

GOURMANTCHE AGRICULTURE

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Part I

Land Tenure

&

Field Cultivation

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# GOURMANTCHE AGRICULTURE

## Part I

### Land Tenure & Field Cultivation

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GOURMANTCHE AGRICULTURE

0.0 General Introduction

Ideally, rural development is based on the participation of rural populations in the planning as well as execution of such development. A well-known obstacle to rural development is the difficulty in establishing meaningful communication between local/rural groups and representatives of national and international agencies. Understanding of local knowledge systems, often neglected in development programs in the past, is increasingly seen as essential if successful communication and innovation is to result.

Because life in general is so complex and human beings and their societies particularly so, every one of us tends to generalize. Such generalizing, particularly in the field of national and international development, can be at times disadvantageous to and misrepresentative of the human beings and societies about whom such generalization takes place. Economic surveys represent a popular form of generalization by modern societies. Such studies, often extremely expensive, rarely succeed in accounting for the dynamic human factors involved in development and change, despite claims to the contrary.

Carefully selected and 'representative' population groups are administered questionnaires following elaborate sampling techniques. Impressive outflows of data are generated in the form of tables, percentages, and statistics. The sheer weight

of this information tends to convince a reader of its reliability. Yet the validity of all this effort must begin in the formation of relevant questions posed to individuals in their own language. Answers given must be understood from the cultural context of those giving them - not those posing the questions.

Few 'socio-economic' or 'micro-economic' studies carried out in cross-cultural situations qualify very successfully in this first and basic step. The basic problem is one of communication and translation. Extension and research agents through whom such questionnaires are administered often have little knowledge of the specialized vocabulary of traditional agricultural and economic activity. It is easy to overestimate the ability of agents to communicate about specialized knowledge in a local language - even when it is their own language. The problem is compounded when those who prepare questionnaires have no knowledge of the local language and systems of knowledge found within it. The reader of socio-economic survey reports takes it as a matter of faith that extension or research agents are capable of translating the French or English questions on a questionnaire form into relevant ones in the local language. One further assumes answers given closely resemble answer codes provided in the questionnaire answer sheet. The fact that there are no exact correspondences between related words (not to speak of concepts) in different languages should produce caution when working in and reporting about crosscultural situations.

There are no absolute or universal solutions to problems encountered in different cultures or subcultures. This premise of anthropology suggests that a good or right course of action for the Mossi might not be good or right (done in exactly the same way) for the Gourmantché. The anthropologist attempts to make explicit for one group the implicit presuppositions and assumptions of another group. Rural development agents are often removed from their rural kinsmen by years of education and thinking in a foreign language. They frequently possess different values, social obligations, and perspectives as a result. At times they even represent a different ethnic group. These agents represent one kind of group which frequently can benefit by having explicitly defined for them some of the implicit, non-verbalized ways of organizing perception possessed by their non-educated rural kinsmen and village neighbors.

An illiterate farmer will not come and tell an agent that he perceives all cultivated land in two major classes (which the agent, because of his French orientation, may see as one class). The farmer certainly has never thought specifically of counting how many classes there are. It would be of no particular importance to him. It should be important to the extension agent. A rural development agent would not learn that there are six classes of land or that such classes are based on land tenure by simply listening to normal conversation or 'knowing the language'. There is no reason to assume that just because one might like to

differentiate red sorghum from white sorghum, that one can directly ask such a question in Gourmantché. One can not. Culturally precise questions based on an understanding of the categories of perception within the culture must be asked in order to elicit precise information of this kind.

This study may be seen as an elaborate means of demonstrating why development agents and organizations can not afford to exclude a social/cultural component or input at design, implementation, as well as evaluation and analysis stages of a program of development. What may often, to a development agent, appear on the surface to be a simple problem lending itself to straightforward solutions is rarely this at all. As long as the subjects or beneficiaries of some program are human beings, it must be realized that consideration of the human dimension is not only desirable, but essential.

Increasing farmer yields and incomes do not simply depend on adequate rainfall, increased field size and use of fertilizer, improvement of production practices (which might include animal traction), and improved seed varieties. These are possibly important material improvements. No one can predict or control where or when rain will or will not fall. There are cultural reasons why fields are a certain size and plots another, why one should plant a certain amount of sorghum and millet and not too much cash crop. High costs and risks of fertilizer use poses social problems not the least of which is security in what is

known and at least proven (ie. no fertilizer, no debt) to be adequate. How much is actually known about traditional production practices or how these systems compare to the supposed benefits of something like animal traction? How much is known about various crop varieties and their relationships to the environment? Increasing farmer yields assumes the farmer wants to go to the trouble to do this. What would the farmer consider as adequate compensation for his endeavor in this regard? What kind of crops, given yield increase, would most benefit the farmer? If a farmer is to accept innovation for increased food production, he must first be attracted to doing it. Produce price increases to farmers might be an incentive. If prices are unexpectedly reduced however, then farmers should not be expected to continue with the same enthusiasm the cultivation of that crop.\*

An efficient extension system does not simply depend on good salaries, adequate mobility, intelligent and healthy agents. The human dimension is equally important. How do they relate to farmers? Are they interested in their work? What kind of people do they need to be and what do they need to know to effectively work and communicate with rural people?

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\* Soybeans were highly promoted in the Eastern region during the past few years, last year selling for 100 CFA/Kg., a price above the world market price. Farmers were very enthusiastic and many village group associations were formed around its cultivation. This year's (1977) crop was very large but the price was dropped considerably to 50 CFA/Kg. Though merchants have bought up some of the crop for about 70 CFA/Kg. for processing of soumbala, many farmers are having difficulty finding a buyer. This situation will result in a definite drop in production during the coming season and will make extension work of ORD agents much harder. Though it was inevitable that prices should drop, farmers were not forewarned of this.

A rational Western orientated approach to problems of agricultural development does not necessarily mean a valid or successful approach to such problems in non-Western rural societies. Consider a few differences in orientation as examples of the types of problems one can expect when cultural differences are ignored or overlooked.

(1) Fertilizers are generally placed on poor soils, usually for the cultivation of cash crops - this is done because of the technical advice of the extension agent. However, the Gourmantché reserve their best soils for the most important staple food crops. Upon the richest soils, located generally around the home compounds, is cultivated corn. Sorghum is cultivated on the next richest soils. When these soils begin to yield poor sorghum crops, millet production takes over. Cash crops often follow on former millet fields, though some are cultivated in rotation with millet. The point is that farmers do not 'waste' good soils on the production of less important crops.\* Fertilizers should perhaps be placed on these soils which would increase the production of those crops most valued by the people themselves. Since value is determined by the degree to which a crop provides

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\* Tobacco is often planted in the rich soils in front of some compounds. In such cases, however, it follows corn or