only Cissé's 1993 study and, to a lesser extent, the study by Koenig *et al*. (1998) provide some information on recent rural migration patterns. In contrast, there is quite a lot of literature on earlier Dogon migration indicating that the Dogon can be considered as a mobile and expansionist people (for example, Gallais 1975; Bouju 1984; Van Beek & Banga 1992; Van Beek 1993; Petit 1998). The migration to the south should, therefore, be considered from a historical perspective. Recent rural migration towards the south can be considered as a new, logical phase in the migratory history of the Dogon, which has always been driven by land shortage.

Land shortage is, however, a relative concept. It indicates that some (groups of) people do not have access to a sufficient quantity of arable land. Rules of access to land privilege the elders to the detriment of the younger people, and those who came first to the detriment of latecomers. This hierarchical system may force subordinated people to leave under stressful circumstances such as high population pressure, severe periods of drought, land degradation, etc.

Phases of rural migration in Dogon history

In Dogon history, at least four rural migration phases can be distinguished: around 1400, between 1900 and 1940, between 1940 and 1970, and the present migratory drift since the 1970s.[11]

A first phase took place at the beginning of the 15th century when the Dogon settled at the Bandiagara Escarpment in Central Mali, where they chased away the Tellem and started cultivating millet and sorghum (Van Beek & Banga 1992: 66; Van Beek 1993: 44-45). It is believed that the Dogon originate from the west of the Mali Empire, the Mande (Van Beek 1991: 150; 2001: 16-17; Petit 1998).

Later on, the Dogon faced many threats, such as slave raiding by the Fulani (in the late 18th and 19th centuries) and the Mossi (in the late 19th century), and the

[11] Gallais (1975: 111) distinguishes three different periods: the French pacification period (1905-1913), the period of famines (1913-1940) and the period of recent expansion (1945-1960).

Toucouleur invasion (in the late 19th century) (cf. Ruthven & Koné 1993: 97). As a result of slave raiding, disease, epidemics and the occasional famine, Dogon population numbers remained fairly constant despite high fertility rates. In combination with water shortages on the plains, slave raiding drove the Dogon to the escarpment. Cultivating on the plains was too dangerous because of the risk of being captured (cf. for Burkina Faso: Guillaud 1993; Breusers 1999). Land was farmed near the village, on the slopes of the escarpment (Ruthven & Koné 1993: 97) and in inaccessible areas on the plateau.

This changed when French colonial rule was established at the end of the 19th century, an event that demarcates the beginning of a second rural migration phase. 'White pacification' resulted in rapid population growth and simultaneously opened up the vast adjacent sandy plains called the Seeno, which was suitable for cultivation. This was the moment when the Dogon's agrarian expansion really began. Initially, however, colonization was only on a small scale and little investment in agriculture was made (Van Beek 1993: 49).

In contrast, rural migration during the third phase, between the late 1940s and 1970, occurred on a much larger scale. Many people from the southern and central escarpment moved to the central and southern parts of the plains around Koro and Bankass. Curiously, colonization of the plains by clans is often perpendicular on the escarpment (Gallais 1975: 112; Petit 1998: 140). Cultivation hamlets were established on the plains and were later transformed into villages (Petit 1998: 28). For many young men returning after some years away on wage labour migration, an important underlying motive for moving to a new location was the problem they had reintegrating into Dogon social life where they were supposed to share their earnings within the lineage. Settling on the plains enabled a Dogon farmer to cultivate larger areas, to sell grain surpluses and to establish a herd, all without family interference. This process of disengagement was encouraged by conversion from animism to Islam (Bouju 1984: 197; cf. Gallais 1975: 124). This conversion might have facilitated migration with a more definitive character, for leaving the ancestral land would have been easier (Beaudoin 1984: 29).

However, the plains also became saturated as a result of the sedentarization of people and increasing numbers of cattle. Fields were cultivated more permanently and intensively, which resulted in the disappearance of the old long-term fallow system of outfields that used to restore soil fertility. The environment became depleted. Gallais stated as far back as 1975 that agrarian intensification in the area had reached a limit that could only be passed by a true technical revolution (Gallais 1975: 102).

In these decades, therefore, there was an outflow from the plains towards southern Mali and the Mossi area in Burkina Faso where rainfall was more

abundant (Van Beek 1993: 51). At the same time, Dogon migration from the northern parts of the escarpment to the northern parts of the Seeno plains, south-east of Douentza, grew rapidly. This zone used to be a pastoral area but the outflow of people was accelerated by the severe Sahelian droughts of the early 1970s and especially those in the mid 1980s when erratic rainfall and other hazards, like grasshoppers and rodents, destroyed harvests. Van Beek (1993: 51) characterizes the migration to the south as a sign of ecosystem failure.

Underlying motives

The spatial mobility of the Dogon is an old phenomenon, yet very diverse with respect to the period, purpose, extent, direction and duration of migration, and the social group to which the migrants belong. Motives can therefore change at different times and under different conditions, and the interplay of motives is undeniably complex. As indicated above, land shortage has always been the most important driving force behind Dogon mobility; rural-to-rural migration is a response to several constraining factors (Cissé 1993) in order to restore ecological balance. This type of migration increases under the impact of population growth and periodic drought (Van Dijk *et al*. 2001: 10).

Land shortage is closely related to the land allocation system. The Dogon land allocation systems differ between the plateau, the escarpment and the plains. On the plateau, the lineages constitute the basis of the Dogon social system, whereby the lineage head (re-)allocates family land between group members. This system does not favour younger people and may force them to leave, particularly when conditions are stressful (Cissé 1993). Gallais (1975: 124) sees in this process a revolt by younger people against gerontocracy, i.e. the control and distribution of land by the elders. And Bouju (1984) also argues that the land-inheritance and land-access systems on the plateau – in combination with population growth – are the fundamental cause for the migration of young Dogon from the plateau to the plains. He distinguishes three circles of land with different inheritance patterns: the first circle is the land nearest to the village, the lineage lands. The eldest son of the lineage always inherits this land, which remains undivided. Land in the second circle (a bit further from the village) is inherited by the eldest sons of the lineage segments, while land in the third circle (the bush fields far away) is for the eldest son of a nuclear family. Bouju states that 'such a system is essentially expansionist, since every rise in the male population of a lineage implies the colonisation of new land, always further and further from the village' (Bouju 1984: 104-107, translation adopted from Ruthven & Koné 1993: 97).

At the escarpment, another complex land allocation system is applied, in which seniority and relative age play an important role. Here, a fixed amount of well-manured fields, located near the escarpment, are reserved for the oldest men

of the village or clan (*gina na*). These are cultivated by their children who are often allowed to work on parts of the land for themselves. Each field corresponds to an elder's hierarchical age position, as a result of which all of these fields are redistributed between elders when one of them dies (Paulme 1940: 95-96, Van Beek personal communication). In addition, there are outfields further away (at a distance of 3-4 km from the escarpment), which are less fertilized, more degraded and therefore less attractive. These outfields are divided between lineages. Thus at the escarpment, seniority is considered more important than the lineage system (Van Beek personal communication). Yet, a seniority system like this may similarly promote migration because younger people have to work the land under the control of the elderly.

On the plains, land rights are more individualized than on the plateau and the escarpment. The so-called outfields on the plain are owned by families, particularly when lineages cannot claim to be the owner of the 'new land' on the plains (Gallais 1975; 125; Van Beek 1993: 48).

In the literature, in addition to the land allocation system, some specific features of Dogon culture are mentioned to explain Dogon expansion. What several authors highlight is the value the Dogon place on fertility, which accounts for the rapid population growth (Gallais 1975; Van Beek 1993; Petit 1998). Moreover, Van Beek (1993: 53) stresses the expansive nature of the Dogon agricultural system 'in which more people are always needed, more fields have to be taken into cultivation, more cattle raised'. More cattle means more manure and therefore new opportunities for cultivation. He also mentions the Dogon's attitude towards the bush: people should work hard to make a living. If the environment becomes depleted, you should just work harder and longer hours (Van Beek & Banga 1992: 71).

The problem of declining yields has been dealt with by two types of adaptation. First, new agricultural techniques were adopted, such as the plough with oxen traction that enabled farmers to cultivate larger areas, which subsequently made lower productivity of land less of a problem (Van Beek 1993). Another adaptation was a re-organization of the family structure from the 1940s onwards: The re-organization of production units by forming sub-units on the plateau, the escarpment and the plains has facilitated expansion and the spreading of risk of agricultural performances over a wider area (Van Beek 1993: 51). The extended families split up into several dispersed nuclear families, yet formed one extended family in an economic sense (Van Beek 1993, 2001, Ruthven & Koné 1995).[12] Relationships between the migrant and his lineage were kept in tact. Often a

[12] Similar to households with a livelihood foothold in both urban and rural areas (Foeken & Owuor 2001), these families, having spread their resources over different rural areas, could be viewed as having 'multi-spatial livelihoods'.

married migrant left his oldest son in his village of origin, in which case the latter gave his father some millet every year (Bouju 1984: 123). The ties between the 'old' and the 'new' land were also maintained due to the French tax system in colonial times. The French tolerated migration but they forced migrants to pay taxes in their village of origin (Gallais 1975: 124-125, Petit 1998).

During my own fieldwork, I frequently asked the Dogon why they had come to the south but they were not keen to answer this question. Obviously, it is a sensitive issue. Most likely, the Dogon people, who consider themselves as 'real cultivators', are ashamed to admit they did not perform well in their region of origin (cf. Van Beek 1991). The initial answer was often only: 'I have come to cultivate' or 'it was Allah's [or God's] will to leave'. This ostensibly superficial answer is not an explanation but might indicate that these migrants do not intend to establish claims to land; they have just come to cultivate.[13] Most denied having problems and only a few mentioned the bad harvests caused by insufficient or irregular rainfall, and the grasshoppers and worms that destroy millet during several stages of its growth. The women stated that they had left Dogon Country due to a shortage of land.

Most of the Dogon families, who all arrived in the south after the big Sahel droughts in the 1970s and 1980s, came straight from their native villages in the Dogon area. Others, however, had left their native village earlier and had first settled elsewhere before moving further southwards into the Koutiala area, for instance in the Ségou region to cut sugarcane. This migration through a series of places can be categorized as stepwise migration (cf. Johnston *et al*. 1994: 380). Leaving did not mean a total rupture with their families but can be seen as a family risk strategy: successive territorial splitting of the family 'farming unit' in order to improve the well-being of the family. Each time some family members stay behind, while others move on. This is not a new strategy but what does appear new is the repetitive character of the extended family's territorial sub-divisions.

The Dogon themselves stress that it is the more courageous young people who leave for the benefit of the family members that stay behind in the native village. They arrive in the south as small, young families (see below). This might indicate several things – that they are expelled from their family in the struggle for land or, as the example above indicates, that they set off for adventure and show initiative in building up a new life in order to help their family. It is remarkable, however, that the opportunity to cultivate cotton is hardly ever mentioned as a pulling factor. Apparently push factors inside (local) society are more important reasons for leaving.

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[13] Probably, it is also in this context that they say they are not interested in being entitled to collect fruit from the *néré* and *karité* trees.

Case: Migration as a family strategy

Two Dogon brothers in M'Péresso, Mohammed (53 years old) and Daouda (aged 36), serve as an example. Their parents left their native village in Bankas District (Dogon Country) in the 1960s 'for the family had become too large', and they joined family members in Tominian District, some 100 km to the south, where Daouda was born. Meanwhile, Mohammed was raised by relatives who had stayed behind in their village but he joined his parents in the early 1970s. While some brothers have stayed here with their parents up to now, others have moved away in all directions over the course of time. Ssome settled in Yorosso District east of Koutiala and in Burkina Faso in order to cultivate, and another brother went to Abidjan to trade. Mohammed settled in M'Péresso in 1981, while Daouda settled near a village 15 km south of M'Péresso in 1995. He joined his brother Mohammed last year due to flooding in the depression (bas-fond) that was allocated to him. All the family members still send money to their relatives in Tominian and Bankas Districts.

Although Dogon migration to southern Mali might be too recent to assess, it seems to have a definitive character, which contrasts for instance with Dogon seasonal movements on the Seeno plains in Central Mali and with other types of migration such as circular urban labour migration. This definitive character is likely to be strengthened by the new registration system that was introduced in 1997, since migrants are registered and pay taxes in the Minyanka village where they are settled, not in their native Dogon village. None of the Dogon studied are contemplating returning, except for an old man who could claim family land in his native village and a younger man who was ordered to return by his family. Nevertheless, social relations with the native village are still close. Dogon migrants in southern Mali keep in touch with their native village in different ways: dispersed family members regularly visit each other, marriages are arranged between villagers and migrants, and young migrants, both men and women, are often sent for a couple of weeks to their parents' native village to get to know their relatives.

Land allocation in southern Mali

Features of the land allocation system

All Dogon moving to the south go in search of land to cultivate. Access to land is essential for them to create a livelihood but in order to settle and start cultivating, newcomers always need permission from the Minyanka, who are considered the native people in the Koutiala area.

The Minyanka's land allocation system is similar to that of other ethnic farming groups in West Africa. The main rule is that the land belongs to the first

settler who cleared it (the founder of a village) and his descendants. Land cannot be sold. Therefore, traditionally the eldest descendant of the first family that settled on the territory allocates virgin land to newcomers and settles disputes about land. He is the spiritual land priest, the link between the ancestors and the visible world. To reconcile the ancestors, the land priest makes sacrifices to the earth. With rapid Islamization over the last few decades, however, the institution of the land priest is threatened with extinction. Nowadays, it is usually the administrative village chief, not necessarily a descendant of the first settled family, who allocates virgin land to newcomers and settles land disputes, yet without making sacrifices to the earth (although a stranger still 'pays' a number of cowries or CFA francs and a white chicken if he is allocated a piece of virgin land). The role of the land priest and/or the administrative village chief in land allocation has gradually decreased with the increased transformation of virgin bush into agricultural land. Agricultural land (including fallow land) is redistributed by the chiefs of joint or extended families (lineages) and the heads of nuclear families. The village chief is only informed about the decisions. In this way, some power over land has been transferred from the village chief to the family chiefs over the course of time. Nevertheless, the village chief's role in settling disputes over land remains important.

Land allocation in a West African village takes place in a hierarchical system in which control over land is applied as a tool to exercise power over people; land and power. Breusers (1999), referring to Lambert & Sindzingre (1995), stresses that this power is based on the principle of double seniority. The first seniority principle is that first-settled lineages are more highly ranked than later-settled lineages. Therefore, with the settlement of one family after another on a village's territory, a sliding scale of autochthony is created.[14] This sliding scale is important because families that have arrived earlier have stronger claims to the land than those more recently arrived who often just have a 'usufruct' right to the land that is not comparable to ownership. The second seniority principle is that within a lineage older people are more highly ranked than younger people. Everyone in the village can therefore be placed within this hierarchy, from the oldest man of the first-settled lineage at the top to the young, recently settled migrant, such as the Dogon, at the bottom end.

[14] Therefore, the dichotomy between autochthonous people and strangers is less strict than sometimes suggested (e.g. by Koenig *et al*. 1999) for one stranger may be less a stranger than another. Being an autochthonous depends on a person's relationship *vis-à-vis* another person and on the context, for instance whether land is scarce or not. What remains interesting, however, is the view of Koenig *et al*. that this distinction can be considered important in gaining access to land.

Types of land

On a village territory several distinctions can be made with regard to types of land. Here, we distinguish on the one hand virgin bush, meaning land that has never been cultivated before, with agricultural land including fallow land. Agricultural land can refer to two types of fields as distinguished by Minyanka and other ethnic farming groups in West Africa: infields and outfields. Infields and outfields have different chiefs controlling access to them.

Infields[15] are small fields located adjacent to the village and between the quarters. Often they are permanently under cultivation thanks to applications of manure. These fields belong to a lineage – with the lineage elder exercising control over them. He has the authority to distribute the fields to lineage members but with the villages' rapid growth, many infields have been built on over the course of time.

In contrast, the outfields[16] are large fields located further away from the village in the bush. In the past, the cultivation of cereals in these fields was alternated with long fallow periods. Outfields were extended in accordance with family growth and labour availability. Around 1980, these outfields were taken into cultivation more permanently and fallow periods were shortened. An important factor behind this evolution was the introduction of large-scale cotton cultivation in southern Mali by the CMDT. Large-scale cotton cultivation stimulated the re-cultivation of old outfields and the clearance of new ones. A traditional variety of cotton had already been cultivated but only on a small scale on the infields with the use of manual labour. The new cotton variety was more productive. Slightly later, the plough became widespread and larger areas could be cultivated.

With the disappearance of fertile virgin bush, Dogon, Fulbe, Minyanka and Bambara migrants who arrived after the mid 1970s have increasingly been allocated poor fallow outfields and areas of virgin bush on rocky soils that are unsuitable for cultivation.[17] While the fallow fields that were allocated to migrants in the past could be valuable nowadays, the best pieces of land are already occupied. In Finkoloni it was reported that only depressions (*bas-fonds*) are allocated to strangers. These depressions have few advantages: if the rains are abundant, the land floods due to its low-lying position. Even if there is insufficient rainfall, the fields often suffer from water erosion, and it is difficult to work the soil because of the heavy clay and the abundance of herbs.

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[15] In Minyanka called *sisaya* (Jonckers 1987: 24), in Bambara *zanzan,* in French *champs de case.*

[16] In Minyanka called *kèrèyè* (Jonckers 1987: 24), in Bambara *koungo djan foro*, in French *champs de brousse*.

[17] Minyanka migrants whose (grand)mother originated from the village are not included here. Contrary to all other migrants who are labelled 'distant strangers', they are considered as 'close strangers' and are often allocated a fallow field by their family.

Most migrants want to settle permanently in the area so they would prefer to be allocated virgin bush instead of a fallow field, even if soil properties are not as good because it is common 'that a fallow will be withdrawn by the first occupant sooner or later'. However, migrants are not always allowed a piece of virgin bush the moment they arrive because sometimes the community first wants to get to know the newcomer better. Instead, they are often allocated a fallow field thanks to their host. This interim period may last several years and even if some virgin land has been allocated, the migrant's tenure position is not fully guaranteed. He may use the land for the rest of his life and his children may inherit the usufruct right, but he has to comply with the social rules of the village. If not, he runs the risk of being chased away.

Some additional rules have been introduced in M'Péresso for everyone who wishes to clear virgin bush or a field that has been left fallow for more than ten years. The person in question must inform the committee that is charged with the enforcement of the so-called local Siwaa convention, which was signed in 1997. This local convention aims at the sustained and participatory use of the woodlands in six villages, one of which is M'Péresso (see also Nijenhuis 2001). Besides informing the Siwaa committee, a permit from the Forest Administration is needed, which costs FCFA 10,000 per hectare. This procedure has been applied only once (by a Minyanka villager) but there have probably been illegal clearances as well.

Settlement in hamlets

Migrants settle outside the village on the parcels of land allocated to them and their hamlets are scattered all over the village's territory. However, not only migrants live so widely dispersed but also many autochthonous families – joint families as well as nuclear families – have moved into hamlets over the past few decades (see also Table 9.3). It is common for an autochthonous joint family to have one or two homesteads on its outfields, not only to be closer to the field but also to keep livestock in. Most hamlets used to provide small shelters for the farming labourers in case of heavy downpours. In a hamlet pastures are nearby and it is easier to keep an eye on loose animals that could cause crop damage. (Keeping too many livestock on the compound in the village may cause veterinary diseases.) These hamlets can be considered as satellites of the extended village-based family (cf. Silberfein 1998: 7). In such cases, the chief of a village-based extended family still exercises power over the field.

As the total area under cultivation has increased, many outfields have been split up into smaller parcels due to the break-up of joint families as a result of conflicts. Many autochthonous nuclear families have settled on these parcels in hamlets since the 1960s to cultivate separately and not for the benefit of the joint

family. In Finkoloni some do not even have close relatives in the village anymore. The head of such a nuclear family exercises control over the field.

In many hamlets, a well has been sunk for drinking water. In the dry season cattle are watered here, while in the rainy season they are usually watered in small, seasonal streams nearby. Even migrants are allowed to sink a well, which is perhaps surprising because digging a well, like planting trees, is often considered as an expression of ownership of a field in West Africa. However, there is often not enough water during the dry season and the chief of Finkoloni stated that many villagers who settle in the hamlets return to the village itself due to water shortages. Shortages also prevent vegetable gardening in the hamlets during the dry season.

The creation of a Dogon farming livelihood in the south

Dogon contacts in the south

Most Dogon arrive in the south as a member of a young, small family unit consisting of a man, sometimes with his brother, their wives and a few small children.[18] The young families come to the south to settle and to cultivate. They need an acquaintance, a host (called *logeur* or *tuteur* in French)[19] who can introduce them into a village. A stranger cannot obtain a parcel of land without having a contact person in the village. Contact with one's host establishes a first and important link with the autochthonous population. The host's role will remain important even after several years, for instance as an intermediary in conflicts with villagers. However, this relationship is not as stable as it seems to be and may weaken. This was, for example, the case in a political conflict among the autochthonous population in M'Péresso. It became apparent within the context of the current decentralization process in Mali, and continues to this day.[20]

The first Dogon to settle in M'Péresso and Finkoloni did not know anyone *en brousse* (i.e. in the countryside). They all consulted a Dogon acquaintance in Koutiala who knew someone in the village. In M'Péresso the small group of Dogon were first introduced to a Dogon *marabout* in a village called Torla but there was no space for them here. So the *marabout* in Torla referred the Dogon to Zoumana Coulibaly, an old Minyanka farmer from M'Péresso and a close relative of the land priest as well as the administrative village chief of M'Peresso. Zoumana introduced the Dogon to the village chief of M'Péresso, who authorized Zoumana to look for a piece of land for them. Zoumana does not remember exactly when they arrived but he does remember 'that Issa Tesouge, the first

[18] Some bachelors come as wage labourers.
[19] Cf. the *njaatigi* for the Fulbe (De Bruijn *et al*. 1997).
[20] See Nijenhuis (2002) for a detailed analysis of this conflict.

Dogon, came in a very bad year, when there was no rain and no food'. Issa indicated that he arrived in the mid 1970s, a few years after the severe Sahel droughts. According to Zoumana, there were also water provision problems in the village at that time. He lent the Dogon 1000 kg of millet that he had collected from villagers. The field allocated used to be cultivated by a Minyanka farmer from a neighbouring village who had died and whose wife had returned to her parents.

Case: Conflict in M'Péresso

The conflict is between the village elders' authorities and the secretary of the village association, who has become a municipal and district counsellor as a result of the first democratic elections in Mali in 1999. Basically, the conflict centres on the conflicting nature of their power: the elders' power is based on seniority and the secretary's power is based on modern elections. The elders are doing everything they can to frustrate and eliminate this counsellor, applying traditional methods such as withdrawing land as well as modern methods such as changing municipality. As a result of the conflict, the village association has split into two along political lines, i.e. the political party of the elders (UDD) and the political party of the association's secretary (ADEMA). All the farmers had to choose between the two village associations. The Dogon's host, the 82-year-old lineage chief Zoumana, who is an influential villager, supported 'the village association of the chief' of course, as the elders strongly advised all villagers to do. Most Dogon followed this 'advice'. Surprisingly, however, one Dogon, the eldest who is called Issa Tesouge, was not loyal to his host but decided to support a nearby farmer called Karim, who is in the other association. He had lent Issa a field and a draft oxen and Issa stated that this villager has done much more for him than his host Zoumana. Nowadays, the old Issa no longer asks his host Zoumana for land for a newly arrived Dogon but approaches this farmer instead.

Most Dogon who arrived later have come by way of connections: '*Les Dogon viennent par relation*' as the Dogon host in M'Péresso puts it. In their native village, they had already heard about another Dogon who had settled in the south earlier, for example a close relative or an acquaintance from a neighbouring village. They simply went to join him.[21] When a new Dogon arrives, the Dogon who are already settled present him to his host who acts as an intermediary in the allocation of land. Someone can host several Dogon families. In M'Péresso, for instance, the old Zoumana Coulibaly has been host to all the Dogon families. The

[21] A previous migration phase in Dogon Country from the Bandiagara Escarpment to the plains also ran through relationships (Van Beek, personal communication).

host and the newly arrived Dogon visit the chief together to request a parcel of land for cultivation purposes.

The fact that the Dogon are joining relatives and acquaintances might also explain why they have settled in this densely populated area instead of moving further south to where land is more abundant. They probably did not have any contacts there. Another reason might be the relative inaccessibility of the southern area that is located near rivers, as a result of which land often floods during the rainy season.

In the arrival zone, the Dogon create new solidarity structures (Cissé 1993: 47). However, Dogon communities in the south have turned out to have social relationships with other Dogon communities nearby that come from the same zone but not with those from other zones. For example, the Dogon in M'Péresso indicated six other communities within a circle of about 50 km who they had social relations with, but they had never even heard of the Dogon community in Finkoloni at a distance of only 15 km. New solidarity structures have also been constructed within Dogon communities. This was certainly the case in M'Péresso where it turned out that over the years all nine Dogon families had become related in some way by marriages, in some cases quite recently.

The integration of Dogon with other ethnic groups in the arrival zone seems less developed. Although social events like name-giving ceremonies, marriages and funerals are mutually attended and Dogon farmers cultivating cotton are members of a village association, Dogon women in particular scarcely integrate with Minyanka villagers. In M'Péresso, for instance, all married women other than those just recently married – and except for the Dogon women – are members of the women's association, including some Fulbe women. However, it should be noted that the rather isolated position of the Dogon here seems to be changing. Recently, a Dogon girl married a Fulbe farmer. This was with the permission of her father but against the will of the other Dogon who were furious. Furthermore, contrary to the Dogon settlers who speak Bambara with the Minyanka people, the new generation of Dogon, who have grown up in the south, speak the Minyanka language fluently. Elderly people even said, while shaking their heads with disapproval, that their little children sing Minyanka songs. The Minyanka village chief thinks the Dogon will become more integrated in the future, for instance through intermarriage. However, the Dogon in southern Mali will probably continue to be considered as the 'later settled', which means that they will continue to have a lower status and a weaker power position in the village.

Choosing a parcel of land

The right moment for a Dogon to arrive is after the growing season because that is when land allocation takes place. When a Minyanka immigrant and his host visit the chief, the newcomer is usually allowed to wander around and choose a place to cultivate. The newcomer checks whether there are traces of cultivation that would indicate a fallow field and, if so, he will need the owner's approval to settle and clear the land. In general, the owner will only refuse if he needs the land himself in the near future. In the case of virgin bush, the village chief's approval is needed. As indicated earlier, fallow land is often allocated in anticipation of the allocation of a part of virgin bush. If the chief and the field's owner agree, the newcomer can settle and start cultivating within the limits indicated. He has usufruct or derived rights to the land for the rest of his life unless his behaviour 'is not correct' or 'he causes problems'. These problems concern for example being involved in conflicts or backing out of community labour such as the cotton sale and the construction of a community house.

In the case of the Dogon, the land allocation process is slightly different, probably because they are considered as 'more distant strangers' than Minyanka migrants. Dogon do not choose a piece of land themselves, it is simply allocated to them. In M'Péresso, for instance, the first two Dogon families were allocated two different parcels. One family still lives on its own, while all the Dogon families who followed later settled around the other family, yet their fields are scattered over the village territory. On the contrary, in Finkoloni, the first three Dogon, who arrived together in the early 1970s, were immediately allocated a large sub-territory with clear limits, which they have had to share with all the Dogon families (but one) that came later. The Minyanka clergyman who arrived in this largely Protestant Dogon hamlet five years ago to settle on the field of his predecessor was not warmly welcomed by the Muslim village chief. It was thus a Dogon who allocated him a fallow field.

The initial stages of Dogon farming in southern Mali

Newly arrived Dogon are often very poor and normally do not have a plough or cattle. They start by cultivating millet and sorghum as staple foods and some additional food crops such as groundnuts, although they want to start cultivating cotton as soon as possible because cotton is often the only way for them to earn money. However, cultivating cotton requires investing in a plough, draught animals and a cart. It is difficult for a young, small, poor family to generate the capital needed for this. Therefore it may be many years before a Dogon migrant starts cultivating cotton. One Dogon said that he had made the transition from the hoe to the plough only when his sons had grown up and were able to earn some

money as herders, which allowed him, in turn, to buy a plough. In addition, his sons returned with five draught oxen.

As soon as a farmer starts cultivating cotton, he automatically becomes a member of the village association (*Association Villageoise*, AV) which is the local link between the cotton-growing farmers on the one hand and the cotton company CMDT and the associated agricultural credit bank BNDA (*Banque Nationale de Développement Agricole*) on the other. The Dogon's host establishes the Dogon's first contact with the secretary of the village association.

The tasks of the village association are diverse. Among these are the weighing of the farmers' cotton and its transportation by truck to the cotton factory in Koutiala; the distribution of individually fixed amounts of seeds, chemical fertilizers and other inputs on credit to farmers; and the payment of earnings after the harvest. Moreover, cotton farmers can obtain credit and buy agricultural tools and mopeds on credit via the secretary of the village association. For instance, in 2002 a Dogon farmer in M'Péresso asked a loan of FCFA 90,000 (€ 137) to finance part of his son's wedding. He was reluctant to ask for the whole sum though, estimated at FCFA 125,000 (€ 191) as he was afraid he would not be able to repay it in full. Besides being engaged in cotton-related activities, the village association also encourages local development by financing the construction of primary schools, literacy centres, maternity clinics, dams, boreholes, and wells. Cash for such projects is generated in different ways: farmers are obliged to give a fixed amount of their cotton harvest (12 kg per ton); younger people cultivate a communal cotton field, any revenue from which goes into the association's development fund; and the village association buys cotton in advance at a bargain price from farmers who are in need of money.

Members of the village association are heads of – what is labelled in CMDT jargon – *exploitations*, i.e. farming units in the village as well in the settlements spread over its territory that grow cotton and/or use chemical fertilizers for cereals. This means that more than 95 per cent of the heads are estimated to be members of the village association. In the villages studied, all were members except for a number of Dogon farmers who were too poor to start cultivating cotton and were not even able to afford fertilizers for their cereal crops. The poorest people are excluded from all kinds of agricultural facilities.

Young Dogon women play an important role in agriculture. They work on their husband's land during all the stages of cultivation (sowing, weeding and harvesting). In addition, they cultivate their own groundnut plots of 0.5 ha each, which are always located in a recently fallow field of their husband's. They sell the groundnuts in Koutiala. The annual earnings per woman (about FCFA 24,000 to FCFA 35,000, i.e. € 53 to € 87) are further enhanced by selling fish bought in the nearby rural centre of Molobala to people in neighbouring villages and

hamlets in the dry season. This yields between FCFA 1,500 and FCFA 8,000 per week (€ 2,5 to € 12). The women are allowed to keep the money. In addition, the women prepare the family's food, cut wood and collect *karité* nuts to make *shea* butter, an important ingredient for the daily sauce. They normally do not collect *néré* fruits, which are more precious, because this activity coincides with the time when they are busy selling fish. It was observed that Dogon women looked more prosperous, better fed, and better dressed than their husbands.

Problems to be dealt with

In general, Dogon farmers are poorer and more vulnerable than other farmers in southern Mali.[22] Firstly, they start off as very poor farmers with no ploughs, draught animals or cattle. To escape from this situation they need to earn a cash income. The most convenient way is to start cultivating cotton but this requires capital to invest in basic agricultural equipment. They find themselves trapped in a vicious circle. To avoid this initial trap, farmers can ask for credit from the cotton company CMDT to invest in agriculture but they are reluctant to apply for it. If they cannot repay the loan they are forced to sell their agricultural equipment at unfavourable prices. The need to earn cash for all kinds of expenses is further weighed against the cost, in the sense that for cotton cultivation farmers have to deal with the CMDT, a monopoly, which pays low prices and exploits farmers with corrupt practices. This is undoubtedly one of the reasons that many Dogon families do not cultivate cotton. In M'Péresso, for example, four out of the ten Dogon families do not cultivate cotton at all. And if they do plant cotton, the area they work is restricted, ranging from 0.5 ha to 2 ha of cotton. It should be noted, however, that there are also Minyanka farmers who only cultivate 0.5 ha of cotton, while others cultivate over 10 ha of cotton annually.

Secondly, although the area under cultivation per capita by Dogon farmers does not differ much from other farmers in the hamlets (about 0.7 ha/capita),[23] the soil properties of the parcel(s) allocated are often worse. Fallow periods are too short (or are even absent) to replenish the soil's fertility. To fertilize the soil, compost or chemical fertilizers must therefore be added. However, Dogon often

[22] Unfortunately exact data on individual farmers' incomes in the research area are not available.

[23] However, the mean area under cultivation per family is different. In M'Péresso, Dogon families occupy between 2.5 ha and 11 ha per family (6.6 ha on average), while in Finkoloni they cultivate between 5 and 10 ha per family (7.1 ha on average). The ranges are broader and the averages higher for other ethnic groups in the hamlets in both villages. In Finkoloni, Minyanka autochthonous families cultivate 2 to 35 ha (12.5 ha on average), Minyanka migrant families cultivate 3 to 30 ha (9.3 ha on average), and Fulbe families cultivate 4 to 17 ha (7.8 ha on average). In M'Péresso, Minyanka autochthonous families cultivate 4 to 21 ha (12.8 ha on average), Minyanka migrant families cultivate between 3 and 34 ha (11.8 ha on average), and Fulbe families cultivate 3.5 to 13 ha (7.5 ha on average).

do not own cattle (apart from one or two draught animals), so they do not have enough manure. Moreover, large (Fulbe) herds do not graze in these densely populated areas – it is even forbidden in and near M'Péresso and six other villages as a result of the local Siwaa convention. Dogon are also short of the means to buy chemical fertilizers. The amount provided by the cotton organization on credit is insufficient for the area they cultivate. Moreover, farmers often complain about labour shortages while agricultural equipment is often insufficient (many only have one plough and a *multiculteur* at their disposal), so intensification is not possible.[24] As a consequence, Dogon subsistence food production often falls short of what is needed to feed a family for a whole year. Dogon families are thus often obliged to buy cereals. In combination with rapid family growth, soils become more depleted. The situation is worse if the rains are poor in which case farmers cannot harvest sufficient cereals. In addition, herbs used as fodder for their cattle do not grow and the means to buy fodder are lacking.

If a Dogon in M'Péresso is not allowed to expand his field but needs a larger area, for instance as a result of an increase in the size of his family, he can request an additional field. In Finkoloni, the situation is different: each Dogon family has one field due to the fixed zone allocated to the Dogon as a group.

Thirdly, the tenure position of Dogon is insecure.[25] Dogon can easily become involved in conflicts, as was shown by the example of the political conflict between autochthonous people in M'Péresso cited above. A Minyanka farmer withdrew a borrowed parcel from a Dogon who had chosen the 'wrong' village association. Other examples of withdrawal are also known. A Minyanka villager in M'Péresso, for example, took back a field lent to a Dogon farmer because the Minyanka farmer's cattle grazed on a field next to the one that he had lent to the Dogon and they damaged the Dogon's crops; the Minyanka therefore urged the Dogon to abandon the parcel. As a result of their insecure tenure position, Dogon have to change fields in M'Péresso quite frequently.

Closely related to their insecure tenure position is the Dogon's weak position of power in the village. To be allocated a plot, Dogon are dependent on a number of people: the host and the selected villagers who are urged to lend land. In M'Péresso, where there is one host for all the Dogon, only three villagers have lent land to Dogon, which illustrates the dependent position the Dogon find

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[24] Not only Dogon but also Minyanka farmers bring up the lack of equipment and labour shortages as their main problems.

[25] The land tenure of autochthonous people is not always secure. An example is a joint family, based in the second quarter in M'Péresso where they cultivate their inherited fields. In addition, they started to cultivate fields borrowed from other villagers. After these had been left fallow, however, other villagers cleared the parcels, sometimes even with the village chief's permission, yet without consulting the family.

themselves in concerning autochthonous whims. Dogon migrants seem to have become a new bottom layer in the social hierarchy in the zone of arrival.

Conclusions and perspectives

The prospects for Dogon farmers in southern Mali are gloomy. They arrived in large numbers in the 1970s and 1980s as young and poor farmers in search of land. Currently they account for up to 10 per cent of the rural population of southern Mali. In general, however, they are not able to gain a foothold in the south. In their home area as well as in their new area, the land allocation system is likely to be the main driving force behind processes of exclusion in a context of stressful conditions. In their home area in Central Mali, severe droughts pushed them out of their former existence. In southern Mali, however, they have arrived 'too late', as a result of which only poor fallow fields, or virgin bush on the plateau or in the depressions are allocated to them. They often have only a weak entitlement to the fields allocated to them. Moreover, their power position in the village as the latest families to arrive is fragile, which is being aggravated by the current decentralization process in Mali. In this context, it is extremely difficult to escape from poverty.

The combination of poverty, degraded soils and their insecure tenure position will force them to search for land elsewhere. On the village territories where they have settled, it is becoming increasingly difficult to cultivate new plots as a result of which they will have to move further into the region. This was already the case for a number of Dogon families in Finkoloni. In M'Péresso, the other research village, small-scale immigration is still continuing. For example, last year, a Dogon man with his family joined his brother after having spent several years near a village about fifteen km away. But in M'Péresso too, the situation may soon change as land becomes less readily available. The large group of poor Dogon farmers who have moved to the south of Mali seem to have become a roaming and excluded rural proletariat.

10

Movements in a new world: Fulbe mobility and survival in southern Mali (Koutiala)

Josée van Steenbrugge

Introduction

Over the years Sidiki Sankare held a number of different jobs. As a boy he looked after the family cattle. When things got tough in the northern part of Mali he went to Guinea to look for work and spent three years there selling coffee and looking for gold. Sidiki worked there with two friends who had travelled to Guinea some time before him but as he did not earn a lot of money, he returned to his home village of Kasungu. Shortly after this venture he, his brothers and their father Allay Yaaye decided to migrate to southern Mali. Having arrived in Molobala, Sidiki started to cultivate a piece of land, and has done so ever since. He also trades sheep in Koutiala and sometimes helps his younger brother Yaaya who is currently looking after the family's herd of cattle. Every day Yaaya sets out for the bush in the morning and returns in the evening. The cattle are moved to another area for a short period of the year.

Aly, their brother, is a moodibo.[1] *He travels a lot in search of knowledge in the hope of becoming an important moodibo. During his travels he consults with other moodibaabe or visits the parents of the students to whom he teaches the Koran.*

[1] *Moodibo* (pl. *moodibaabe*) is the Fulfulde term for an Islamic learned man or woman who has studied the Koran and reached a certain level of knowledge. Often the French word *marabout* is used, but in this chapter I use the Fulfulde term. Fulfulde is the Fulbe language.

During his travels people also ask him to perform services. Hassan, the third brother, returned to Molobala after a period of absence and some time later took on work as a hired herdsman just like his two brothers-in-law, Belko and Aleih did before him. Hawa, Allay Yaaye's second wife, walks a couple of miles every day to and from the nearby village of Molobala to sell milk. The head of the family, Allay Yaaye, has left Molobala to go on a pilgrimage to Mecca.

This chapter focuses on Fulbe pastoralists who have migrated from the more northern parts of Mali to the region of Koutiala in the south over the past decades (see Map 1.1, p. 4). As a consequence of ecological and economic insecurity, Fulbe families and currently also individuals are migrating to the region in search of better pastures and water for their cattle, additional income or alternative means of earning a living. Analysis of these migrants' activities and strategies shows that mobility is a predominant characteristic of their pathways.

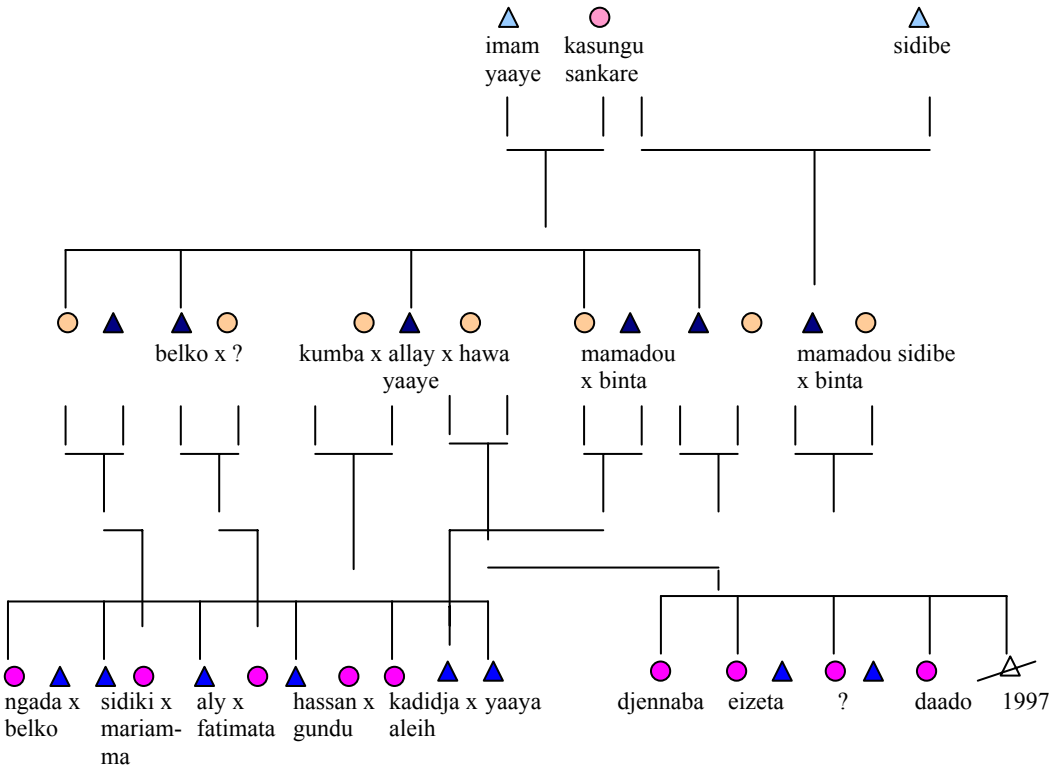
Field research was conducted in the district of Koutiala and a small part of Sikasso, more specifically in the area between Molobala and Klela. The research population consisted of 34 families and 12 individuals, all originally from the north of Mali and Burkina Faso.

More specifically, the results of the research presented in this chapter are structured around the story of the Sankare family that migrated from Kasungu, near Bandiagara in the north of Mali, to the southern region and settled near the village of Molobala. At the beginning of the research project the immediate family consisted of Allay Yaaye who was in Mecca at the time, his two wives Kumba and Hawa and his sons Aly (with wife Fatimata), Yaaya and Sidiki (with wife Mariamma). At the end of the research period, a fourth son, Hassan, joined the family accompanied by his wife Guundo. Other relatives ranging from brothers to cousins of Allay Yaaye, lived on and off within the family camp. The whereabouts and movements of this family illustrate the mobility, the different strategies of individual family members, the socio-cultural aspects and the difficulties the Fulbe encounter in their struggle to build a livelihood in the southern region. An overview of the members of this family and their relationships is shown in Figure 10.1.

This chapter is further structured as follows. In the second section an introduction to the theme of Fulbe mobility is given and in the susbsequent sections the fieldwork data are presented. The third section focuses on the southerly migration process of the Fulbe and the fourth section considers their access to resources in their new surroundings. In the next section an overview of migrants' economic activities is presented, while in the following section relations between Fulbe migrant families and the outside world and the difficulties of coping in the south are analysed. The seventh section deals with socio-cultural aspects that distinguish them from others and the importance of maintaining contact with their home villages. Each of these sections starts with a short clip from the life

history of the Sankare family. In this way the different strategies or 'pathways' of Fulbe families or individuals are revealed. In the final section, some conclusions are presented.

Figure 10.1
Overview of the Sankare family



Fulbe culture, a travelling culture

When studying the family presented above and the different family members' various (economic) activities, the most striking aspect is the mobility underlying most of these activities. People are constantly moving between locations, searching for opportunities to secure a livelihood. In pursuing these opportunities they have to be very flexible and to be able to shift easily from one activity to another.

Mobility and diverse livelihood strategies are important features of the Fulbe way of life and are partly the result of the unpredictable and insecure environment they live in. Ecological insecurity is inherent in the semi-arid climate of West Africa and is caused by variable and erratic rainfall. It is variable not only

in time but also in place. The Fulbe have adapted to this environment by developing a wide range of strategies to secure their livelihood. For example, periods of extreme drought as experienced in this area have resulted in Fulbe working as hired herdsmen or as labourers on farmland. The Fulbe have earned money to gradually replace (and increase) stock lost in the droughts.

Mobility is a central feature of the different pathways developed by the Fulbe. In the course of history, the Fulbe have spread out over large parts of West Africa, from Senegal to Ethiopia (Azarya 1993). In this process, mobility has taken on different features in different periods, adding to a continuum of mobility. Recently, movements have been more southerly with Fulbe from the northern parts of Mali and Burkina Faso migrating to the south of Mali (Blench 1994) where they have to adapt to a new environment. Consequently, they have to (re)consider the direction of their pathways and change them according to their new environment.

The pathways that different individuals and families in southern Mali develop are not restricted to just one strategy or tied to one location. Alternative sites are usually also taken into consideration adding to the development of multi-spatial livelihoods (De Haan 1999). Therefore, relations with the outside world or the sedentary population are important in the development of people's pathways. The Fulbe are dependent on the outside world for access to resources such as land, water and markets, and for acquiring grain (Khazanov 1984). Relations between the Fulbe and the sedentary populations, Minyanka and Bambara farmers, are relatively friendly in southern Mali but on occasion tensions arise.

Apart from relations with the outside world, networks or 'having people' (which refers to other Fulbe) are extremely important. These networks play a central role in migration. In a new environment it is useful to have people one can rely on in times of need: new relations are established and already existing relations confirmed.

Mobility still plays a central role in the Fulbe way of life today. It is reflected in the relative ease with which people move, and it forms an integral part of the multi-spatial livelihoods created by various individuals and families. At the same time it can be interpreted as a strategy in itself. It is also apparent in the way the Fulbe organize themselves in a highly flexible manner and in extended networks. Mobility is deeply embedded in Fulbe culture and it can be seen as a 'travelling culture' (Clifford 1997; De Bruijn & Van Dijk 1999b).

History shows that mobility has always played an important part in the Fulbe way of life and has taken different forms in the course of history. During the pre-colonial period movements into other areas were mainly due to war. Consequently, Fulbe settled in areas currently known as Senegal, Central Mali and Cameroon. An important motive at this time was control over land and water

(Van Dijk 1998: 2). A number of religious wars, *jihads*, rocked West Africa in the 18th and 19th centuries. Cheik Aamadu came to power in Central Mali in 1818 and established the Maasina Empire.

Historically, political and economic policies caused diversification of (economic) strategies. During the Maasina Empire regulations concerning land access and the sedentarization of pastoralists and fishermen affected the mobility of the Fulbe. The Fulbe were forced to settle in camps and cities to facilitate the collection of taxes and the spread of Islam. Herdsmen looked after the cattle leaving the rest of the family behind during the transhumance (seasonal migration). Furthermore, farmers, fishermen and cattle keepers were given rights to farmland, fishing grounds and pastures, thereby regulating access to natural resources. To escape these regulations many Fulbe fled to other areas where they were able to continue their nomadic lives (De Bruijn & Van Dijk 1993). Other Fulbe owned slaves who were captured to work in the fields. In this way, these Fulbe had their hands free to engage in other activities.

During French colonization mobility took on different forms. Political measures such as the abolition of slavery, a change in land rights, the extension of arable land, taxes and forced labour in public works caused substantial changes in the Fulbe's mobility. On the one hand, it was restricted because they were forced to cultivate the land themselves – having lost their slave labour and because land for pasture was diminishing. On the other hand, the changes gave rise to an increase in activities like trading and working in coastal areas or in cities. Young men migrated to work on the construction of railways, on plantations in coastal areas or as merchants in the cities. Some Fulbe fled into other areas to avoid the payment of taxes. Migration to southern areas became easier for Fulbe pastoralists due to the retreat of sleeping sickness.

A change in mobility was also caused by ecological factors. For example, the drought of 1913-14 caused massive starvation among both people and animals and forced a number of Fulbe to take refuge in other areas in search of food and work.

After independence, there were further changes. Several restrictive measures reduced mobility. The attention of the state was mainly directed to agriculture and much pastureland was occupied for agricultural purposes. The droughts of the 1970s and 1980s resulted in further losses for the Fulbe. As a consequence, the Fulbe were forced to look for new land, which resulted in movements southwards. These recent movements can be seen not only in Mali but also in the rest of West Africa (Boutrais 1990; Waters-Bayer & Bayer 1994; Bernadet 1984; Diallo 1999).

In short, changes in mobility are a consequence of an interplay of political, economic and ecological factors and are a common and continuing phenomenon

of Fulbe life. Consequently, this southward-directed migration can be seen as a new phase in a continuous process.

Migrating to a new area

Going south

Migration is part of the family history of the Sankare family. They belong to an ethnic group known as the Fulbe Wakambe. Originally the Sankares are from a village called Gnokolowel, located on the sandy Seeno-Mango plain in the district of Bankas, the sub-district of Sokoura in the Mopti region. When the Sankare family left this village they settled in Kasungu near Bandiagara. The exact year of settlement is not known but according to Aly it was his grandfather who initiated the migration to Kasungu.

The drought of 1984-1985 was a difficult time for the family. They suffered heavy losses and it was often difficult to find something to eat. To overcome this hardship the family had to sell a lot of cattle. Eventually it was Allay Yaaya, the head of the family, who made the decision, in consultation with his sons, to move to the south. He initially went there to look for a brother who had left Kasungu some time before and of whom they had never heard since. Allay Yaaye did not find this brother but he ended up in Molobala and realized that the opportunities in the south were much better than in the north. After returning to Kasungu he discussed with his sons the possibility of moving to the south. They agreed and so the decision to go to Molobala was made. Allay Yaaye's two wives, Kumba and Hawa, were not pleased with the thought of leaving their families behind. Kumba asked Allay not to take her that far away from her mother. Eventually Allay's sister persuaded her to go south because 'things are better in the south'.

The actual migration of the family to Molobala happened in different phases. At first Allay Yaaye, his son Sidiki and his wife Mariamma went to Molobala. Allay Yaaye returned just before the rainy season to cultivate the land in Kasungu, leaving Sidiki and Mariamma in Molobala. After the harvest he returned to Molobala, this time taking his son Hassan and the family herd. It took them a month and 19 days to get to Molobala. The rest of the family soon followed, travelling by public transport and by car.

The first years were not easy. Both humans and animals had to get used to the new situation. During the first two years they lost twenty calves that did not manage to adapt to their new environment. Hassan decided to take part of the herd back to Kasungu but lost cattle due to the displacement. Finally, things started to go better and recently they tried again to move the herd to the south. This time they succeeded.

All the family members were confronted with difficulties while settling. They did not speak the local language and the Minyanka, the local population, were unfriendly. Hawa recalls that she did not feel at ease in her new place. She sold her milk only in the vicinity of the Imam of Molobala, their host, and more cheaply than usual so that she could sell it more quickly and return to the homestead.

In the years they have lived in Molobala, the Sankare family has managed to establish a relatively stable situation for themselves. As a result they now provide a kind of haven for others who want to try their luck in the south. The camp often

serves as a temporary place of residence for other members of the family who want to settle in the southern area for a shorter or longer period.

All migrants in this research project – 34 families and 12 individuals – are originally from the north of Mali and Burkina Faso. Arriving in the south they settled in camps in the bush scattered around villages. The data about the moment that these various families left their village show that this migration to the south is not a recent phenomenon. Migration took place in roughly two periods: 40 per cent of the families migrated before 1965 and 60 per cent migrated in a period starting at the end of the 1980s up until now.

The group of earlier migrants migrated before the onset of the droughts of the 1970s and 1980s and their reasons for migration were different from those of the recent migrants. A minority of the early migrants fled the colonial government and the imposed regulations, for example the confiscation of their cattle for the personal needs of the French. The majority left their homesteads looking for better pastures or simply for the adventure of exploring new areas and land. These migrants migrated before 1950 during the period of French colonization and accounted for 57.5 per cent of the early migrants. Reasons for leaving are difficult to trace because many older migrants have already died and the reasons why their parents left the north are not always clear for the children. Probably for the majority, a combination of reasons was the cause for migration.

For the families who left their home area between 1960-1965 and make up 42.5 per cent of the early migrants, the reason for displacement is clear. They left the north in search of better pastures. Lack of pasture and more importantly of water for their cattle made them leave and they ended up eventually in the region of Koutiala and Sikasso. This migration did not have the character of direct migration. They gradually moved to the south with their cattle in what is called a 'migratory drift' (Stenning 1959). After arriving in the south near Koutiala some families stayed and some families or family members moved on further to the south closer to the border with Burkina Faso and Côte d'Ivoire.

The droughts of 1984/85 led to another wave of migration, and caused many Fulbe to leave their homesteads in the last decade. The Sankare family is one of those families. The reasons for their departure are more diverse than those of the early migrants. Their main reason was poverty as they were not able to secure a livelihood in the north. As one Pullo explained,[2] 'There wasn't any food, nothing at all'. These families left in search of a better existence. However, poverty was not the only reason for migrating. A number of Fulbe migrated to the south looking for adventure. They were curious to discover new locations. Other Fulbe migrated with their cattle in the same way as the early migrants did: by gradually moving to the south in search of better pastures. Finally, a number of Fulbe

[2] 'Pullo' is the singular form of Fulbe.

traders migrated with or without their cattle, trying their luck in cattle commerce in the south at the same time.

A comparison of the migration patterns of early and late migrants shows a number of (small) distinctions. Firstly, while many of the late migrants left the north and more or less directly moved to the south, the most recent Fulbe migrants first travelled to other locations in Côte d'Ivoire or Burkina Faso before finally settling in the south of Mali. Secondly, the early migrants came exclusively as families, whereas recent Fulbe migrants mainly arrived as individuals after having tried other regions in their search for work. This suggests that recent migration shows more of a drift of individuals searching for a better life than was the case in the days of the early migrants.

Social networks

Some Fulbe migrants went to the south accompanied by their families whereas others left individually without having any relatives in the area to which they were heading. Only a minority joined families who had migrated to the south in an earlier period. Those families that had moved to the south earlier often acted as pioneers and formed an important link in the migration network. Once they were settled others followed. It is interesting to note the case of the Sidibe clan who migrated from Barani, Seeno Bobola in the north of Burkina Faso. Kinship networks play an important role in the decision-making process underlying migration.

Temporary migration

A characteristic feature of Fulbe migration is that for the majority of migrants the movement is not intended to be permanent. Some plan to stay temporarily and try to earn enough money to return to their village of origin in the north. Reasons for this vary. For instance, some of them initially wanted to go further to Côte d'Ivoire but ended up in southern Mali because of a shortage of money. Others plan to earn enough to buy a cow as a dowry. A number of Fulbe arrived in the south to earn money to invest in cattle in their village of origin. They continue to travel back and forward in order to earn a wage. Some Fulbe are not sure whether they will stay in the south or go back to the north but they make the best of it in the meantime.

Another interesting phenomenon is the (temporary) migration of Fulbe children. Some boys may leave their families to look for a job in Bamako and others head for the south to study. Some parents send their sons to the north to be educated in the 'Fulbe way of life' or the boys may leave to study the Koran with a *moodibo* and eventually become *moodibaabe* themselves. Daughters usually leave the southern region when marrying a partner in the north of Mali.

Case of the migration of the Sidibe clan

A number of Sidibe families had already started moving southwards around 1945. Initially, they went to Koutiala and settled in the village of Farakoro, attracted by the presence of an influential religious leader. After ten years he left with his group, spent a short time in the district of Sikasso, moved to Burkina Faso and eventually settled in Côte d'Ivoire (Diallo 2000). Nowadays there is only one Sidibe family left in Farakoro. This family consists of the head of the family, his wife, and two of their sons with their wives and children. They arrived at the village about forty-five years ago when other families were already leaving. However, as the family head still recalls: 'When arriving in Farakoro we encountered families who had left Barani before we did'. After their settlement, other families also moved into the region. These other families left again some ten to fifteen years ago when they moved further south. Nowadays, they have settled near the village of Niesanson. Other families in the Sidibe clan are living close to the villages of Sougoumba, Worasso and Warasso. They all originate from Seeno Bobola and are all related.

Access to resources

Allay Yaaye came to Molobala in search of his brother. There he met another Fulbe 'brother' and 'sister', Hoesseini Sankare and his sister. She is married to the Imam of Molobala, a person of great influence in and around the village. The chief officer of the sub-district, the head of the village and the Imam are the three most important leaders in Molobala. As it turned out Hoesseini and his sister are from the same lineage or 'lenyol'. Both families originate from the Seeno plain. But unlike Allay Yaaye's family, which first moved to Kasungu, Hoesseini's family moved straight to the south. They stayed initially in Bla. Then they moved further south to the north of Côte d'Ivoire. Hoesseini came to live in Molobala when his sister married the Imam. Hoesseini and his sister mediated between Allay Yaaye and the Imam and the latter gave Allay Yaaye a piece of land so he could stay. The family does not pay anything for the use of this land but it is customary to give the owner part of the harvest.

Both people and animals have access to water. A few hundred metres from the camp the family has a well that they have rebuilt and that is exclusively theirs. It provides ample water for their personal needs. For the animals they have two options. There is a well only a few kilometres away but to reach it they have to cross agricultural fields. The other option is a small lake situated near Molobala. This water source is available all year round.

When Aleih's parents decided to settle in the south they had to find themselves a piece of land, after spending some time at the family camp in Molobala. At the end of the research period they had just asked the head of the neighbouring village of Soungoulasso for land but no decision had yet been made. Aleih's father was, however, confident of receiving permission. And indeed, a year later they moved to near Soungoulasso where they are living in a house that was previously occupied by another Fulbe family that is now living a few miles away on the edge of the farmland. The parents have set up a new camp that they share with Aleih and Kadidja and Aleih's older brother, who has come to the south as well.

Arriving in a new area, the Fulbe first have to find a place to stay. Since land in the south of Mali is owned by Minyanka and Bambara farmers, a Pullo first has to ask permission from the land owner to settle with his family on a piece of land that they can subsequently cultivate. Often the landowner is a farmer or the head of the village. The owner will allocate land to the Fulbe family. The Fulbe do not seem to pay anything for its use. One of the Fulbe stated: 'I have not paid anything yet but there is always a chance that one will be asked for something'. After probing the matter a bit further it turned out that arrangements had been for 'payment in kind', in the form of products and services like lending a cow for ploughing the land or the provision of religious services if there is a *moodibo* in the family. Offering a part of the harvest to the owner of the land is seen as a sign of respect.

Each Pullo has a special relationship with the owner of the land he stays on. The owner is his *njaatigi*, an important social institution: the host-stranger relationship. The *njaatigi* is the one who authorizes his stay and these host-stranger relationships in northern Mali have often been built up over generations. An essential feature is the mutual obligation to provide goods, services and protection (De Bruijn *et al.* 1997).

Access to the fields is not only important for agriculture but also provides a source of fodder for the cattle as the bush does not always provide enough food. After the harvest, the cattle are taken to the fields to feed on crop residues. The Fulbe need to ask permission from the owner first and in the past this was seldom a problem. Nowadays, they may be refused access to the fields because more and more landowners are investing their profits from the cultivation of cotton in cattle, and they need the crop residues for their own cattle. After the residues have been fed to the owner's animals, the fields are open for all animals, including those of the Fulbe.

In northern Mali farmers often ask the Fulbe to reside on their land with their animals to fertilize it with manure. These relationships are usually perceived as contracts and in exchange the farmer will give the Fulbe family meals or grain and his children will assist in looking after the herd (Van Dijk 1998, De Bruijn *et al.* 1997).

Although many farmers in the southern region have their own cattle to fertilize their farmland, similar contracts exist in this area for those farmers who do not have their own herds. In that case a farmer may ask a Pullo to stay on his land with the cattle herd and, in exchange, the Pullo is provided with millet for himself and salt for the cattle.

Economic strategies: A continuum between mobility and sedentarization

When arriving in southern Mali, the Fulbe have various options. They develop different strategies in response to the more abundant rainfall there than in the north. Higher rainfall offers the possibility of growing cotton for cash and better opportunities for keeping and breeding cattle. The economic activities Fulbe become involved in are mostly related to cattle keeping and crop cultivation.

Herding and transhumance

Before he married Mariamma, Sidiki looked after the family herd. He moved between Kasungu and the Niger Delta, taking the cattle to the delta during the dry season. The Sankare family was living in Kasungu at the time.

After their migration his brother Hassan took care of the smaller herd that remained in Kasungu. Nowadays, his younger brother Yaaya has taken over this work in Molobala. Every day during harvest time and in the dry season, Yaaya and the cattle leave the camp in the morning and return late at night. Only in the rainy season, shortly before the millet is harvested, does he take the cattle to a place near the village of Sougoumba, which is especially reserved for herds to pasture. On his way to Sougoumba he will meet several other herdsmen and they move their cattle together.

Just before the harvest Yaaya will return to the camp. When the harvest is over he allows the cattle to roam freely on agricultural land so they can feed on the crop residues. Especially at the end of the dry season there is not enough food left for the animals, so the residues that are left after the processing of the cotton are very welcome.

Cattle remain a Pullo's first and most important interest. Given their excellent knowledge of cattle, the Fulbe have been able to occupy a distinctive niche. Families who migrated earlier generally possess a larger number of animals than recent migrants.

Usually, within each family one son looks after the family herd. He will leave the camp every day to graze the animals in the bush. If the family herd pastures near the family camp the herdsman will return to his family at night. Some herdsmen work this way all year round. Others will stay out in the bush with their cattle all year without returning to a fixed place at night. They survive on milk and couscous, and will sell a cow when the need arises.

Most herdsmen practise a form of herding known as transhumance. During the dry season there is not sufficient food for the cattle in the northern part of the research area because agricultural land takes up most of the available land resulting in little bush land for pasture. The southern part has more vegetation and bush, leaving more opportunities for feeding animals. Therefore seasonal migration is mainly along a north-south axis.

Usually one of the unmarried sons of a family performs the transhumance. Only a minority of married men, accompanied by their families, will move on transhumance without a fixed place to stay. When the rainy season sets in they return to their homesteads.

Various transhumance trajectories can be traced, for example, seasonal movements over small distances, as in case of the Sankares. These movements are mainly found in the area of Moesanson. The Fulbe living in more southerly villages also practice transhumance but on a smaller scale. Similar movements can also be traced between Warasso and Worasso to areas around Dendresso.

Another trajectory can be distinguished, in which cattle are led from places like Soungoulasso and Sougoumba in the northern part to the area round Kougnou and Sikasso and sometimes to the border with Côte d'Ivoire. Some herdsmen even cross the border to Burkina Faso and stay there for a couple of months because they encounter fewer problems in finding pastures there.

Case of a Fulbe family moving to the wet area of Warasso

A lot of families move to the wet area near Warasso. For example, one family consisting of a young herdsman and his wife and children are living in a field nearby. His young son looks after the cattle. This man has three brothers who also stay nearby with their herds and families. Even their father is in the same field a few hundred metres away.

When the first rains fall they all move back to their homestead in Sandigula where the rest of the family lives. This movement backwards and forwards between Sandigula and the plain near Warasso has been taking place for at least ten years now.

The so-called wet areas play an important role in transhumance. These areas flood during the rainy season and they are important during the dry season for feeding and watering the cattle. One such area can be found near Warasso. In the dry season this is an enormous plain that is flooded during the rainy season. A herb species called *bourgou*[3] grows abundantly here during the dry season, and there are some willows scattered around the plain. Bird life is also abundant and cattle graze as far as one can see. According to some Fulbe, there are similar wet areas elsewhere in the region, for example near Dendresso and other smaller wet areas are to be found between Soungoulasso and Sougoumba and just outside Molobala where a small lake provides water for the cattle in the dry season. In Sougoumba, flooding seems not to continue all year around. For the local

[3] Scientific name: *Echinochloa stagnina*.

farmers, however, it forms an excellent site on which to grow crops. It is surrounded by small fenced gardens where fruit trees and vegetables are grown.

Another movement in this region during the dry season is the migration of livestock from other regions, for example from the Guimballah in the northern part of the Inland Delta of the Niger. Large herds of animals are moved all the way to Côte d'Ivoire to be sold there. The herdsmen are paid to take their herds to a small village on the border where they meet the owner/trader. Customs regulations do not allow animals to cross the border on the hoof so they are loaded on lorries that carry them into Côte d'Ivoire where they are sold.

Hired herdsmen

Two of Sidiki's sisters, Kadidja and Ngada, are married to men who have found work as hired herdsmen. Belko, Ngada's husband, takes care of the herd of the Imam. Aleih, Kadidja's husband, and two other Fulbe herdsmen take care of the herd of a local Minyanka farmer. Allay Yaaye himself asked Belko to come to the south and take up herding for the Imam, who needed someone to take care of his animals and who asked Allay Yaaye to find him someone. Aleih left in search of work in the south because the family herd was simply too small to be tended by him and his brother.

Both Belko and Aleih are contracted by the owners of the herd. These contracts differ only slightly. Belko is paid in cash and in cattle. Aleih is only paid in cash. Both are entitled to keep any milk to sell as additional income. In addition, Belko receives millet every now and then to support himself and his family. All year round Aleih stays near Sousoulou leaving in the morning and returning home late at night. Belko does the same but his camp in the dry season is located in a different place from his rainy season camp. In the dry season he stays close to Molobala. During the rainy season he moves to a camp further away, thereby avoiding crop damage problems with local farmers. His grown-up son does most of the work like watering the cattle.

A lot of Fulbe who arrived individually in the south found work as hired herdsmen, looking after the herd of a Minyanka or Bambara farmer. Comparing these contracts, only minor differences were found. In general, a herdsman receives a monthly wage. Apart from a fixed wage, milk can be freely consumed or sold, which adds to their income. Furthermore, a herdsman receives enough millet for a daily meal. Another arrangement or contract may stipulate that a herdsman receives a cow or bull every six months instead of money.

Working conditions are tough. The herdsmen leave at sunrise and return to the camp only late in the evening to milk the cows. Usually, they stay around the homestead all year and do not practice seasonal migration. The owners prefer them to stay around the village so they can keep an eye on the herd (Bassett 1994). The motive for herdsmen to work in this way is clear: they do not have so many alternatives. Most of them come to the south on their own looking for a

job, and it is not easy for an individual to apply other strategies like cultivation. Only larger families with children and relatives are able to diversify their strategies. On the other hand, this work gives them relative freedom and they are able to return to their families in the north with the money earned and/or invest the money in cattle before going back to the south again. Thus, they commute between north and south because, according to these herdsmen, there seems to be a relative abundance of work in the south.

Then there are herdsmen who already worked as hired herdsmen in their home region but were (or considered themselves) underpaid (see De Bruijn & Van Dijk, this volume). They moved to the south to earn more money. Lastly, there are also herdsmen who moved to the south with their own herds, and in addition started looking after the cattle of local farmers as well.

Some herdsmen who remain in the southern region eventually manage to build up their own (small) herd after a couple of years with the money they have earned. It is then that they become more or less settled. They start farming and usually one of their sons will look after the herd. Others keep working as a hired herdsman looking after their own cattle as well as their employer's animals. There are also Fulbe who continue to work as hired herdsmen despite the fact that they already have a herd of considerable size in the south or in their home village. It will be interesting to see what these herdsmen do in the near future. Will they continue to do their work as hired herdsmen, will they choose for a combination of herding and farming, or will they eventually build up a herd large enough to make a living?

Not only herdsmen from the north take up work as hired herdsmen. Many sons of families already residing in the south for some years now also work as hired herdsmen when the family herd is simply too small to provide enough work for all the sons in the family. Usually there is only work for one son as a herdsman and the other sons have to look for other jobs.

Selling milk

Within the Sankare family only Hawa, Allay Yaaye's second wife, sold milk. During my first stay with the family I noticed Yaaya bringing in the milk every morning. Then Sidiki divided the milk amongst the family members and gave Hawa her share as well. Hawa sold to her fixed clientele and to anyone else who wanted milk. In Kasungu she used to sell milk too. There she exchanged milk for millet in the neighbouring Dogon villages. During the dry season, when the family moved to the Niger Delta looking for pastures, she exchanged milk for rice. In the north she exchanged milk for food; in the south she sold milk for money. The price of milk varied from FCFA 75 to FCFA 150 a litre. During the dry season, when milk is scarce, it is more expensive. Sidiki received some of the money Hawa earned and the rest she could spend on things for herself or save up to visit her family in the north.

Hawa sells milk to be able to look after herself. For her it is not easy to live in the Sankare family because she does not have a son. only four daughters. Her only son died of meningitis about three years ago at the age of eight. Since his death her position within the family has become more difficult. Her husband took back the only cow that was given to the boy during his short life and without a son she has no milking rights. She has one cow of her own, which was given to her as a wedding present but she cannot derive any milking rights from it. Nowadays she does not sell milk from the family herd anymore. At some point Mariamma did not want Sidiki to give Hawa any more milk because of the troubled relationship between Hawa and Sidiki's wife Mariamma, that dates back to the time before they came to the south. Hawa therefore buys milk from a neighbouring Fulbe camp now, which she sells, and since Hassan took up his work as a herder for the village doctor he also gives Hawa milk, receiving some of the profit after sales.

Selling milk is exclusively women's work. A Fulbe woman is associated with milk and milk plays a central part in the Fulbe economy (De Bruijn 1997). Men will only sell milk when their wives have too much work to do at home or when they have left to go to another region with the herd, and the women stay with their families-in-law. As is shown in the example of Hawa Sankare, milk is exchanged for grain in the north. This practice does not exist in the southern part of Mali where the milk is sold for money. The money a woman receives for the milk is considered her own but will be partly used as an addition to the family income. With this money she buys for example dried fish, spices for the sauce accompanying the main millet dish, sugar or personal items such as shoes and clothes.

Fresh milk is sold daily but if there is not enough milk, the daily quantity is stored as sour milk and butter and sold only two or three times a week. Both the milk of the own herd as well as that from other herds is sold. In the latter case, milk is first bought from a herdsman, usually from another Fulbe camp. As indicated by Hawa, milk is cheaper during the rainy season, when it costs about FCFA 100 a litre, than during the dry season, when it costs FCFA 150. A good place to sell milk is the local weekly markets of Molobala and Kougnou where a group of Fulbe women sit together selling milk. On other days it is not uncommon to see Fulbe women walking to the village to sell it. Selling milk is the only way pastoral women can earn some money as there are hardly any other options. As an exception to this rule, one family was traced in which the second wife of the family head sold peanuts, tea and sugar, and a daughter of his first wife performed circumcisions on little girls, for which she received money.

There is a remarkable difference between pastoral Fulbe and Riimaybe[4] women. Whereas Fulbe women largely stick to selling milk, Riimaybe women are allowed to work in the fields because they have always done so. They make

[4] The former slaves of Fulbe are referred to as *Riimaybe*; they form a social category of Fulbe society. (See also Griep, this volume.)

their own living and are often even able to sell some of the produce. I witnessed several Riimaybe women working the land during the harvest in Molobala. Furthermore, Riimaybe women earn more money from petty trade (De Bruijn 1997) or from cooking during important rituals like marriage and name-giving ceremonies.

Trade

Mamadou, Allay Yaaye's cousin (Mamadou's father and Allay Yaaye's mother are siblings) followed Allay Yaaye to the south where he arrived around 1995. When I met him he had just sent his wife and daughter back to Kasungu because their hut in the family camp had collapsed. But they came back after a while and now they live together in Molobala. He is not sure whether to stay here or go back. It depends on how things work out in the south for him and his family.

One year later he is still in Molobala. To earn a living Mamadou has become engaged in trading sheep and goats at the weekly market of Molobala. Apart from this he occasionally buys a goat from a local farmer and sells it at a profit to a butcher.

After settling near Soungoulasso, Aleih's father has also taken up commercial activities. He buys and sells sheep at the weekly markets in Molobala or Soungoulasso. Even Sidiki sometimes travels to Koutiala to trade sheep at the market. But for him, trade is limited to the dry season only, when there is no other work.

Trade in goats and sheep or in cattle is another option for the Fulbe to earn a living. Sheep and goats are bought and sold at the weekly village market or bought directly from farmers and sold to butchers outside the market place. A minority of Fulbe partake in the small-animal trade only when there is not much work on the land. This is usually during the dry season.

Occasionally, cattle are traded on an individual basis, in which case potential buyers may directly come and buy from the Pullo owner. In general however, the cattle trade takes place at special cattle markets. In Koutiala a small cattle market is situated next to the abattoir. Here one can frequently meet Fulbe who are exclusively involved in the cattle trade and have lived there for over twenty years. They sometimes buy a cow collectively, sell it in Côte d'Ivoire and share the profit.

The central cattle market for the Koutiala region is located in a village called N'Togonasso, approximately 45 km north of Koutiala. Here, cattle are bought and sold on a large scale. Sidiki bought some of his cattle at this market. Prices depend on the age of the cow involved: a one-year-old cow will cost between FCFA 25,000 and FCFA 40,000. At the age of three and ready to calve she will cost about FCFA 75,000. However, most animals are transported to where prices are higher than in Mali, for example the big cities in Côte d'Ivoire.

Generating an income from cattle trading is difficult. Most Fulbe simply do not have enough money for the required investments. However, capital alone will

not be sufficient. A trader also has social capital and knowledge. Social capital refers to a network of relations that a trader will need to carry out his transactions. Knowledge means he has to know all the ins and outs of the trade and the market (Quarles van Ufford 1999). Not everybody survives in this sector. A Pullo who tried to continue selling cattle in Côte d'Ivoire after migrating from Timbuktu to Sikasso went broke. He has taken up a job as a hired herdsman for a Bambara farmer and also started to cultivate a small plot of land.

Crop cultivation

The Sankare family also cultivates land. The main crop is millet but maize and sorghum and a certain species of beans[5] *are grown as well. Cotton is cultivated as a cash crop. The land under cultivation is 5 ha: 3 ha for millet, 1 ha for cotton and 1 ha for additional crops. Harvests are good if there is sufficient rainfall and manure. The Sankare family grows enough food to feed the family and by growing cotton they have earned enough to allow Allay Yaaye to go on a pilgrimage to Mecca.*

Sidiki is the person who cultivates the land, assisted by his brothers. He coordinates all activities and handles the plough, while his younger brother Yaaya leads the animals. Since his return from Kasungu, his brother Hassan also helps, as do Aly's students when they are in Molobala. Using a plough makes the work easier. During the dry season the draught animals are given extra fodder to strengthen them. Sidiki starts by the end of May, as the first rains fall, until the harvest from October to December. It is a time of hard heavy work. Millet has to be pulled down and cut, after which it will be dried on the ground. Maize has to be harvested and dried by hanging it in trees and cotton has to be collected. Sidiki works from early in the morning till one o'clock when it is time to eat, pray, rest and drink tea. Then he works until dusk. Some days he is so tired that he falls asleep as soon as he has finished his meal. Sometimes he receives help from his friend Hoesseini, a Dimaajo, or from Drissa, a nearby moodibo, who sends his students to help. In return, Sidiki helps them.

After the millet has dried it will be stored in one of the granaries. The same goes for cotton: after the harvest it will be stored until the CMDT fixes a time to collect it. Then it is taken by donkey cart to a prearranged place nearby where all Molobala farmers bring their cotton and from where lorries transport it to factories in Koutiala.

Although cattle are their main interest, the Fulbe have always worked in the fields and cultivating land has helped them to overcome difficult periods.

Besides millet, which is the staple crop, maize and sorghum are also grown. Occasionally, bananas or mangos are grown in small gardens. One family even cultivated watermelons. It is striking that only those families who have lived in the area for a long time have vegetable gardens. Cotton is grown as a cash crop. The CMDT (*Coopération Malien pour le Développement des Textiles*) promotes the growth of cotton by providing services to local farmers. The organization

[5] Scientific name: *Vigna unguinilata*, locally referred to as *niebé*.

offers credit and all the inputs needed for growing cotton on credit, and controls the harvesting, storing, processing and selling of the cotton. These different activities are performed in cooperation with local banks, research institutions and farmers' organizations that exist in most villages. The local village corporations are called *Associations Villageoises* (AV) and are made up of volunteers who all live in the same village. They play an important role in organizing all the activities associated with the production of cotton, oversee the distribution of new technologies and control granted credits (Nikiéma 1999). They also supply the inputs needed for growing cotton and coordinate the collection and weighing of the cotton. After collection they assess the amount of cotton grown by each farmer. Payments from the CMDT also go through the AV. After processing by the CMDT, payments to farmers are made by members of the AV after credit deductions.

Harvests are relatively abundant. These high yields are mainly the result of adequate precipitation and high soil fertility. Sowing starts with the first showers, usually at the end of May. Harvest time is during November and the beginning of December. All Fulbe families involved in farming have their own tools, such as ploughs, and they can also use their own cattle in combination with the equipment. By using animals in farming more land can be cultivated in a relatively short time. The Fulbe unanimously identify the combined use of plough and animals as the most important change in the last years as more work can be done in less time. The opportunities offered by growing cotton are attractive to a large number of Fulbe. Some 25 per cent of the families studied grow cotton. It is a lucrative occupation, as is demonstrated by the fact that so many of them can afford to go on a pilgrimage to Mecca. A successful pilgrimage brings considerable prestige and respect within and outside the Fulbe community, and strengthens the migrant's position in their new place of settlement.

One of the reasons for practising agriculture is to spread risks. When problems occur, for example loss of cattle due to disease, people are able to compensate by growing crops. Producing their own crops makes the Fulbe independent of the local farmers and it means they are not obliged to sell any of their animals in order to buy grain when prices are unprofitable. Instead they grow their own millet that enables them to feed their families for most of the year. After arriving in the south a large number of Fulbe families have shifted from a lifestyle solely focussed on cattle to a lifestyle combining herding and cultivating activities, and they feel content. Life seems better this way.

Some Fulbe, however, perceive agricultural activities mainly as a consequence of poverty. If their herds are too small to allow survival from their cattle alone, they are forced to grow cereals. Many of them pretend not to know much about agriculture. According to some Fulbe, growing crops is considered hard work, a

necessity not worthy of a Pullo (Grayzel 1990; Azarya 1993). Other researchers emphasize that the sense of freedom and independence that can be acquired with crop production is an important feature of being a Pullo. Frantz (1980) and Khazanov (1984) argue that although the Fulbe do not consider themselves farmers, agriculture may be taken up voluntarily as a consequence of migration to new ecological areas.

Some Fulbe will help out other families during harvest time for which they get paid with a (small) portion of millet or some money. In this way they earn additional food or income. There are also Riimaybe who temporarily migrate from the north to southern Mali to earn money during harvest time. Afterwards they return home.

Religious specialists

His father, Allay Yaaye, chose Aly to become a moodibo. The family already has a tradition of studying the Koran. Aly's grandfather, Allay Yaaye's father, succeeded in becoming the Imam of Kasungu. Aly himself started his study of the Koran with a moodibo who had been a student of Aly's grandfather for a long time. After completing his study with this moodibo, Aly consulted other moodibaabe in Sevaré, Bankass, Sofara and Douentza. Nowadays he is a fully qualified and independent moodibo himself and it is his turn now to teach young boys lessons from the Koran. These students are left in his care by their parents. When parents ask him to educate their child he seldom refuses, not even when his house is crowded.

Not only boys come to study, adults are also welcome. For example Nouhoum Sankare (see Figure 10.1) came from Kasungu to study with Aly. He left his wife in Kasungu in order to live temporarily with the moodibo in Koutiala. In the dry season he intends to return to Kasungu after having stayed in Koutiala for a year. One of Mamadou Sankare's sons studied the Koran in the north, and came to Aly to complete his study.

Aly also provides religious services on request. People consult him for various reasons: they ask him for success, for healing, for protection against enemies or for prosperity. This is how he earns a living. At first he lived at the camp in Molobala but with the money he saved he was able to afford to have a medium-sized house built and to buy a motorcycle. Part of the year he usually stays in Koutiala, spending the harvest season in Molobala where he and his pupils help with the harvest. When I returned a year after my first stay he had settled permanently in Koutiala. He had even moved from a courtyard, which he shared with several local families, to a place of his own. Here he lives with his wife Fatimata and their second child, who is now one year old. Choosing to live in the city is based upon his opinion that life in Koutiala is more 'cultivated'. Koutiala is the 'City of Moodibaabe'. According to his brother Sidiki, this choice was also based on practical reasons. The young students have to go around three times a day in search of food. In the city it is much easier for them to find something to eat and it decreases the burden on the family.

Aly is still studying. Almost every day of the week except for Wednesdays and Thursdays, he visits a moodibo for further study. He also travels around in search of knowledge. At Molobala Aly frequently met up with Drissa Sidibe, a fellow moodibo,

to share knowledge. During my second visit, Aly told me that he had just returned from a trip to Côte d'Ivoire. He went there to meet some families who are related to him and his family.

The Fulbe who study to become *moodibaabe* have their own special way of making a living. Fulbe religion is a combination of Islam and Fulbe customs. Within this religion the *moodibo* plays a central role. He guides the moral and spiritual well-being of the community. Everyone can become a *moodibo* but it takes years of study. Knowledge, which cannot be inherited but has to be acquired by the individual, is a central component. The study is not restricted to knowledge of the Koran but also encompasses knowledge of plants, herbs and information about the supernatural world. A *moodibo* needs all this to perform services like healing and to acquire prosperity. The secrecy surrounding this knowledge distinguishes *moodibaabe* from ordinary people and gives them power and authority (De Bruijn & Van Dijk 1995).

An important feature of being a *moodibo* is the continuous search for knowledge. A *moodibo* will often visit other *moodibaabe* to be instructed about their specific knowledge because every *moodibo* has his own speciality. Travelling therefore makes up an important part of the life of a *moodibo* and it is not exceptional for a *moodibo* to travel from one place to another and stay there for some time, some years even, and then again visit another teacher.

Another responsibility is teaching young children, usually boys, basic prayers and knowledge of the Koran. Often these children are sent by family members but also by families who are not related to the *moodibo*. The length of their stay varies between two to four years. Studying the Koran is not obligatory but a parental choice. A *moodibo* is paid for his teaching services. Besides, the children work for the *moodibo*, for example, fetching water or working in the fields, or begging for food in the streets.

A *moodibo* is consulted on a range of matters. People come to ask him for a job, for healing, for a good or better life, or to undo a spell of bad luck. To realize this, the *moodibo* writes down texts from the Koran on a wooden tablet, washes it, wraps it together with herbs, and then gives it to the person in question. The *moodibo* also prepares amulets which are given to a person to wear and which bring him or her good fortune. These services are called *maraboutage*, and form an important source of his income. The *marabout* also plays a central role in rituals. He authorizes marriages and gives newborn children their names. During these rituals he leads the prayers and makes speeches.

A *moodibo* enjoys a lot of prestige and power both within and outside the Fulbe community. Minyanka and Bambara farmers also consult the Fulbe *moodibo* or even ask him to teach them the basics of the Koran. Many *moodibaabe* or student *moodibaabe* can be found in the south of Mali. Almost every

Fulbe family has at least one son who is a *moodibo* or who is studying to become one.

Butchers and shopkeepers

Only very few Fulbe are shop owners, selling a variety of products ranging from tea and sugar to soap. I met only one Pullo in Molobala who had a shop but one year later he had already quit and was focussing on his cattle and cultivating land.

Within the group of Riimaybe, the former slaves of the Fulbe, some people work as butchers. The Fulbe do not slaughter their animals themselves: they leave this work to Riimaybe. Often sheep or goats are bought, slaughtered and the meat sold. Slaughtering animals during rituals is also part of their work.

The Fulbe and the outside world

New relationships

Migrating to the south meant that Sidiki's family had to engage in new relationships outside the Fulbe community. Their relationship with the local population started the moment they arrived in Molobala. First of all, the family had to find a place to settle. Fortunately, the Imam gave them a piece of land to live on and cultivate. In this way he engaged himself in a host-stranger relationship with the family.

Members of the Sankare family are engaged in different economic relations with the local Minyanka and Bambara. For instance, Hawa sells milk to local men and women and Hassan has taken up herding for the local doctor in Molobala. Besides, they need the local villagers for all kinds of casual jobs, like constructing a wooden roof for a hut.

A few years later when the Sankares decided to grow cotton they contacted the CMDT via the Association Villageoise (AV) of Molobala where the offices were run by Minyanka and Bambara. This relationship has not gone smoothly. At first they went to the AV to ask for credit. This was denied them because too much credit had already been granted. Allay Yaaye decided then to buy all the supplies he needed for cotton cultivation with cash. After the harvest an AV employee refused to pay for the cotton and held back the money the family was entitled to. With help of the local sub-district head, who is a Dogon and also originates from the Mopti region, Allay Yaaye sued the employee and finally received what was rightfully his.

Relations with the outside world are very important for the Fulbe. They are dependent on it for cereals, access to natural resources and markets (Khazanov 1984), in short, for establishing a livelihood. And for this access the relationship between a Pullo and his *yaatigi* is extremely important, as already indicated.

The *yaatigi* enables a Pullo to stay by giving him land to settle on and cultivate or by allowing access to land so the Pullo's animals can feed on the residues after the harvest. Also, when a Pullo moves around with his animals, it is often the *yaatigi*'s land on which he stays overnight. In return the Pullo will donate

milk to their host. Although the relationship is mainly in the Pullo's interest, the *yaatigi*, in turn, also benefits. By having his protégé on his land with the cattle, his land will be well fertilized, which eventually increases the yield. When a *moodibo* is among the Fulbe family members, the *yaatigi* may use his services. Finally, the Fulbe are famous for managing cattle. Consequently, they are hired by local farmers to look after their herds. A special contract will be signed to confirm this relationship. Although these relationships can be very tense, they seem to be relatively easy in southern Mali (Basset 1994). Whenever conflicts arise, the *yaatigi* will mediate.

Many Fulbe are dependent on local farmers for the provision of cereals. Not all Fulbe families cultivate a sufficient quantity of cereals to feed their family all year round. Herdsmen who limit themselves to cattle herding or cannot obtain a piece of land to cultivate are entirely dependent on farmers for cereals. Usually, the millet is bought in village shops but occasionally a local farmer will sell millet when he needs money or when the harvest has been abundant. Other necessities are bought at the weekly market, which is an important meeting place for men and a place to sell their animals. It is also important for women, in order to sell milk and buy supplies such as spices for the daily sauce, tea, sugar, clothes, shoes and soap.

The Fulbe enter into other relations with farmers that are mutually beneficial. For instance, the Fulbe may ask local farmers to help cultivate the land when their children are too young to offer a helping hand. In most cases the support concerns the harvest only. Farmers are paid in kind for their help, which may vary from a chicken to a goat. Some Fulbe leave the working of the land entirely to local farmers who are paid for their work. Sometimes local boys are hired to fetch water, work in the fields or even help with guarding the herd. Relationships between Fulbe and the families of the boys often start in this way and usually the boys are rewarded with a bull every six months and a cow every year (Nikiéma 1999). This offers local farming families the opportunity to establish a small herd of their own.

The move to the south brings a large number of Fulbe into contact with the CMDT. Growing cotton in the south automatically involves entering into an economic relationship with a semi-governmental institution. Fulbe who decide to grown cotton will usually visit the local *Association Villageoise* first. Here they can obtain the credits necessary to make a start. The members of the AV collectively guarantee all credits. Until recently, the CMDT had to approve each request for credit but nowadays the AV will send credit requests directly to the financiers. However, due to poor management of the AVs, debts have reached alarming proportions. Furthermore, communication between the banks and the CMDT is lacking, particularly regarding the management of the credit system.

Since one can only obtain new credit when previous debts have been paid off, cotton revenues have decreased over the last five years. Crises within many AVs are due to the fact that village leaders are using this institution for their personal gain (Nikiéma 1999).

Some Fulbe did indeed complain about bad relations with their AV. Some even accused members of the AV of selling cotton by-products for higher prices and of keeping the profits for themselves. There are also problems with loans. Some claim that they have to pay back loans at a higher interest rate than previously agreed so that AV employees can make a profit. Apart from these problems, Fulbe (as well as local farmers) have difficulties obtaining their money after the cotton has been collected by the CMDT. For example in 1999, discussions and conflicts about cotton prices even led to an armed conflict between farmers and the CMDT in Koutiala. Some farmers in Molobala refused to hand over their cotton and blocked access to the lorries that were collecting cotton from farmers who were willing to sell at a lower price. The army finally settled the conflict.

Conflicting interests

Relations between the Sankare family and local farmers are usually friendly but sometimes tensions arise. When they settled in Molobala some Minyanka accused Allay Yaaye of having come to Molobala to take the land of the Imam. Allay Yaaye denied all the accusations and the Imam reacted by saying that Allay Yaaye could receive all the land he could possibly cultivate.

Sometimes there are conflicts between the family and local farmers over crop damage done by cattle. This damage is usually unintentional. However, sometimes Yaaya deliberately takes his cattle into fields under cultivation due to a scarcity of food for the animals. Once, the Imam had to interfere in a conflict between Yaaye and some farmers: the Imam's decision was in favour of Yaaya.

A year later, Hassan was threatened with attacks on his cows. He explained that four years ago they had had the same problem with local farmers and children attacking animals. At that time, his father settled the matter by taking these people to the sub-district commander but now they have started again. The reason is frustration about the animals entering gardens and causing damage.

Aleih also has the same problems now and then. Once his cows broke out and got on nearby farmland. It was harvest time and a lot of damage was done to the crops. Both parties finally agreed on compensation payments to cover the damage.

Relations between the Fulbe and the local population are mostly friendly and many friendships have been established between Fulbe and Minyanka farmers. Cooperation in agriculture and cattle raising and mutual interests contribute to a consolidation of their relationships (Howorth & O'Keefe 1999). However, tensions do arise from time to time. These conflicts are mainly due to cattle causing crop damage. During the rainy season and the harvest, the animals are

hungry and it is difficult to keep them off farmland. A conflict involving crop damage is usually settled by a financial arrangement in which the farmer is compensated for the damage done by the owner of the animals involved. The amount of money concerned varies considerably. In some cases FCFA 75,000 to FCFA 100,000 is paid.

Pressure on natural resources in southern Mali is increasing and some Fulbe complain about lack of space. They all state that 'once upon a time' there was more water and land and that nowadays too much land is under cultivation by Minyanka and Bambara farmers. When travelling from Molobala to Warasso one can see a lot of bush land being cleared for cultivation using the slash and burn method. The practice is prevalent in the region south of Sikasso, which is relatively unpopulated, and where cotton cultivation is being promoted. This farmland is also used for subsistence farming.

Besides a shortage of land, water shortages are a problem. The Imam and other Fulbe in Molobala remember that the lake on the edge of the village was very big about thirty years ago, providing sufficient water all year round. Now, only a very small lake remains. Due to lack of water, herds are sometimes forced to move to another area.

At the same time cattle numbers are increasing. Farmers, who made their money by growing cotton, are increasingly investing in cattle because they are still considered to be a relatively safe investment. However a shift is emerging towards investments in consumables, especially among richer farmers (Nikiéma 1999).

High natural population growth, migration, and ever-increasing pressure on natural resources all put a strain on relations between the Fulbe and the sedentary population. The Fulbe perceive the situation as more difficult these days. Less pastureland is available due to the increase in farmland, and the feeding of animals is difficult, especially during the dry season. A solution could be to feed the animals with residues after processing cotton. The price of cotton residues is between FCFA 3,000 and FCFA 5,000 per bag – too expensive for most people – but it is said to increase both the amount and the quality of milk produced.

This situation is getting worse every year. Especially since the good rainfall in 1999, even more land around Molobala has been put under cultivation. Even on the cattle route, which is supposed to give cattle access to the lake, people have started to cultivate. This has led to an escalation in conflicts between farmers and herdsmen. The Fulbe respond to these trends in a way inherent to their culture of mobility, namely by moving to new areas further south. Some of the Sidibe families are currently living in the area of Farakoro. A shortage of pastures forced some families to continue to the area of Niesanson. Other Fulbe still reside in the same area but have moved their cattle further south.

Conflicting interests bring about tensions in relations between the Fulbe and the local sedentary population adding to further insecurity among Fulbe immigrants. These conflicts may lead to difficulties in accessing land, both for recent settlers and for transitory migrants.

Socio-cultural aspects: Networks or the importance of 'having people'

Social networks are important in Fulbe culture. Having migrated to the south, it is still of the utmost importance for migrants to maintain relations with their home villages, so they can rely on other Fulbe in times of need. Therefore, in daily life it is important for an individual in Fulbe society to 'have people' or *yimbe am* (my people). These contacts will be established with people along different lines of social organization expressing flexibility inherent to the pastoralist way of life (De Bruijn & Van Dijk 1995: 137-65).

Unit of residence

When this research started, the nucleus of the family consisted of Allay Yaaye (who was in Mecca at the time), his two wives Kumba and Hawa and his sons, Yaaya, Aly, and Sidiki with his wife Mariamma. However, this unit of residence is very flexible. Aly had already travelled between Molobala and northern locations, and later between Molobala and Koutiala, before he decided to migrate to Koutiala.

Hassan, Allay Yaaye's other son, initially returned to the north where he looked after part of the family herd. When the family decided that all the cattle had to be moved to the south he refused in the first instance. He was worried that the animals would not survive the migration and he fled to Sikasso. But eventually he settled with his family in Molobala. A month later his brother Sidiki went to Kasungu to escort Hassan's wife Gundo. So both Hassan and Gundo joined the family in their camp, and have a one-year-old son Moussa.

But other relatives have also arrived at the camp. For instance, Mamadou who comes and goes and a brother of Allay Yaaye who wanted to move from Koury to somewhere near Molobala. This brother found work as a herdsman in M'peresso.[6]

Most Fulbe who migrated to the south live in camps in the bush scattered around different villages. Sometimes these Fulbe camps are located within walking distance of each other, as is the case in Molobala. But the distance between camps may also be several miles. The different camps depend to a large extent on themselves – contact between non-related Fulbe is limited but relatives who live in the vicinity will frequently visit each other.

A unit of residence is called *wuro* in Fulfulde. Usually, it consists of a man with his wife and children but other combinations are possible. These units of

[6] See Nijenhuis, this volume.

residence are not fixed in composition and people are free to leave or join a *wuro*. Sometimes a *wuro* splits up when one or more sons move out on transhumance or leave permanently to go to another area. Furthermore, daughters usually leave the *wuro* when they get married and join their husbands' family. Sometimes chiefs who marry a second wife leave their first wife and children behind. Thus different events can change the composition of the *wuro*.

A *wuro* offers protection from the outside world. Especially when people have recently moved to the south, it offers protection against the unknown world. Apart from being a social unit, the *wuro* can also be seen as an economic unit, in which the members look after the cattle, cultivate land and provide milk and cereals (De Bruijn & Van Dijk 1995). A *wuro* is not a *wuro* without a woman residing there (Riesman 1977). The female part of the *wuro* is called *fayannde* and consists of a woman and her children. The *fayannde* is associated with production and reproduction. Within the *fayannde* a woman is responsible for the processing of milk and the man is responsible for the family's herd and cultivation of the land (De Bruijn 1997).

Marriage strategies

> *Marriage partners for the family members are found within their own extended family. Mariamma, Sidiki's wife, is a daughter of Allay Yaaye's sister. Fatimata, Aly's wife, is a daughter of Allay Yaaye's brother. Family relations are often complicated and difficult to trace. Usually men arrange marriages, but not always. Hawa talked about the marriage of Binta and Mamadou Sidibe, Allay Yaaya's half-brother. Binta is his second wife and at that moment living with Hawa in her hut. The two women feel a strong bond. Hawa's mother took care of Binta's mother and after the death of the latter it was Hawa who looked after Binta. Now Hawa has arranged the marriage between Binta and Mamadou. She also explains that it is a customary to leave one's first daughter in the care of her grandmother. When this girl reaches marriageable age a partner is found within the grandmother's family. However a grandmother may refuse to take the girl, as was the case with Ngada, Allay Yaaye's first daughter.*

The Fulbe are highly endogamous which means that marriage takes place within their own kin group. They prefer to marry patrilineally and matrilineally parallel cousins and cross cousins (De Bruijn & Van Dijk 1995: 149). Marriage plays a central role in creating and confirming relations within a family or between two families. The analysis of Fulbe family relations in the research area shows that marriage partners are mostly cousins. When a group has recently migrated, the wife-to-be is often still living in the village of origin. After marriage she will move to the south to live with her husband. Sometimes a partner will be chosen from another Fulbe family on condition that the families have known each other for a long time and originate from the same village. Of those Fulbe who left the north a long time ago, some have chosen their marriage

partner on this basis. Especially the second generation, having weaker ties with their parents' village, tend to marry exogamously. Exogamous marriages lead to the creation of new bonds between families as the two families concerned become related to each other (De Bruijn & Van Dijk 1995: 149).

The ties between a woman and her family remain strong after marriage. She is often helped by a younger daughter in her own family to assist in the household at the beginning of the marriage. This girl will stay for a few months before returning home. For childbirth a woman will return to her own family, where she will stay for a few months after having her baby.

Rituals and religion

Fulbe religion is a combination of Islam and Fulbe customs. Islam is part of daily social life and it divides the world into Muslims and non-Muslim. Being a good Muslim is as important as being a Pullo within Fulbe custom and a good Muslim has internalized Islamic rules (Riesman 1977; De Bruijn & Van Dijk 1995). Islam has a prominent place in Fulbe daily life in southern Mali. Its most obvious expression is in daily prayers. A Muslim must pray five times a day: at sunrise, at two and four o'clock, at sunset and before going to sleep at night. Some Fulbe will visit a mosque on Fridays, the day of Grand Prayers. Children are taught to pray at an early age. During greetings they refer to Allah's blessing many times. *Zakat* is another Islamic custom practiced by Fulbe whereby revenues are divided among the poor. Savings are frequently used to go on a pilgrimage to Mecca.

The interplay between Islam and Fulbe customs is demonstrated in certain rituals like marriage or the name-giving ceremony. Rituals play an important part in Fulbe social life by confirming and establishing relations across various Fulbe social groups. The Fulbe hierarchy is built around the difference between Fulbe nobility and the Riimaybe. This division is maintained during rituals where, for instance, the Riimaybe women cook the meals and their men slaughter the animals. A member of the endogamous social group of 'griots' (or the caste of bards) will tell stories and thank the guests for their presence and the gifts they have brought. Furthermore, he will lead rituals after the official parts have finished, and will wash and guide newly-weds during the week of seclusion after a marriage. Sometimes Riimaybe also act as griots. Relationships between social groups are constantly re-confirmed during these performances. The presence of a *moodibo* is essential and without him a ritual cannot take place.

It is interesting that the Fulbe give such a central place to Islam in their lives. The Fulbe are known for their tenacity and knowledge of Islam. It is an essential part of their identity. Because of their mobility, the Fulbe came into contact with Islam long ago. The sedentary population also converted to Islam, but much later than the Fulbe. The Fulbe thus feel superior in religious matters to the sedentary

population among whom they have settled. Sharing the same religious ideology has made it easier for the sedentary population to accept the Fulbe. In the south of Mali the Fulbe are respected by the local farmers because of Islam. This also explains the presence of so many *moodibaabe* in southern Mali. They are well rewarded and receive as much prestige and status as a *moodibo* outside the Fulbe community.

Ties with the place of origin

> *Kasungu is still very much alive in the memory of the Sankares and it is often a topic of conversation. On my second visit to Mali everybody wanted me to meet the rest of the family in Kasungu. Some family members express their hope of returning there one day, and Aly wants to become the Imam of Kasungu, just like his grandfather. Contacts are well maintained and cherished and most of the family members in Molobala pay regular visits to Kasungu. Kumba, Allay Yaaye's first wife, visits her mother and brother every year. Fatimata, Aly's wife, returned to her family to give birth to her second baby, and has even left her first child with her family in Kasungu. And Hawa says she is saving hard to visit her family. For Yaaya, one of the youngest sons, a wife has already been found in Kasungu.*

Ties with the home village are still important for the Fulbe: it gives them a sense of belonging to a culture they feel is theirs. In this way it adds to their perception of their own identity that distinguishes them from other people like the Minyanka and Bambara. However, it seems that for Fulbe who grew up in the south or have lived in the south for a long time the contacts they have with their place of origin are less intense. Some even have no relationship at all with the place their parents left – they simply do not know anyone living there. Therefore, ties with their place of origin tend to become weaker as more time is spent in the south.

The case of the Beledougou Fulbe serves as an example: they are Fulbe who do not speak Fulfulde. They migrated to the south of Mali in the 15th and 16th centuries due to conflicts (Amselle 1990) and were assimilated into the Bambara population, adopting their language.

Those Fulbe who are the respondents in the present research and have only recently migrated to the south do not consider the Beledougou Fulbe as genuine Fulbe. They perceive the Fulfulde language as constituting their identity and as being the utmost distinction between the local farmers and themselves, although most Fulbe have learned to speak Bambara. Apart from the Beledougou Fulbe, some early Fulbe migrants have stopped speaking Fulfulde.

Contacts between Beledougou Fulbe and recent Fulbe migrants are limited to infrequent interactions and sporadically a 'second-generation' of Fulbe man who does not have contact with family in the north anymore and will marry a Beledougou Fulbe woman.

Discussion and conclusions

The Fulbe used to and still do migrate from northern Mali to the south for various reasons, including forced displacement due to conflict or severe drought, lack of space, and a desire for adventure. Their migration often involves several stages before they eventually settle down more or less permanently. In order to survive, different strategies have to be applied to build a new livelihood. All the resulting pathways reflect the most characteristic feature of the Fulbe, namely mobility. Alternative locations are taken into consideration, thereby creating multi-spatial livelihoods (De Haan 1999; Foeken & Owuor 2001).

Furthermore, the Fulbe move easily from one set of activities to another. This not only demonstrates their flexibility but also their sense of individuality: the Fulbe make individual choices according to their own situation and to previous experiences. It shows the importance of paying attention to the individual rather than a whole group.

Social and religious institutions play a central role in pursuing different pathways (Berry 1989). Firstly, relations with the so-called outside world are indispensable. The Fulbe need the outside world in order to gain access to resources like land, water, markets and grain. The way in which these relations are regulated is best expressed in the so-called host-stranger relation, an institution in which both parties know their rights and obligations.

Secondly, Islam plays an important role in securing a livelihood in the south. For many Fulbe, Islam provides a grip on daily life that is otherwise highly insecure, especially for those who have just moved to the south. They can leave their sorrows to Allah, who will make things turn out right. Islam also offers opportunities for earlier migrant Fulbe to substantiate their positions or to acquire more prestige and respect. These older migrants have already accumulated a certain wealth, which gives them the means to devote most of their attention to religion. Some of them make it to Mecca for a pilgrimage, an important achievement for Muslims. Due to their Islamic beliefs, the local farmers accept the Fulbe more easily and the services of the Imam and the *moodibaabe* are highly appreciated by the local people.

Thirdly, networks of their 'own people' are important and can be relied on in times of need. Marriage is one way to establish and confirm these networks. It mainly takes place within the family but partners are also found from families of the same village of origin and even from other Fulbe families. In this way close relations are formed and (re-)confirmed.

Most Fulbe earn a reasonable living in the south, especially those who migrated a long time ago. But some recent migrants also do relatively well. Migration into the south has offered new opportunities. Harvests are quite good as a result of the high rainfall compared to the north and the higher fertility of the

soil. Many people earn a good living by growing cotton and there is also sufficient work for herdsmen.

Relations between the Fulbe and farmers are reasonably good and cooperation in agriculture and herding cattle and mutual interests help to consolidate these relationships (Howorth & O'Keefe 1999). However, now and then tensions arise. Conflicts are mainly associated with cattle causing damage to crops and there are signs that these conflicts are aggravated due to increased pressure on natural resources. Obtaining land for settlement sometimes causes problems with local farmers, which raises the question of future aspirations and opportunities for the Fulbe in southern Mali. Since Fulbe continue to move to the south more demographic pressures are emerging due to the combination of an increase in numbers of cattle and an increase in the amount of land under cultivation, leaving less space for pastures. As a result, tensions between the Fulbe and local farmers may increase in the future.

What consequences will the above-mentioned processes have for the Fulbe? Will they eventually integrate in the south or will they remain a distinct ethnic group? The latter seems more likely. The Beledougou Fulbe may be taken as an example: although they migrated centuries ago, they still maintain their own identity. In spite of some apparent differences they can still be identified as an ethnic sub-group of the Fulbe. When comparing recently migrated Fulbe with those who migrated many years ago, there are only minor differences. Unlike recent migrants, the early migrants seem to have made the south their permanent place of residence. Ties with the village of origin, from which their parents left, are weak. Some have even stopped using the Fulbe language in favour of Bambara, the local language. However, they continue to perform their rituals and customs in the same way as generations did before them. Islam seems to be strongly interwoven into their daily lives, and all Fulbe maintain their mobility. Even the so-called second generation that seem to have settled in fixed places is still undertaking temporary movements. Despite all this, thoughts and feelings about living in the south are often ambivalent. The early migrants state that their life is good in the south and that they intend to stay. Others miss their family in the north and they miss 'Fulbe culture' in the south. These issues were also emphasized in the interviews with the Sankares. Sons of the family hope to return one day to Kasungu. Kumba explains: 'I cannot say that the place where we live now is not good, but the day to return to Kasungu has not arrived yet!' These kinds of feelings and thoughts are partly the reason why the Fulbe prefer to depend upon themselves and generally hold onto their own culture and identity.

The Fulbe in southern Mali are best described as individuals attempting to create their own place and space in a new world. In this dynamic process some

Fulbe will settle temporarily or more permanently in the place in which they arrive, while others continue to move on to even more southerly regions. With their mobility, they confirm but also change socio-cultural aspects while still preserving a distinct Fulbe ethnic identity. After all they remain a ’travelling culture’.

11

Moving people: Pathways of Fulbe pastoralists in the Hayre-Seeno area, Central Mali[1]

Mirjam de Bruijn & Han van Dijk

Introduction

In this chapter, an analysis is made of the interactions between the environment, local actors and their habitus, and the resulting pathways of these local actors in a semi-arid area in Central Mali. The analysis is based on the idea that conditions of high environmental stress and, in these cases, an enormous variability in climatic conditions, result in uncertainty for local and regional actors concerning food production and other economic activities. These insecure conditions make it difficult for local actors to make strategic decisions in advance. Instead, their strategies unfold as they interact with the changes in this dynamic production environment. We therefore prefer to call these strategies 'pathways', as they are more a result of these interactions than of anything planned in advance (see Chapter 1).

[1] This is an adapted version of a paper presented at the ICCD workshop held on 26-27 April 2000.

We try to sketch the way the inhabitants of the Hayre-Seeno have managed these changes in their production environment. In the second section we give a short description of this environment. The second important question dealt with in this chapter is how local actors perceive the variable environmental conditions described in an objective way. It is not at all evident that local people perceive a causal link between changes and fluctuations in these conditions and their lives. There may be other factors more pertinent to the transformations in the livelihoods of the area's inhabitants. The description of the complex of cultural and material means that people have at their disposal helps us to understand the link between changes, responses by local people and the impact of the changes on people's livelihoods. As is shown, the specificity of climate conditions cannot be separated from religious, social, cultural and political experiences. These various domains are interlinked and influence each other and their separation under different headings is for analytical purposes only. It should be realized that the habitus is person-bound, as it reflects the personal experiences of an individual to a certain extent. What is presented in this section is thus a general view on shared perceptions. Each individual however has his or her own habitus.

In the fourth section we consider individual strategies and livelihood patterns, described as pathways. It seems that there are as many pathways as there are people because people have different experiences and assets and resources at their disposal when interacting with their environment and other people, and consequently take different decisions when confronted with similar environmental conditions. However, reviewing all the work done over the past decade, specific decision-making patterns and resulting pathways can be discerned. These are discussed in the concluding section.

A dynamic environment

The Hayre-Seeno area is situated in Central Mali. The region can be characterized as a semi-arid zone with an average annual rainfall of between 300 mm and 500 mm. It is part of the Districts of Douentza, Bandiagara and Koro, between roughly 14° and 15°N and 1° and 3°W (see Map 1.1, p. 4). Rainfall fluctuates widely, as do pasture and cereal production. Figure 11.1 gives an indication of rainfall variability for the station in Douentza and Figure 11.2 gives the moving 11-year average for rainfall. This figure shows a decreasing trend in rainfall from the mid 1960s, though at the end of the 1990s rainfall figures seemed to recover. As shown in Table 11.1 fluctuations in pasture production are even higher. Table 11.2 gives an indication of the relationship between total rainfall and cereal production in Douentza District. This is not a one-to-one relationship as the

Table 11.1
Primary production (PP) and carrying capacity (CC) of pastures in the research area for various years (Sources: Diarra & Hiernaux 1987, Hiernaux *et al.* 1984, 1988, 1989, 1990).

Year	P in mm	PP in kg	CC in TLU.ha^{-1}*
1984	196	347	0.048
1985	n.d.	1276	0.175
1986	198	983	0.135
1987	155	717	0.098
1988	284	1660	0.227
1989	225	1350	0.185
Mean	212	1055	0.145
CV (%)	20 %	41 %	41 %

1 TLU is a standard animal of 250 kg, 1 camel is 1 TLU; one head of cattle is 0.7 TLU; one goat or one sheep is 0.1 TLU

Table 11.2
Expected quantity and quality since 1980 (Source Cereal harvest: GAT, Douentza, adapted from De Boer (2001).

Year	Rainfall (mm)	Cereal harvest Douentza (*1000 kg)
1980	383	28,995
1981	472	25,179
1982	269	2,439
1983	373	1,417
1984	194	5,685
1985	325	7,719
1986	370	6,324
1987	234	3,197
1988	365	19,153
1989	416	3,196
1990	465	13,466
1991	289	17,016
1992	426	11,667
1993	415	17,389
1994	547	29,122
1995	289	6,350
1996	437	5,525
1997	325	5,520
1998	437	39,707
1999	524	33,927
2000	383	Low

Figure 11.1
Annual precipitation in Douentza (Put & De Vos 1999)

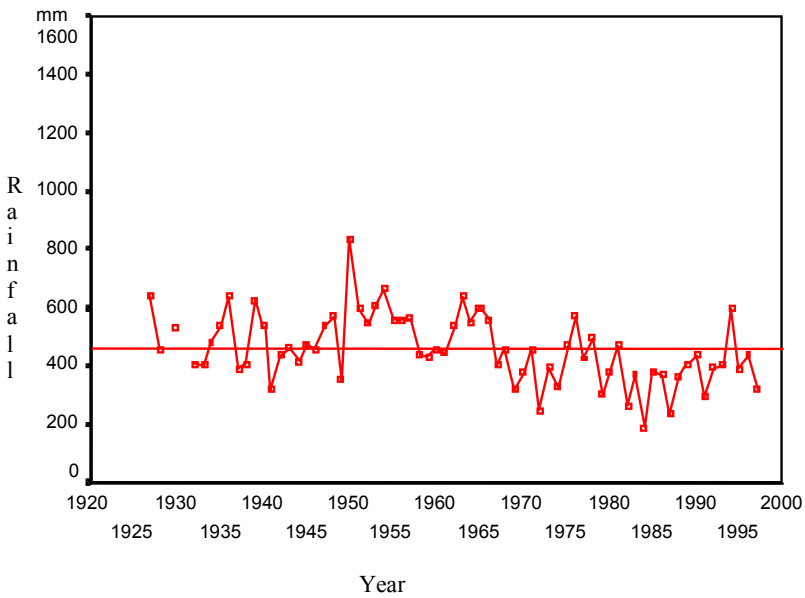
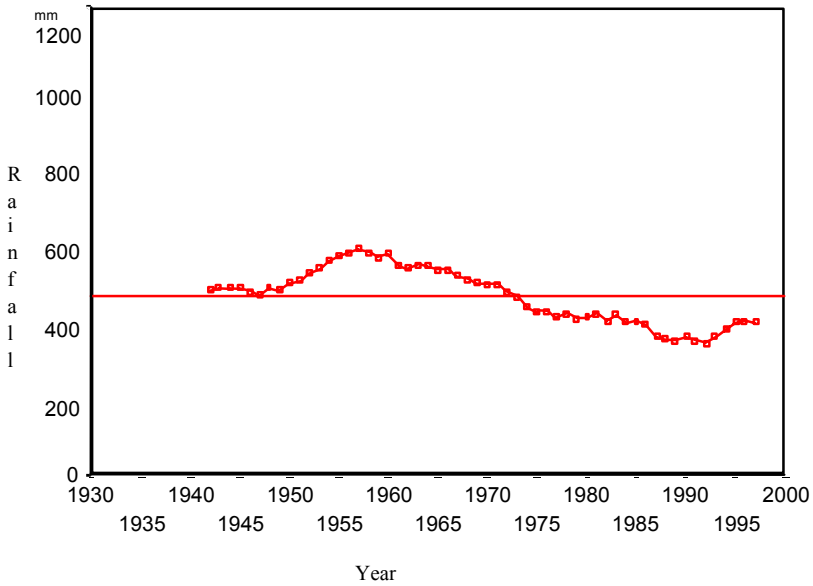


Figure 11.2
The moving 11-year average of precipitation in Douentza (Put & De Vos 1999)



rainfall pattern as well as differences in rainfall from one site to another differ within the confines of the district. In addition, pests may cause considerable losses. For example in 1989 the total harvest was destroyed by locusts, explaining the low yield in that year in comparison to the total rainfall figure for the year.

The area discussed in this chapter roughly covers three agro-ecological zones, one consisting of the mountains in the north of the area and the adjacent plains, the second consisting of fossil dunes that cover the largest part of the area, and the third comprising the Bandiagara Plateau. The three zones are quite distinct in terms of land use and habitation. The escarpment separating the dunes of the Seeno from the Bandiagara Plateau may be regarded as a fourth and separate zone.

The soils of the plains adjacent to the mountains, called Ferro locally, are clayey with laterite in the subsoil. The vegetation is dominated by trees, creating a very dense bush, which appears as a tiger-skin pattern on aerial photographs (*brousse tigrée*). Due to drought, large tracts of bush have died and become dead forest. Annual grasses and herbs dominate the vegetation of the dune area, the so-called Seeno. The soils are sandy with a very low clay content. Finally, the vegetation of the Bandiagara Plateau is sparse. More than half of its surface consists of rock, with some relics of woody vegetation in the valleys and in fissures in the rocks. The mountains and plateau are both called Hayre.

The possibilities for agricultural use differ. For livestock, the Ferro and Seeno are the most suitable zones, the Ferro for browsers such as camels and goats, the Seeno for grazers such as cattle and sheep. On the plateau very few livestock can be supported given the paucity of the vegetation, though it is of excellent quality. Cereal cultivation is practiced in all zones. In most parts of the Ferro the possibilities for cultivation are

limited given the clay content of the soil and the presence of laterite in the subsoil. Near the mountains and on the border with the Seeno, where soil conditions are better, millet and sorghum can be cultivated. Most of the Seeno is suitable for cereal cultivation. However, soil fertility and the soil's water storage capacity (coarse sand) are very low in some areas. In this case cultivation is only possible when organic manure is applied and rainfall conditions are good. Cereal cultivation on the plateau is limited to around 10 per cent of the surface area where the soil depth is sufficient to support crops. Here market gardening has developed around water holes and streams, also stimulated by investments in dams by development agencies.

The main ethnic groups in the area are the Fulbe and Dogon. Among the Dogon a distinction has to be made between the Dogon who live on the escarpment, the Dogon living on the northern plains (Daande Seeno) and the Dogon of the plateau. The occupation history and a different religious history define the main divergences between the groups. Linguistically and socially they are also quite diverse. They speak some 33 dialects of the Dogon language and sometimes have to resort to a third common language such as Fulfulde (the language of the Fulbe) to communicate.

The original habitat of the Dogon consists of the mountain areas towards the north and east of the escarpment between the plateau and the Seeno and the more inaccessible parts of the plateau itself. They retreated from the area in the past in order to be protected from the slave-raiding groups, mainly Fulbe, who roamed the Seeno. Dogon on the plains and the accessible parts of the plateau have been more influenced by these slave-raiding groups than the others. They lived in an area where the Fulbe hegemony was dominant and therefore could hardly escape slavery. Today the Dogon living in the Seeno are almost all Muslim. Islamization started at the beginning of the 20th century. Christianity also has some influence in the areas that remained devoted to animistic religious practises until recently, especially on the plateau and on the escarpment.

The Fulbe are divided in various lineages, and in the area where they vested chiefdoms, the Hayre, a social hierarchy developed that is still relevant for an understanding of social organization today. The basic distinction was between the free and the non-free. Furthermore, within Fulbe society various subgroups can be distinguished such as the political elite, religious elite, the courtiers, vassal herdsmen, endogamous artisan castes and former slaves.[2] Based in their chiefdoms near the northern mountain range, on the Seeno plain, and in the forest areas across the border of present-day Burkina Faso, the Fulbe dominated the plains. They formed a constant threat for the cultivating populations in the area (Dogon, Sonraï, Kurumba, Samo) because of the raids they undertook to obtain booty in livestock, horses and, most importantly, slaves. The Fulbe, in turn, were constantly threatened by Tuareg from the

[2] This political organization is similar to other stratified groups such as the Songhaï and the Tuareg, Within certain groups of Dogon one can also find a division between free and non-free people. Blacksmiths form a separate endogamous category in Dogon society.

Gourma, and the Mossi of the Yatenga Kingdom who raided the Hayre-Seeno area to take livestock and slaves.

Over the last 40 years, the area has been confronted with important changes. In 1960 Mali gained independence from colonial oppression. The first 30 years of independence were marked by political and economic stagnation caused by a failed socialist experiment, and from 1968 to 1991 by the dictatorial and corrupt regime headed by Moussa Traoré. Since 1991 a democratically elected government has been in power, and has launched one of the most ambitious projects of administrative decentralization in Africa. As a result, the country has been divided into 712 municipalities, each having extensive autonomy in administrative affairs.

The organization of land use has changed dramatically. Most of the Seeno plain was colonized by Dogon farmers over the last century. This process started even before colonial occupation and developed rapidly when the threat of raids from outside was removed by French colonial rule. At present almost 90 per cent of the land is under cultivation in the southern half of the Seeno (Martinelli 1995; Petit 1998). In the north Seeno agricultural colonization only gained momentum after independence and was accentuated by the droughts of the 1970s and 1980s (Nijenhuis, personal communication). This development has resulted in a totally different landscape in which less space is left for herdsmen who have had to move to other areas such as the Bandiagara Plateau and to the Inner Delta of the Niger (ibid).

This colonization has also been prompted by demographic change. Exact figures are not available over a long period but demographic growth is thought to be the main factor behind the agricultural expansion on the Seeno and into the last empty spots on the Bandiagara Plateau. Demographically, the escarpment area is completely saturated and some areas, such as around Sanga and Dourou, are even experiencing demographic decline. Presently, rural-rural migration of both Fulbe and Dogon towards more southern areas in Mali (Van Steenbruggen, this volume; Nijenhuis, this volume) and international migration to Côte d'Ivoire are major strategies of both the Dogon and Fulbe (Diallo 1999; Petit 1998).

Despite the fact that agricultural colonization has restricted the available space for nomadic livestock keeping and the fact that the droughts have had an enormous negative impact on the numbers of locally owned and pastured livestock, the area is still intensively used for grazing animals. However, the property relations of livestock have changed dramatically. The various droughts have not prevented an increase in the total number of animals in the area. They only changed hands from family-based subsistence-oriented enterprises to urban-based commercial owners such as wealthy traders and civil servants who hire salaried labour to herd their livestock. Many Dogon migrants have also invested foreign revenues and earnings from market gardening in cattle, and have these herded by dispossessed Fulbe herding families or solitary herdsmen.

Trade has increased significantly over the past decades, promoted by the gradual liberalization of the economy and some improvements in infrastructure. An extensive

network of regional and local markets has developed for the marketing of local products such as livestock, meat, vegetables (mainly onions), tubers, bush products, and cereals in surplus areas. These are exchanged for all kinds of imported commodities such as tea, sugar, cloth and clothes, cola nuts, meat, fruits such as bananas, oranges and mangoes, all kinds of household utensils and agricultural equipment. Transport is via the tarmac road from Sevaré to Gao, and the all-weather roads from Sevaré to Bandiagara and Sanga, and from Somadougou to Bankass, Koro towards Burkina Faso. The interior is supplied by trucks when roads are passable and donkey carts and donkeys go to areas that trucks cannot reach.

Habitus in a semi-arid environment

Perceptions of space and climate variability

Stories about the origin of the people in the area are important for an understanding of the way people look at themselves and at their environment. In the Hayre-Seeno area these stories are all about migration – everybody comes from somewhere else. The Dogon came from the Mande area, and the Fulbe came from various regions, such as the Inner Delta of the Niger and the north. Indications of these places of 'origin' are vague. The fact that it is far away may be the most important. With this claim they appropriate a large area.

The stories about individual villages are often about displacement. They came from another place to settle where they are now. And where they are now may change tomorrow. The Dogon, for example, are currently in the middle of a movement from the Bandiagara escarpment to the Seeno and from the Hayre to the south. Villages are always positioned in a chain of migrations from a central village to a satellite and so on. The Fulbe are even more extreme in their stories about movement. They are constantly on the move. The Fulbe who live dispersed on the Bandiagara Plateau move at least once in every generation to a new area. With this movement 'forward' they appropriate a new area. For some time at least they also retain their rights in their place of 'origin'.

All population groups regard space as unlimited and there is no indications that this was any different in the past. Even the so-called sedentary Dogon seem to be prepared to move on all the time. When a certain area has become saturated they try their luck elsewhere, on a temporary or permanent basis. This does not do away with the fact that they claim to be attached to a specific place. However, these claims and claims on autochtony should be viewed within the context of a specific political discourse, which is instrumental in maintaining and reinforcing claims on natural resources.

Variations between years in terms of periodic drought, climate variability and good and bad years are experienced as part of life and as the normal state of affairs. The drought period of 1913-1914 and the floods of the 1950s are remembered as exceptional. All other years with rainfall deficiency that appeared almost every other year, according to archival records, are accepted as normal (see, for example, Marchal 1983;

Hesse & Thera 1987). More recently the droughts of the 1970s and especially those of the 1980s are also marked as exceptional. During the 1990s there was a gradual recovery but the consequences of these droughts are still visible in the form of dead forests. Most people have not been able to reconstitute their resource base in the form of livestock herds and stocks of cereals, as they would have done in the past.

Old people often refer to bad times in their youth that were comparable to the present. Nevertheless, the drought period that started at the end of the 1960s and did not stop until the middle of the 1990s was an extremely long period of drought. This makes the present time different, and indeed people refer to the present as worse regarding rainfall in comparison with the recent past.

Personal experiences with dry years have an important influence on how people understand change and perceive their present lives. Iisa Usmane, a very old man, still remembers the drought of 1913-1914, called Kitaangal ('The Big Problem'), when he was seven years old. He never saw people die of hunger except during this drought: 'People sowed, the millet started to come up. The Riimaybe and Houmbeebe (i.e. Dogon) slaughtered animals and entered the bush to eat. Everywhere you saw people dying. After that in the next rainy season, we changed one goat for seven millet spikes to have seeds to sow'. In addition, in another interview: 'Then the people did not have the strength to bury their dead. They ate a little *iireehi* from a tree and some red sorghum mixed with milk, which looked like blood. Every three days they slaughtered a cow to survive. Many cattle died from various diseases'.

Somewhat younger people may have a quite different perspective. For instance, an older herdsman said that as a young man he herded the family animals – each dry season he left on transhumance looking for good pastures for his animals and to exchange milk for grains. He continued his story by explaining what things were like then: the animals were well fed and milk was available in enormous quantities. Women of his generation said that in many cases it was impossible to sell their milk – there was so much of it! They simply lived off it for long periods, needing no cereals to supplement their diet. In addition, the granaries were full. Some families had grain reserves that would last for 2-3 years. Cultivating did not require much energy as slaves did the work. For these old people the contrast with today is enormous and their observations of the vegetation today and the related changes in livelihood patterns confirm this.

The younger herdsmen, who were born in the 1960s, have had totally different experiences. For them, the ecological environment has always been precarious and changed to such an extent that they lost their cattle. They observe important changes, for example, the disappearance of the Baobab tree (*Adansonia digitata*). In the past, these trees provided people with leaves, with fruits and with bark to make rope. Now all these trees are 'crumbling' (they fall down and do indeed crumble).[3] Another important change is in the vegetation of the pastures: the perennial grasses, considered

[3] Baobab leaves are also an important source of protein and vitamins. The leaves are eaten every day in a sauce that accompanies the millet stew. Their disappearance may have severe health consequences.

as the most nutritional, are disappearing. These herders complained that each year is different and each year they fear the rains will not come.

Modern forms of emergency relief and being confronted with the new coping strategies of others have also influenced perceptions of climate variability. A *diimaajo* of Dalla realizes that today's hardship is different from that of the past: 'The drought of the 1970s could have been much worse, like the drought of 1913-1914, had there not been food aid. The problem of the recent droughts is also that people from the north come to this area with their cattle and buy grains. A government embargo on grain sales from Dalla market to Tuareg was ignored in the sense that the Tuareg bought the grain in the villages for very high prices'.

Explanations for changes in the natural environment and in the climate with regard to rainfall and periods of drought vary considerably. The most common explanation for the recent changes is '*manque de pluie*'. The Islamic herdsmen see changes in the ecological environment as resulting from Allah's will and ordinary human beings cannot do anything about it. Allah takes and Allah gives. Therefore the role of the *marabout* (an Islamic scholar) in such matters is important: he provides people with a certain hope that things could be repaired by his mediation.

A cultivator (a former slave of the court, a *diimaajo*) in Dalla referred to the behaviour of his chief: 'The Chief of Dallah (who is the Fulbe chief of the region) has to take care of the fetishes of his chiefdom. These fetishes are power. One fetish is the war drum, another is a large plate with wooden bowls and snakes under it. Yerowal who was chief from 1911 to 1966 took very good care of these fetishes. He asked his *marabouts* to work for him and to ask for good rains. He paid them well for this. During his reign there was not much famine. The present chief does not really consider these fetishes. The drum is broken and he does not take any initiative to repair it. The plate is still in the house of his predecessor and he does not want to take it with him. Furthermore he does not ask the *marabouts* to pray for the village; in fact he is a very selfish man. So during his reign famine has returned to the Hayre, like in the 1970s and the 1980s. Also this year (1990) is very difficult'.

Another explanation we heard from Dogon on the Seeno also referred to internal changes in society: 'The problem is that the young people leave today in much larger numbers than in the past. They look for work elsewhere. There they lose their feelings for the Dogon culture. They no longer follow our rules and no longer follow our norms and values. Therefore rains are lacking and the circumstances are changing for the negative' (cf. Maas this volume).

These explanations for environmental and climate change show that for the people living in this area, be they herder, cultivator, Dogon or Pullo (pl. Fulbe), the ecological environment cannot be separated from the changes in the social and political environment. They link changes to old ritual forms, or they link them to modern developments, like the migration of the young, and the changes in power between Tuareg and Fulbe. Their explanation of these changes is political, social, ecological and also

religious. In all cases the people feel that it is impossible to manipulate the perceived causes of their problems.

It is also clear that in the perception of the people living in the Hayre-Seeno area there has been a change in rainfall conditions over the last 30 years. At the same time they are used to climate variability, more specifically rainfall variability. Droughts will never become normal for the people, although they know they are part of their ecological environment. Droughts and their aftermath may mean a change in the habitus and in the possibilities people see for themselves to improve their lives.

Use of ecological space: Herding and cultivating

On the surface it may appear that most people in the Hayre and Seeno have the same type of land-use strategy but when one looks in detail there are many differences between individual farmers' approaches. Indeed the package of agricultural activities is limited. In the dry areas little variety is possible in cultivation and herding, as there is not much choice of crops to cultivate and animals to herd. However, people vary in their packages, mixing the use of various technologies. In the discussion of pathways we will see how these differences appear between individuals.

In the use of space, the idea that space is unlimited is recognizable. The expansion of fields has become the core characteristic of cultivation practices in the area. Dogon, as well as Fulbe (with differences between Riimaybe and Fulbe herdsmen and elite) have expanded their fields over the last 30 years. Faced with the loss of livestock or with diminishing productivity in their fields, both farmers and herdsmen have opted to expand cereal cultivation in order to increase food security. An important element in this development has been the introduction of the plough. It is perceived as an important innovation because it enables the cultivation of heavier soils, or the cultivation of more land with the available labour.

Today these groups distinguish themselves from each other by their ideological adherence to a certain type of land use. The Dogon and Riimaybe claim cultivation as their domain, they are 'the experts'. Herding is the domain of the Fulbe. However the ideology behind this ideal version of the division of labour is not *per se* a reflection of reality. The Dogon are nowadays increasingly taking up the herding of cattle themselves. Also Riimaybe families have adopted a herding existence. Animal manure is indispensable for the repletion of nutrients extracted from the soil. Fulbe herdsmen in turn have become expert cultivators using a plough with camel traction, a donkey cart to carry water to bush fields or to the bush camp where the livestock is kept. Within both societies a large variety of occupations can be found. Nevertheless a division of labour is still to be seen.

In addition to enlarging the area under cultivation, the introduction of faster-growing varieties of millet is another response to diminishing returns. Alternatively, people have started cultivating sorghum on wet soils in depressions and on the Ferro. This was not possible in the past because the land would flood and the crop would rot or be swept away by run-off water.

New technologies have been introduced. One of these is the introduction of gardening during the dry season. Although the Dogon have cultivated onions near waterholes since the beginning of the 20th century, it only became a major activity when outside donors began to construct hydraulic infrastructure after the droughts of the 1970s. In other instances age-old gardening methods to cultivate perennial cotton and fruits have been adopted for other crops such as beans, garlic, rice and sweet potatoes.

The Fulbe have a strict labour division based on gender. Among the Fulbe one hardly ever sees women working in the fields, or if so only to help with seeding and with the harvesting of stalks (for the building of huts). The women's domain is milk and the men's domain is the herding of cattle and cultivation work (see De Bruijn 1997). For the Dogon as well as for the Riimaybe this is very different. In most cultivating groups women do as much (or even more) work in the fields as men. Dogon women often have a field of their own in which they work after they have finished in the family fields. For Riimaybe this is also the case (De Bruijn & Van Dijk 1995). The rearing and herding of cattle is men's work for both the herders and the cultivating population.

Rules for access to natural resources

Access to natural resources – mainly land and water – is crucial for cereal and livestock production. Given the variety in climatic conditions and the rapidly changing fortunes of people and their strategies, access to resources needs to be organized in a flexible manner and rules need to be renegotiated all the time (Van Dijk 1996).

There are several ways of gaining access to agricultural land. Given the mobile way in which people make use of space, they need entitlements to land in a variety of locations. Often individuals make use of kinship ties to gain access to putative lineage land in a location where they want to settle. Alternatively they may request a piece of land from a distant relative. When a family of herding Fulbe decides to leave their camp and to settle elsewhere, they often do so on the basis of kinship relations they have with individuals in this other camp. If they belong to the same lineage they may ask for land that is held by the lineage. This way they can have access to land to cultivate. For Dogon, kinship ties are even more important in gaining access to land.

Among the Fulbe it is also possible to purchase land. Since the 1960s land sales have been recorded in the northern part of the research area. These sales have permitted the redistribution of land that was left behind by people who left the area. Instead of fallowing or lending the land, individual herdsmen preferred to obtain cash from it (Van Dijk 1996). The advance of Islam may have promoted this evolution. Islam has influenced land-tenure rules among the Fulbe and consequently land rights are more individualized than among cultivating groups.

Another important way to gain access to cultivation land is by opening up bush land. Once cleared, this land belongs to the person who did (or paid for) the work. In this way, cultivators are still expanding into the Seeno. Although these lands were and

are important pasture areas, these rights are not recognized by the state. In some cases the Fulbe may contest the expansion of the cultivators, for example when they cultivate on cattle corridors that were established in the area in the 19th century. The blocking of cattle routes on the plateau is a common practice. In general the Fulbe cannot prevent pastureland from being taken into cultivation.

Competition for land is increasingly common in the area. This is also due to the demographic changes in the area and the process of administrative decentralization that is giving people more possibilities to express their opinions in public. On the Seeno there are a number of long-term conflicts between Fulbe and Dogon over pasture converted into agricultural land. Conflicts over land may also occur between Fulbe, or between Dogon.

The regulation of conflicts takes place at several levels. Between individuals, an arrangement can be made on the spot and this is what people prefer. In the second instance they may try to resolve a conflict with the help of the village elders, or with the help of an Islamic scholar (an Imam or a *marabout*), and only as a last resort do people go to court. Violent conflicts are rare compared to other areas in West Africa.

Access to pasture and water is another crucial issue in the area. Various water sources are available. On the plateau there are springs and natural wells improved by dams. The land around small artificial lakes is at stake in local political conflicts between villages, between clans and between cultivators and herders. On the Seeno, water is not readily available. Wells are over 60 m deep and some run dry during the dry season. The wells are owned by groups of people but water will not be refused to people who pass by with cattle. The rainwater available in small ponds is freely accessible to all people. In some camps and villages, reservoirs in the beds of ponds are privately owned and are the subject of many disputes. These various conflicts are solved in the same way as land disputes. Only in very severe cases do they come before an official court.

In principle, access to pasture is free, provided that no damage is done to crops. However, given the enormous expansion of cereal cultivation this has become a real problem in densely populated areas, such as the south of the Seeno, the Bandiagara Plateau, and in some areas where Fulbe herdsmen form the majority of the population. During the rainy season, water availability, unlike the presence of cereal fields, does not impose any restriction on the movement of livestock as small ponds are available almost everywhere in the area. During the dry season, access to pastures is regulated indirectly by the control exerted over water points. In practice only those with access to a water source have access to the surrounding pasture (cf. Thebaud 1990).

Local political relations

Property relations, the organization of cultivation and herding and the distribution of produce are embedded in local political relations between the various population groups which have developed over the centuries. People are always primarily members of one of these social categories and this defines labour opportunities and oppor-

tunities for exerting power over others and over resources. The most important distinction that must be made is between the noble people and the non-noble people. The noble people – including the Dogon (for example the Ongoiba from Djamweli) and Fulbe (the Dicko) – have a particular perception of the world. In the past they led wars and raids, and controlled the country. Despite the many changes in the economy of Mali, the disappearance of wars and the end of raids, their vision of who they are and how people should behave towards them is still a living reality. For instance, members from the chief's family of Dalla (Fulbe) still go on tour just after the harvest to collect their share in all the villages in their chiefdom. People (Riimaybe and herdsmen alike) are obliged to give them something because of their status and the power linked to this status, although some of these nobles are much poorer than many of their former slaves.

This idea of nobility goes hand in hand with ideas about appropriate labour: the slaves do the hard work, cultivate the land, construct houses, etc. The nobility is first of all the warrior class and in the second instance also the people who keep the cattle. A noble person feels that it is beneath him to do the work of a slave, most of all because this means he has no access to wealth, i.e. cattle, which makes him a poor man. Being poor is considered shameful for a noble because it links him/her to an inferior social category.[4]

Dogon and Fulbe have been living together in this area for a long time. In the past the Fulbe raided the Dogon, turning them into slaves. Among the Dogon there were also important noble warrior groups who in some cases fought together with the Fulbe. At present they compete for political dominance in the area at various levels. Likewise, competition between various groups within Fulbe society for access to agricultural land and pastures, and for political dominance is also mounting.

Another political problem is related to changes in transhumance patterns and to political coalitions that are not appreciated by everyone. Now, more than 15 years after the drought, the Seeno has become a free-for-all pasture area for numerous herds originating from outside the study area, which are driven to the Seeno during the rainy season. The herds of the local people are in no position to compete with these enormous numbers of cattle and the accompanying (Fulbe) herdsmen.

At a more individual level, relations between representatives of various population groups also aim at collaboration and mutual benefit. Many Fulbe herd cattle of the Dogon and relations in some parts of the area have indeed been turned upside down with the Dogon farmer now being the patron and the Fulbe herdsman being the

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[4] This shame complex is also linked to other principles of social organization in society, for instance kinship relations, and is expressed in a certain behaviour *vis-à-vis* certain kin categories, the most prominent being the relationship with affines. Another example is relations with strangers (people no longer considered as kin or people from other social/ethnic groups). Especially for herder groups this is a tense relationship, which is bounded to all kinds of rules for behaviour. The herder groups have a special 'institution' that makes this relationship with some individuals from these groups less tense: the *yaatigi*. *Yaatigi* means host in Fulfulde and a herder tries to establish *yaatigi* relations in all sedentary villages, which he or she passes during transhumance. It is a way to turn hostile space into friendly space so that it is possible to stay there, without keeping to avoidance rules that go together with relationships of shame.

dependent party. In such cases the Dogon and Fulbe explain their relationship as one of interdependence based on the exchange of different products. The Fulbe who have been living near the Dogon should therefore be helped in difficult times. However, in public discourse Fulbe and Dogon often speak in derogatory terms about each other and hostility is also displayed in Dogon rituals (see De Bruijn *et al.* 1997).

An important social institution that is highly valued by both parties regulates these interactions, the *yaatigi* relationship. This entails a set of rules of how to receive one another, and is especially important for the wandering Fulbe who maintain *yaatigi* relations anywhere and create access to social relations in this way. Through these relations, they also gain access to natural resources (see De Bruijn 1999).

One of the effects of the current administrative decentralization is that government has come nearer to the people. People voted for municipal councils and mayors in 1999. Although the election campaigns were for a large part directed by the traditional (often pre-independence) relations of power and loyalty, the outcome has not always been a direct reproduction of these power relations. In the case of the Fulbe in the area, it seems that the 'modernized' elites have won, consisting of members of the traditional ruling noble families who have received a modern education (Van Dijk & Hesseling 2001).

Social organization: Social security and access to social resources

The position of individuals in Fulbe society is related to social categories, from the political elite to former-slave groups. Nowadays, with an increase in migration and the use of multiple sites of residence of the larger extended family often at a considerable distance from each other, the small family group is acquiring more importance.

The social position people have is not only important for acquiring access to natural resources needed for production but also because of the various functions the social relations have for an individual in reacting to instability. Social relations can be regarded as resources. Though the basic 'help' relations are the same, between children and parents, old and young people, grandchildren and grandparents, wife and husband, and brothers and sisters, the way they work in practice differs across the various ethnic groups. Among the Fulbe help relations concentrate mainly on the 'nuclear family', also brother-sister relations are very strong in this sense (De Bruijn 1997). The ideology of *zakat* and *sadaqa* in Islam is feeding an ideology of giving and helping. In the reality of daily life, however, it is clear that it is difficult to share when there is nothing (De Bruijn 1999). Therefore during times of scarcity people live in very small groups, which they perceive as being the most important.[5] As a last resort when there is nothing left to share, people go their own way as a rule (De Bruijn 1999; De Bruijn & Van Dijk 2003).

[5] In an environment where income security is not guaranteed, poverty may strike from one day to the next. One might, therefore, expect an institutionalized safety net. But when there is not much to share, the opposite may be true (Platteau 1991).

Of more importance for the needy Fulbe are the outsiders. Their *yaatigi* relationships play an important role in this sense, just like the relationship they may develop with certain *moodibaabe* (Islamic scholars) (De Bruijn *et al.* 1997). In the case of the Fulbe herdsmen from the Booni area, this dependence on outsiders can be explained by their feelings of shame at being poor, encouraging them not to rely on their close kinsmen and to leave their home area (De Bruijn 1999).

The Malian government, development projects and NGOs

Nobody in the study area considers the government as a possible source of relief in times of need. Even food aid is given to the powerful and not to the powerless. For most inhabitants of the Hayre-Seeno, relations with Malian bureaucracy and the 'development world' are mediated by the local notables (like the chiefs). People from the south and educated people staff the Malian bureaucracy and development organizations (mainly NGOs). The lower echelons of the staff, like the extension workers, may be local people (mainly Dogon and hardly ever Fulbe). Projects for the pastoral land users include the projects of the veterinary service, the ODEM (*Organisation de Développement Elevage du Mali*) that invested in pasture management (see Van Dijk & De Bruijn 1995). Other investments were made in the 1990s by several NGO projects that dug wells. Nevertheless, the Fulbe perceive this aid as a minor contribution to their existence and feel that the NGOs and the government are only helping the sedentary population, and are hijacked by their own chiefs (Van Dijk & De Bruijn 1995, De Bruijn & Van Dijk 1999).

Among other population groups the benefits of development interventions are also unevenly distributed. On the central Bandiagara Plateau, the dams, the peasant organizations, the construction of schools etc. are visible effects of government and project aid in the area. Many Dogon, however, do not profit from this aid, especially those on the Seeno and in the north of the Bandiagara Plateau, which is one of the poorest areas in Mali. In the Hayre, where Dogon also live in the mountains and on the slopes of the mountains, aid is a rare phenomenon. It seems to be an area where the state and 'development' are not present. The Dogon and Fulbe living on the Seeno have seen projects to dig wells or to plant trees. Many of these wells have become the source of conflict (see Van Dijk & De Bruijn 1995).

The presence of projects and NGOs seems to be dependent on the accessibility of a village (near an administrative centre, tarmac road, etc.). It appears that villages just outside Douentza and Bandiagara have received proportionately much more attention than villages further away in more inaccessible areas. Furthermore NGOs prefer to work with sedentary people, which results in the (semi-)nomadic people hardly ever being reached.

Outside influences

The outside world is of increasing importance in the decisions people take. The weight of outside influences will only increase with further integration of the Sahel in the world economy and with more intense contacts with people in town and from abroad.

Markets – as a place to sell and buy products or to exchange products – have always been important for herdsmen and farmers. The markets themselves and the role they play in the economies of the people in the area have changed dramatically. This is by no means only as a result of climatic problems. It is also directly linked to commoditization processes and modernization of the economy imposed by international institutions such as the IMF and the World Bank.

However, the role markets and trade play in traditional economies should not be underestimated. In the past, trans-Saharan trade and the exchange of locally produced commodities linked areas like the Hayre-Seeno to commercial networks elsewhere. Even before structural adjustment programmes, it is clear that for the Dogon the onions, tomatoes and other vegetables they grew in their gardens were only interesting for them when sold. On the Bandiagara Escarpment the five-day markets in the larger villages have offered a network for commodity exchange since time immemorial. For the Fulbe the sale or barter of animals has always been an integral part of their livelihood. It was necessary for them to obtain all kinds of goods they did not produce themselves such as agricultural equipment, household utensils, weaponry, cereals and jewellery.

However, since the 1970s markets and trade have received a boost. With the droughts in the 1970s and 1980s, the influx of aid, foreign experts and an improvement in infrastructure, the market as a place and as an institution has gained importance in Douentza. More recently, towns like Bandiagara and Douentza have been connected to the outside world by means of television and telephone (Bandiagara a long time ago, Douentza only recently), and electricity has been installed. With the growth of these small towns and their infrastructure, commercial activities have also increased (Zondag this volume).

Trade has become a more integral part of individuals' strategies. In the past trade and mediation in the case of large transactions were in the hands of specialized occupational groups because this work was not considered worthy of the nobles. At present, local cereal farmers engage in the trade of millet with the help of their donkey carts (Maas this volume). Fulbe herdsmen and even former slaves enter the cattle trade and take up the role of mediators at the livestock market. Trains of donkey carts can be seen making their way along the Bandiagara Escarpment to the big markets in Douentza and Bankass to provision the villages along the escarpment, and on the plain with imported commodities, mats, clothes and cloth, spices and so on.

Tourism is also a major point of contact with the outside world and is causing an influx of foreign capital and influence. The Bandiagara Escarpment has attracted strangers for a long time and has recently been declared a world heritage area by UNESCO. It all started with French anthropologists, notably Marcel Griaule, who

were attracted to the area in the 1930s and made it world famous (see Van Beek this volume). For the Fulbe living in camps, but also for the nobles in the villages, tourism has not yet had this effect. It has not reached their areas and whites are not yet an integral part of their lives.

Labour migration is growing in importance as a source of income for the people in the area. Three types of labour migration can be distinguished: out of poverty, out of adventure, and as part of the livelihood system. Where these people go is defined by their social networks, the experiences of other members of their village or family group and by information available. It appears that most commonly the Dogon go to Bamako and Mopti, but also sometimes as far as Abidjan. The Fulbe from the cattle camps do not move that readily to large towns, preferring to look for an area where they can work as herdsmen, i.e. in the neighbourhood of a small town or in the countryside (De Bruijn & Van Dijk 2003). In southern Mali, Koutiala is well known among the Fulbe from the Hayre-Seeno. Nevertheless many young Fulbe also leave for Côte d'Ivoire, where they can find work as herdsmen or jobs in the cattle trade (Bassett 1988; Bernardet 1984, 1999).

There is also considerable immigration into the study area. The small town of Douentza appears to be a refuge area for people from the north. Many of the people of Douentza have a background of forced migration under the impact of drought and poverty, or they have fled their villages because of deteriorating conditions. In Douentza they earn a living from petty trade, seasonal labour, the collecting of fire-wood, construction work, begging, and aid distribution by foreign organizations. Some of these people move on to bigger cities, some even as far as Abidjan. Others return to their home area when they have gained sufficient to have another try at rebuilding their existence.

Labour migration has a direct effect on the perception people have of a 'good' life. They come into contact with other ways of living and other ideas and start viewing their own lives differently. Thus, the young may acquire different ideas on authority during their time outside the village and no longer wish to share what they earn on their return, keeping it for themselves. The migration of young and able-bodied men and women has, as such, a profound effect on village society. This problem is not limited to the Fulbe but also occurs in Dogon society (De Bruijn 1998).

Religion

Religion has always played an important role in the region, firstly as a means of differentiating between people, secondly as a means of diminishing the risks people endure in this harsh environment, thirdly as an instrument of change and dynamics in the social life, and fourthly as a means of power. It is both an internal feature of the habitus and an external influence in the sense that all kinds of new ideas enter the area via religious networks.

The Fulbe, Dicko who came from the Inner Delta in the 17th century, introduced Islam into the area by inviting Islamic scholars to stay. Islam was first only for the

elite, and not for ordinary people. People who were animist were considered as (potential) slaves. The link between nobility and being a good Muslim persists today.

Islamic ideas have thus been circulating in the area for a long time and today a large majority of the population is Muslim. All Fulbe are Muslim and among the Dogon the number is growing. People perceive Islam as a source of protection against all kinds of hazards and risks that are inherent in the dry environment in which they live. This protection is mainly offered through *maraboutage*, for example, the fabrication of amulets, and various rituals held on special occasions.

Religion also provides people with a perception and explanatory framework through which to look at their environment. For the Fulbe, their experience of being Muslim gives them the idea that they cannot influence their surroundings because what happens to them is Allah's will. Religious leaders are important for the vision people have of their environment. They are windows on the world and the interpretation of this world. Because of their important position, most people listen to their advice carefully and they can thus influence people's behaviour. In addition, their networks inside and outside the area provide people with all the possibilities for education, travel and employment needed to develop strategies to deal with change.

In this section the basic elements of the habitus of the inhabitants of the Hayre were sketched. All individuals have their own perceptions of these elements, depending on their personal circumstances. Each of them has his or her own habitus and interpretation of the environment. A poor woman in need of help has a different view of her surroundings than a rich cattle owner who can afford to hire herders for his animals. Neither is it the same for people who live near a market or for people who live far away in the bush, or for people with different religious and ethnic backgrounds, old and young people. In the following section we try to disentangle some of this variety by discussing four case studies of Fulbe families.

Pathways

Herdsmen

- Hammadou Iisa: An innovative herdsman in the dry Sahel

Hamadou Iisa lives in Serma, a cattle camp on the northern Seeno. He is a rich man and has a large family: four sons and three daughters. He shares his 'enterprise' with his four sons. His daughters are married to cousins and rich families and live in neighbouring camps. The family herd is relatively large comprising about seventy head of cattle, a large herd of small ruminants and a few camels. He owns a lot of arable land, water reservoirs for the dry season, a plough with camel traction and a donkey cart. The sons do most of the work: herding and watering the cattle and small ruminants, tending the camels, working the land. The herd of goats and sheep keeps the family going. They are the first to be sold or eaten at difficult times of the year. In

this way Hammadou Iisa and his sons are able to keep the cattle and camel herd intact, except for natural losses. The number of small ruminants fluctuates enormously.

Hammadou Iisa and his sons cultivate four or five fields each rainy season. They sow mainly millet, the staple food. Some of these fields are lineage land, others were bought when they decided to stay for some time in Serma. This land was expensive but Hammadou Iisa could afford to buy it. The sons who are not busy with the animals work the land. The whole family, his wives, his sons and their wives and his grandchildren share the harvest. During the dry season, their own animals fertilize the fields.

Food preparation and eating is a joint household activity. Preparing the meals is the task of the women of the family who have free access to the family granary. When the grain reserve is finished Hammadou buys millet at the market. Women are also the managers of the milk produced by the cattle and the goats. The milk is divided between the different women. This is done according to the number of animals the women own (that they received as a wedding present) and their respective husbands' animals. Hammadou's first wife, who runs the household, receives most of the milk, which she uses for the extended family's consumption. The other women have sufficient milk to prepare butter and sour milk to sell at the market. They keep the revenues for themselves.

Hammadou Iisa is also rich in a social sense. He has a central role as a political broker for his people, the Seedoobe lineage of the Fulbe, one of the dominant lineages in the area. Hammadou Iisa has taken on the role of the functioning lineage head. He collects the head tax and acts as intermediary between his people, local government and the Fulbe chief of Booni. He is prominent in development activities in the area and is a board member of the local pastoral association.

Hammadou and his family have lived through several crises. Until his marriage and the birth of his first children Hammadou Iisa and his family lived between Camalajoy and Isey. It was only during the 1980s that he became more oriented towards Serma due to a conflict with his brothers who lived in Isey, which made them move to Serma. This did not mean a definitive break with the other two areas. He is still the rightful owner of land there (lineage land) and collects taxes among his kinsmen there.

Serma is a bush centre compared to Camalajoy and Isey and is situated at the crossroads (of the sandy roads) between the Seeno/Duwari and Booni. Hammadou's decision to go there was partly inspired by the fact that Serma is much nearer to Booni and thus to the market and the area's political centre. He also needed more space for his animals. Today the situation is reversed and Hammadou is seriously considering moving back to Isey to have more room for his animals.

The reason why his stay in Serma turned out to be so long was that his old father could no longer move. Although the family stayed all year round in Serma their herds have always travelled. The eldest son has been their herder for years and moved with the animals to better grazing grounds and to the salt licks. He sometimes went with his two wives and children, sometimes alone. Hammadou's father died in 1996, which allowed the family to become more mobile again.

The crisis of the 1970s passed without many problems for Hammadou. He did not lose a lot of animals and his wealth helped him through these difficult years. The drought of the 1980s was much more difficult to overcome. Although they were one of the happy few who had access to the grazing scheme created by the Malian government's veterinary service, they lost a lot of animals. They came out of this drought period with few reserves left. Hammadou had to accept an offer to herd the cattle of a trader living in a large sedentary village who had bought animals from impoverished herdsmen. He thus managed to build up his own herd to a reasonable size. At the beginning of the 1990s he was able to stop herding for this stranger.

In the 1980s and early 1990s it was difficult to survive. Hammadou had to cope with the illness of his animals and with a couple of dry years. His herd of small ruminants saved the family. Furthermore he and his sons developed a number of new activities and safety measures. The first was to safeguard access to water. Hammadou Iisa bought some water reservoirs in the seasonal pond near Serma for which he even risked serious conflict. He bypassed the family members of the owners by offering more money than usual. In addition he bought a donkey cart in 1998 so that his animals could exploit the pastures in the Seeno even in the dry season. With the donkey cart they transport 200-litre barrels of water to the son who stays with the cattle.

Another important innovation was that he could afford a small stock of camels. Camels are a relatively new phenomenon in the area and Hammadou Iisa and his sons were among the first to experiment with them. The latter were introduced at the beginning of the 1990s and were difficult to handle for the Fulbe who knew a lot about cattle but little about camels. Initially they were used only for ploughing but now they are also used for transport and the family is even trying to breed them.

There were two reasons for Hammadou Iisa and his sons to try camel breeding. The first is the increasing difficulties they experienced in keeping cattle (because of drought). A second and probably more important reason is that camels give a lot of milk and are expensive. They need less care than cattle and pasture on their own. Hamadou Iisa was advised about camel keeping by his Tamacheq friends in Booni, who migrated into the area following political unrest in the north of Mali, and by a group of Tamacheq craftsmen who he invited to settle in his camp years ago. Furthermore his eldest son likes camel keeping.

The political position, the social network, the history of the lineage in the area, the innovations in the running of the agro-pastoral enterprise, his large family (especially the labour power of his sons and his daughters-in-law) and his contacts with the outside world make Hamadou Iisa an innovative agro-pastoralist. It is clear that he has the background of a pastoralist more than of a cultivator. Pastoralism is also the area in which he invests most heavily.

- Hamma Saadu and his brothers: Living through destitution

The story of Hammadou's neighbours in the cattle camp, Hamma Sadu and his brothers, is quite different. They are from a small lineage, the Rendowaabe, according to legend the first Fulbe in the Hayre. This lineage is now integrating into the See-doobe, the dominant lineage, a sign that politically and socially they have an inferior position. Hamma and his brothers were among the destitute for a long time. The drought of the 1980s was the final blow to their subsistence base. However, even before the drought they were reckoned among the poor. Their misery began years ago when there were conflicts between the brothers and their sons. It seems that there were too many people for too few cattle.

Three brothers, Hamma, Aamadou and Mamoudou, settled in a new camp around 1955, Wuro Boggo, and bought agricultural land from another lineage.[6] They participated in the digging of a well and also obtained access to land around the well. Later on, more people joined them in their camp, among them Hammadou Iisa. In the dry season they herded their cattle near Duwari, a large Dogon village 40 km to the south where they built up good relationships with the Dogon.

Mamoudou was the first brother to leave. He had a fight with his sons and left, first to go to Burkina Faso and then to Côte d'Ivoire. They did not hear from him for years. He left his sons and wife behind with the cattle. His sons sold all the cattle and gave big parties and ended up as dispossessed herdsmen for the Dogon in the village of Jigooru. Today, the sons still have not returned to Serma but have lived dispersed over the Seeno with only one of them still in Jigooru.

Aamadou Saadu shared his life with his brother Hamma until the drought of the 1980s. Then he left Serma to settle near Duwari, also to tend the goats and sheep of a Dogon. His children stayed with him but he left his one head of cattle with his brother Hamma Saadu in Serma.

Hamma Saadu was the only one of the four brothers who did not leave Serma after the drought of the 1980s. The only reason he gives is that he did not want to leave. His wife did not want to live among Dogon people and so he decided to stay near his family land. His presence in Serma underpins his family's claim to land. If he had not been there, someone might have been tempted to occupy the fields.

Hamma Saadu's eldest son, Adama, left. Hamma did not hear from him for years. In 1997 he came back for a while but did not bring any livestock with him. Around 1990, Hamma faced a serious labour problem as he had another four sons and two daughters to take care of. He and his third son worked the field. His second son had had polio as a boy and cannot work. He studies the Koran but is not very successful. His fourth and fifth sons were too young. The third son, however, also left during the rainy season of 1990 and 1991 to herd cattle in the Inland Delta of the Niger, some 250 km away. He only brought a radio back. His wife and daughters never worked in the fields and their contribution to the household income was low, especially as there

[6] A fourth brother, Bureima, left to study the Koran. He ended up in Banamba, some 500 km to the southwest.

was rarely a cow to be milked. The goats' milk brought them FCFA 50[7] a night, and in the morning they drank the milk available. Thus, the main worker was Hamma himself who was already of advanced age.

In 1990, the situation was critical. For two years the harvest had failed. Locusts destroyed the harvest in 1989 and birds ate the crop in 1990. Hamma and his family survived the dry season following this catastrophe by selling two cows. For one he earned FCFA 40,000 with which he bought three sacks of millet with his son-in-law in Duwari, a sheep and lamb for FCFA 3,800 and clothes for his children. The other cow was sold for FCFA 32,500 for which he bought a two-year-old calf and millet. As luxuries each week they buy FCFA 100 of cola nuts, and each two to three days FCFA 25 of tobacco. So, the family of seven people survived on less than FCFA 100,000 (around € 150) a year, charity and some millet from their own land.

In 1990, as each year during the dry season, Hamma settled in Duwari with six head of cattle. As the cattle did not provide them a living they lived off gifts and by abstaining from food. His eldest daughter, having divorced her Fulbe husband, had married a rich Dogon trader in Duwari and she now supported Hamma and his wife. Hamma considered this shameful because a Pullo does not marry a Dogon. For his daughter, it was the only way to survive and to live a decent life, she told me. This was finally the same for her parents, too.

1997 was a good year for Hamma. His sons had all returned and his third and fourth sons were married. He had divided his fields between his sons, hoping they would be inclined to stay and work harder on their own fields. His herd had increased a little and he had seven cows and a small herd of goats. Finally, he did not have to work hard himself but could relax during the day in Debere, the centre of Serma, where the old men gather during the day to discus politics and to make decisions on village problems. Hamma can now survive reasonably well but two consecutive years of drought will force his children to migrate definitively and will return him and his remaining family members to the brink of starvation.

His brothers, Mamoudou and Aamadou, had also returned. Mamoudou was very ill and could no longer live in the south so he came to live with his brother. Only after some years did one of his sons return. Aamadou returned with a big herd of goats and hoped to survive on his own. He was not as destitute as Hamma when he left Serma after the drought.[8] He used the surroundings of Duwari and his relations with the Dogon to broaden his economic security. He had a strategy of diversification. In 1990 he lived with his wife, a daughter-in-law, two sons and two daughters, three grandsons and one granddaughter in a small hut in the bush near Duwari. Two of his sons were on temporary labour migration. They returned every rainy season to cultivate the fields they borrowed from the Dogon, and brought money, which they spent on millet. In addition to working the fields in Duwari, Aamadu sent one of his sons to work their

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[7] € 1 is FCFA 656.

[8] This is his vision of the situation but when considering his material condition and the number of people he had to feed, he could also be considered as extremely poor.

fields in Serma. It was a hopeless year: he sowed several times but the plants did not grow because of dust storms. He returned empty-handed.

One of the wives of these sons was in Booni. One of the daughters had no husband, her first husband had left six years ago and had never returned, her second husband died in 1998. The granddaughter was his other son's, who left for Konna with his wife and other children where he became involved in petty trade. From time to time, he visits his people near Duwari.

The goats they had were partly theirs and partly those of a Dogon. In return, the Dogon drew water every day for all the goats from a well 80 m deep. This Dogon is a relative of his *yaatigi* (host) with whom he ha a long-standing relationship. Aamadou had one cow, which he had lent to Hamma.

Life was exhausting. Often there was a shortage of food and in their efforts to build up some capital they often refrained from eating. In 1996 they were fed up with the Dogon and decided to join forces again with Hamma. It seemed that rainfall was increasing near Serma where their fields were located. However, Aamadou's wife died soon afterwards. She suffered from heart failure, probably caused by severe anaemia. She was in bed for months, and very swollen due to oedema. About a year later, Aamadou died too, probably from chronic tuberculosis.

- Comparison

The stories of Haamadu Iisa and Hamma Saadu reveal how different the life histories of people with similar starts in life can be. They have the same social position in Fulbe society: both are herdsman; both have access to agricultural land in the same area; both were exposed to the same environmental hazards; both are old men with grown-up children; and both lived in the same cattle camps and started their lives collaborating with their brothers. Despite the fact that their starting points were the same, their lives have turned out totally differently. Hamma Saadu is a destitute old man, though a survivor; Hammadou Iisa has become a rich man.

Both Hammadou Iisa and Hamma Saadu had serious conflicts within their families leading to a (temporary) break. Hammadou Iisa decided to leave his family's cattle camp and start a new life in a different camp. He took no responsibility for his brothers but he took care of his father (as he was the eldest son). Hamma and his brothers also split up. No one was left with a big herd and in fact each was left with a non-viable enterprise. Mamoudou's household completely collapsed. Aamadu left with the goats and Hamma stayed behind with a few head of cattle. The difference was in the timing. Hammadou Iisa broke with his family before the drought, and had had time to build up a viable unit of his own. Hamma Saadu's family was crushed under the combined impact of the droughts and internal family discord.

Thus a big difference between the two men is their wealth in animals. The difference is enormous, six as opposed to more than forty head of cattle and ten compared to more than a hundred small ruminants in 1990, and seven as opposed to more than seventy head of cattle plus four camels, and fifteen as to 250 small ruminants in 1997.

The difference in family size between the two men does not compensate for this difference.

Another crucial difference between the two is the labour factor. A Fulbe herding family survives entirely on its own labour. Hammadou Iisa is happily in good health, and he has three sons who are all capable of hard work. They work large fields and divide the work with the cattle between them. There is not yet any suggestion of dividing either the herd or the fields between them.

Hamma Saadu has always been in a different situation. His sons ran away when they were needed most and those who remained were too young to help out, or were handicapped. The sons of Hamma Saadu decided at a certain point in their 'career' to leave the family and to go and look for work elsewhere, feeling that the family enterprise had nothing to offer. When talking to them they said they were also eager to discover the world. Hamma Saadu thus decided to split the family land between his sons when they returned some years ago in an effort to pin them down. The herd was not large enough to be divided.

But why did Hammadou Iisa's sons not do this? Were they not curious? Or did they simply have no reason as they eat well and have important work to do within their own family?

Women's labour is essential in a Fulbe settlement. They build huts, prepare food and tend the small animals. Hammadou Iisa's wife is, despite her age, managing the household. Her daughters-in-law work hard and do not quarrel all the time. The household appears harmonious. Hamma Saadu's wife fell ill after the birth of her last son in 1986. As the sons were away she had no daughters-in-law to work for her.

For both, relations with people from outside were crucial in overcoming difficulties. Hammadou herded the cattle of a wealthy trader so that he had milk to drink. He also invited Tamasheq artisans to settle in his camp. This has provided him with free household utensils and agricultural equipment. The help of his Dogon son-in-law saved Hamma Saadu. Through his daughters' marriages, Hammadou has strengthened relations with some rich families. Two daughters married his cousin's sons. One daughter married the son of a relative of Hammadou's wife. Hamma Saadu has not been able to arrange such alliances for his children yet but he will be glad when he is able to marry off his daughters in a decent manner.

The political position of the Rendowaabe and the Seedoobe lineages both play a role in the history of the Fulbe in this area. They have provided important warlords but at a certain point in history the Seedoobe took the lead. Due to colonial politics and power politics of the chiefs of the Fulbe, the Seedoobe have become the representatives of the Fulbe herders in the Booni area. A Seedoobe counsellor levied taxes for the chief. Oral traditions were formulated around the power strife between the Seedoobe and the chiefly lineages. All development activities among the Fulbe herders in the camps of the herdsmen were done via the chief who relied on his Seedoobe counsellor in the area. Hammadou Iisa's family has always provided these counsellors. For instance when the ODEM implemented the pasture improvement project P17,

Hammadou Iisa was one of the first to become a member of the management committee. This meant that he had access to the project. Hamma Saadu and his brothers were never involved in the affair.

Hammadou and Hamma reflect both ends of the continuum in wealth and resources. Their cases are normal pathways in cattle camps, such as Serma on the northern Seeno, except that cases such as Hamma Saadu's are much more numerous than those of Hammadou Iisa. In 1991 there were fewer than ten families (out of 64) who were able to survive without major difficulties. For the rest, the situation was at best a little better than for Hamma Saadu. There are no reasons to believe that herdsmen in other parts of the Hayre-Seeno area are structurally better off and that they are confronted with problems of a different kind. A big difference for herdsmen in the southern Seeno and on the Bandiagara Plateau is, however, that in the latter areas space and pasture for herding their animals is much more limited. In these areas herdsmen have to manoeuvre between the demands of herd owners and unwilling authorities and the continuity of their livelihood. Continuous movement and the exploration of new areas in the south of Mali and other countries of West Africa can only assure the latter.

Wandering people: Fulbe peripathetics

- Ay Usmane: Bad luck and poverty

Ay was born in Douma, a cattle camp of wealthy herdsmen, south of Douentza. She is now about sixty years old and lives near Daga, a small Dogon village on the Bandiagara Plateau. Her 'journey' to this village took a whole lifetime, a life marked by various stages of progressive impoverishment. Her mother died when Ay was a young girl and, as the eldest daughter, she became responsible for the care of her young brothers and sisters. They stayed with their father and lived off the few animals they had and the millet they harvested from their fields. Because of the herd they were a mobile family. During the dry season they pastured their animals on the Bandiagara Plateau and sometimes continued into the Inner Delta of the River Niger. Other years they stayed around Okoyeri, 15 km south of Douma. Okoyeri is a village of sedentary Dogon cultivators who invited the herdsmen to settle temporarily on their fields for manure. The rainy season always took them back to Douma, where her father worked the fields.

Ay married a man from Douma who was not accepted by her family because of his reputation as a notorious gambler and vagabond. He was from a very wealthy family, and his brothers and sisters who still live in Douma are said to be among the richest in this village. Ay's husband lost all his wealth and he has completely lost contact with his family. Nevertheless she stayed with him all her life, though he brought her a lot of trouble. They had three sons and a daughter. The daughter is married and lives far away with only one child. The second son lives with Ay, and the youngest son, who is not yet married, travels between the south of Mali and Daga to find work. The eldest son lives somewhere in the south of Mali.

Ay managed to keep the family going despite the many misfortunes they had in their lives. Her husband squandered the animals he inherited from his father on a luxurious lifestyle. According to Ay's family in Douma, this was quite a large herd. Ay herself attributed their misfortune to the droughts of the 1970s when all their animals died of starvation. Anyway, Ay and her children were left without any means. The only way to survive then was for her husband to find work as a salaried herdsman for cultivators who were increasingly investing in cattle and needed good herdsmen. That is how they came to live near Okoyeri.

In Okoyeri they also cultivated a field, and sometimes returned to Douma in the rainy season to cultivate another field there. They had other misfortunes, which reduced their status even more. Their goats fell ill and died in scores, and bandits stole those remaining. Whatever the reason, the result was that they had to live at the mercy of the cultivating population.

Ay is by no means an exception in her family. Ay's brother also left Douma. He went to Côte d'Ivoire to look for work and, as he himself admits, for adventure. Just as Ay, he finally settled near Bandiagara where he lived off the labours of his wife. He was not able to work, though it was unclear why not. He had no animals, and did something in trade. His son left to look for work in the south of Mali, leaving his father and mother behind. Ay's younger sister also ended up in Bandiagara, where she lived with her husband in an acquaintance's house. She and her husband were both very ill and lived off gifts from the people around them and when possible they herded the cattle of a cultivator from a village near Bandiagara.

Only one of Ay's sisters still lives in Douma, married to a wealthy herdsman. They trek with their cattle to the Inner Delta just like Ay's father did in the past. She was very negative about the lifestyle of Ay and her brother whom she accused of living irresponsible lives. She did not understand why her eldest sister stayed with this husband who, according to her, was a thief. The brothers and sisters did not help each other in hard times.

In Bandiagara rumours about Ay's husband paint an even more negative picture of their bad luck and the role of the husband. Ay's husband confirmed part of the story. When they were near Okoyeri, life was tolerable. The population of Okoyeri increased, fields expanded, and space became limited. The demand for herding labour decreased as the Dogon of Okoyeri began herding their 'investment' herds themselves. Consequently the herdsmen lost their jobs and their homes. In fact they were pushed out of the area. Ay and her husband were part of this outflow of Fulbe and were forced to search for employment on the Bandiagara Plateau. They moved through various villages of cultivators where they found work for a few years or sometimes only for one season.

Ay's husband found such a life difficult and left the family. He went to the south and started stealing animals, before finally being imprisoned. During this period, Ay had to survive alone with her children. Her eldest son was old enough to help her but it was a very hard existence. The day Ay's husband left, he just vanished and she

decided not to follow him but to stay in the region she knew, hoping to survive by herding cattle belonging to cultivators. In 1995 her second son left to look for his father and to Ay's joy they returned together. Her husband had become an old man.

In 1997, Ay and her husband herded cattle owned by cultivators near Daga. Their second son, who had got married in the meantime and had a child, went to another village also herding a Dogon's cattle. He also tried his luck in the cattle trade in Bandiagara with a cousin but the revenues from this activity were marginal. The cousin helped Ay with small gifts, some food and money. Ay and her husband lived a lonely life in the bush near Daga in their small hut on a hill. The old man looked after the cattle and Ay was alone in the hut almost all day. They did not have enough to eat and lamented their poor existence. Nevertheless they were glad to have work and the cultivators would not let them starve to death. Ay's main worry was her youngest son who also left without any warning, to return when he liked and leave again when he was in the mood to do so. He earned some money with herding cattle in the south where the contracts between herdsmen and cattle owners were much better than in Bandiagara. Ay hoped she could find him a wife so that he would stay around Bandiagara and the family would be together. Ay is very ill and she needs to live with her sons now. When we last saw her in 1999 she still lived near Daga, alone with her husband. A year later her husband died and we have no idea where she is living now.

- Bura and Fata Diallo

Bura and Fata Diallo have been wandering within the study area since the drought of 1983-85. They are Jallube from the Hayre. When we met them in 1997, they had just arrived in Bandiagara to see whether this area would bring them some good fortune. They have still not decided where they will eventually settle: life may take them, literally, in any direction.

We met Bura on the road, when he was looking for his son who had departed that morning with the goatherd from the Seeno for the Bandiagara Plateau. They had just left Bankass, a town on the southern Seeno. Around Bankass the pastures were finished and there was nothing to eat for their goats, their most priced possession. Bura and his wife Fata and their four children wanted to try their luck around Bandiagara. They had never been there before but as Bandiagara is a small town, they thought it might be possible for them to survive there in some way or another.

They left their home village in the Hayre when their herd was wiped out by the drought of the 1980s, preferring to leave instead of living off the goodwill of Bura's paternal uncle. Bura would have felt ashamed if he had tried to ask his uncle for help, and he might not have been willing to help them in any case. When they left, their eldest son was only a few years old.

Leaving was not easy because they knew it would be for a long time. Only Bura went back regularly to visit his sister who is a leper and lives in Douentza with her daughter. Most of the time she has to look after herself because even Bura's help was intermittent. In 1997, Bura also returned to offer his condolences to the family of his

uncle who had died. Fata never returned. She missed her mother very much. They first settled in Borko (on the northern part of the plateau) where they herded the livestock of various cattle owners. Then they wandered over the Seeno from cattle owner to cattle owner and finally decided to go to Bandiagara. In the meantime they had been able to buy themselves some goats with the revenue from milk from the cattle they herded for others. These goats had reproduced, so they were able to live partly off the goats.

Travelling for all these years had not been without sadness for Fata and Bura. Three of their children died along the way. Their third son Alu died in Borko. Their first son Hamma died somewhere on the Seeno, just like their second daughter Jeneba. They were buried somewhere in the bush. Fata told us that she had had hard times. Food was always scarce and as she said herself, 'Look at my children'. Her children were indeed skinny and small for their ages.

When they arrived in Bandiagara, they had nothing except their goats and were looking for a place to stay. They found an abandoned hut including a worn-out mortar and pestle near one of the Fulbe families from Douma (near Douentza) who had also settled near Bandiagara directly after the droughts of the 1980s. They occupied the hut for some time but had to vacate it and the field on which it was built when the millet started to grow. Umaru, a young man of about 30 and a migrant from Douma near Douentza, kindly invited them to stay with his family in Biilal, on a hill near Bandiagara. Two of his brothers had left after a quarrel with his father and their huts were still empty. Biilal is one of the few places around Bandiagara without fields where the Fulbe can live with their livestock during the rainy season. In the past this hill was used for keeping sick animals in quarantine. The cattle owners do not want them to go far away so they have no other choice but to stay in this thorny, muddy place that is infested with millions of mosquitoes. Umaru also offered them a part of his field, which he finally even harvested for Bura.

Fata and Bura accepted the offer and came to live on the mountainside in Biilal. Within a year they were integrated into the small community there, whose members are from other lineages, the Fittoobe and Gondokoobe. Bura found a cattle herd from someone in town whom he happened to know from Borko. This herd provided them with milk and when it was marketed it brought in cash to buy food. Nevertheless they were always considering returning to the Hayre, and assured us that they wanted their children to marry their own people from the Hayre. For their eldest daughter they had already arranged a marriage with her cousin (Bura's brother's son). In December 1997 Fata considered returning to the Hayre but she was pregnant and felt that it would not be possible that year because of the drought, like almost every other year. It seems highly unlikely that she will ever return to her mother's house.

The latest news about Fata and Bura was that they had left Biilal again and gone with the same owner's herd to the north of the Bandiagara Plateau where they could have expected to find some more pastures for the animals. Their newborn son was buried near Bandiagara when he was just a few months old.

- Comparison

The histories of these two families show similarities. They both lost their cattle at a certain time and they both decided to leave to look for possibilities elsewhere. They did not choose to become dependent on richer family members, although they could have done so. They both chose the option of herding cattle for rich Dogon. A difference is the turn their lives took after a few years of wandering. Ay and her husband were 'expelled' from Okoyeri and they had a lot of misfortune. Bura and Fata were, in fact, lucky to regain a livelihood: they were even able to build up a herd of goats.

This difference may be well explained by the characteristics of both families and the role of the adult men. Ay's husband did not excel in honourable behaviour and his character influenced the options Ay had. In fact, integration into the Fulbe community settled around Bandiagara was no longer possible.

It is unusual that Bura and Fata were accepted as temporary members of the Doumanke family with their narrow ties with Dogon in Bandiagara. These Doumanke Fulbe were closely related to Ay's family. Nevertheless they did not do anything for Ay. Ay's cousin supports the Biilal Douma Fulbe as well. So the social security option within her own family was cut off for Ay. This was not only the case within the group around Bandiagara but also in Douma itself where her rich sister lived.

Ay's sons did not choose the option of joining forces and taking their parents with them. It seems that by spreading themselves, they were able to survive better on an individual basis. The youngest son did not take any responsibility for his parents as he loathed their miserable existence but his adventures in the south did not bring any advantage to the family, just as the exploits of his father some years before. The only option left for Ay was indeed to live with her husband in a faraway corner hoping that things would take a turn for the better. She made the decision for her husband. Instead of 'fleeing' to her own rich family, she preferred the social network of strangers – the Dogon who indeed did not let them starve.

Bura and Fata's choice to wander around also had to do with their choice not to be dependent on their own families. Bura's uncle could have taken care of them, if they had accepted being his herder. But Bura could not do this. Pride prevented him from depending on his own family so he looked for ties with strangers – Fulbe of a different lineage, the white people in town, or the rich Dogon. All these relations were temporary however and they chose to leave before they became too dependent.

These choices can be linked to the personal characters of the people involved and to the social capital they had. They can also be linked to the cultural complex around feelings of shame (*yaage*) in Fulbe society (see De Bruijn & Van Dijk 1995; De Bruijn 1999). Bura and Fata also had the option of joining other Jallube from the Hayre on the plateau, whom they knew and to whom they were linked through kinship ties. Bura explained that although he might have preferred their presence this was simply impossible because of *yaage*. They were as poor as the others and shame prevented them from showing their poverty. It would, for example, not be possible to eat together.

Fata and Bura's enterprise grew because of other factors too. Fata said that she was a very successful milk seller thanks to her bargaining skills. And indeed she fed the family from her sales. Furthermore she was good at getting help from various people. The couple was also lucky to have a son who was very good at taking care of the cattle, while their eldest daughter was well able to look after the goats. Bura could walk around in town, womanizing, and Fata could do her work assisted by her younger daughter.

Another important factor influencing the choices of these two families was the increasing scarcity of land. The example of Okoyeri shows that inter-ethnic exchange relations are dependent on resources being available. It may be that in the future more Fulbe will leave the plateau for the same reason. Scarcity of land and bad relations with the Dogon cultivators were not the only reasons why Fata and Bura left Bandiagara again. For the time being Ay and her husband were tolerated in Daga. Being dependent on such fragile relations is not easy, and encourages poor Fulbe to wander around. The avoidance of conflicts is another reason for remaining mobile.

The examples of Ay and Hamma Saadu show that life is not easy for old people. When they become old they are completely dependent on the whims of their children. As they have no resource base on which to base a livelihood, their children escape from their authority. The young are faced with the problem of having to build up their own existence. Parents are only a burden. An additional factor is the opening up of the outside world. It has become much easier to escape from one's parents as possibilities for employment and travel have increased. The problem is that the revenues from such employment barely cover the needs of the labourer himself. A family can only survive from a multitude of activities.

It is striking that a lot of nomadic people finally end up in Dogon villages where they live on the charity of Dogon cultivators. In almost every Dogon village, families of wandering Fulbe have settled, at least temporarily. In other parts of Mali, such as in the cotton-growing areas around Koutiala, one can also find numerous Fulbe who have been wandering. Other research shows that Dogon migration due to poverty is a regular phenomenon (Petit 1998; Nijenhuis, this volume). There seems to be a pattern of mobility in areas like this.

Pathways: The main tendencies

The four individuals and their families presented in this chapter all have their own experiences in life. They were chosen to represent some extreme variants of pathways found in the area and they serve as a first tentative typology of actors in this area. It is striking how different their lives are while they live not very far from each other, under roughly the same conditions, and have been confronted with the same contextual changes.

The most important differences between these individuals can be explained by differences in group membership (such as membership of ethnic, status and family

groups), apart from resource endowments. Ethnicity still makes a big difference: it defines a socio-cultural and ideological framework to which people resort when taking crucial strategic decisions. This framework is linked to ideas about appropriate forms of labour.

Personal circumstances are also important. How is a specific individual related to his or her family? What history do these relations have? Is the person in question part of an extended family, or is the basic group the nuclear family? Have relations within the extended family deteriorated over time? How many children does a person have and in what phase of the life cycle is this person? Other personal circumstances are, of course, material wealth. Material wealth is partly the outcome of different events; of people's chances and how these chances were used.

Psychology is important too. Can people cope mentally with the situation in which they live? In the examples presented, some people could not cope with their situation and reacted in a more or less dramatic way. Some people have the will to experiment, while others stick to old customs. Some are tied to personal relationships while others can easily shift from one person to the other and are externally oriented. These are typical character differences between individuals.

The inhabitants of the Hayre-Seeno area all have these personal traits related to group, social and individual differences. Although the environment seems to be the same, they do not perceive situations in the same way and thus they react differently to changes.

The major changes examined in this chapter are climate changes, or climate-related events such as drought, harvest failure and the loss of livestock mostly related to rainfall variability. Other important changes mentioned by the people have to do with the opening up of the outside world. However, it is clear that this is very different for each individual. The 'invasion' of the Tuareg from the north seems to have been important for some people with respect to new technologies they have picked up. The same may be said for the invasion of 'development', which has only reached a few villages and individuals as yet.

Nevertheless it can be stated that most people perceive changes in the ecological environment or feel confronted with their consequences. They see the invasion of cultivators expanding onto former pasture areas, or they perceive diminishing amounts of rainfall, or varying rainfall patterns. For some people this goes together with a growth of hostilities between them and their kin, or between different ethnic groups, between villages, etc. These changes may also be interpretations of other changes people go through. It is clear that through the increased migration in the area, people are coming to know different worlds and thus start interpreting their own lives and circumstances differently. Poverty is no longer accepted; hunger is perceived as inhumane; they want to have access to modern consumption goods.

The main tendencies we have identified so far are the following. The principal effect of the droughts is an increasing rate of mobility. Migration over longer or shorter distances, adapting routes followed by cattle, searching for new alliances

between herders and cultivators, and the expansion of fields may be understood in this way. The Fulbe react mainly with rural-rural migration. Dispossessed Fulbe leave their social environment, probably for reasons of shame, but also because it is their alternative to poverty. For some Fulbe the drought and its consequences coincided with lack of space for their main activity: the keeping of cattle. Migration to town, temporary or permanent, is also a direct reaction to poverty, with migrants hoping to earn money in town. For some people migration is seasonal and may be explained in the context of the development of a multi-spatial livelihood. This may be urban, rural or totally rural.

The second response is that people change social networks. The social environment in which people live does not always offer social security. There is a general failure of social support systems to deal with crisis conditions in the region. At the same time people are creative in making new alliances and redefining relations in new circumstances. The institution of *yaatigi* seems to do its work as in the past. Relations between social categories are changing. It seems that the droughts have led to a more egalitarian society in the sense that the old hierarchies are losing their importance and are regarded as something from the past. Nevertheless, these old relationships with their strict definition of rules and norms remain an important part of the political sphere, particularly in relation to the issue of access to land.

A third domain of change is agrarian technology. The changes in this area have not been large in a technological sense but have been extremely important for the organization of production. For example, the changes in the provision of water in the form of wells and boreholes have had an important impact on the expansion of cereal cultivation and on the organization of population mobility. The people themselves also come up with solutions, as was the case with the barrel and donkey cart. Recent innovations such as the plough and the introduction of camel traction have indeed changed the landscape.

Fourthly, people try to develop alternative sources of income. Very few alternatives are available in the region itself. Consequently these sources of income are closely attached to increasing mobility. Fulbe primarily look for activities related to livestock keeping, such as salaried herding, or being middlemen at the livestock market. They also feature in petty trade. Entry in livestock trading activities is difficult because the capital demand is high, even though the trade in livestock increased after the Sahelian droughts.

Fifthly, religion is not really a domain of innovation but rather a domain that provides security. Religious activities provide some people with the possibility to earn an income as a *marabout*, a Koranic teacher or as a healer and may provide a living for others on the basis of charity. It may further open up opportunities to enter different social networks with new possibilities for income generation.

For the Fulbe in the Hayre-Seeno area the trend towards increasing mobility seems to be the dominant way of coping with change. It is part of people's perception of and reactions to change. People living in this area are used to travel and this travel takes different forms. Being mobile is part of their being and self-definition. Most enjoy it. It

colours the way they look at the opportunities in various environments and it influences the social relations and social institutions people maintain under these conditions. It is more than physical movement, it is also embedded in the history of the region and related to an attitude to life. The history of the Fulbe from the northern Seeno is full of mobility. The genealogies, oral traditions and history of the various groups show a constant movement of people in space and this process continues today. The choices made about the direction of moving are based on the history of a person and/or the group to which he/she belongs. This was clear from the case of Ay Usmane, who finally ended up in an area that was already known to her father. This history continues and herding groups who went south or east inspect new routes themselves on their way to new pastures, or in their movements as refugees during times of drought. Today we label these migratory movements as the displacement of people, as they are often a consequence of impoverishment. Finally, mobility always goes hand in hand with sedentarity. Some people choose for the option of being mobile but in this spectrum sedentarity is also an option.

The analysis of strategies to mitigate climate change and pathways of households, families and individuals cannot be frozen in time and space. The habitus is much larger than on-the-spot factors relating to land use and climate. A much bigger sphere has to be taken into account, and historical depth is needed to account for people's individual choices. Regional dynamics in the form of population movements are the result of these individual decisions. If mobility is indeed the main response of local actors to climate variability and climate change, fundamental revisions are needed to policy frameworks because they were never devised to deal with mobile people.

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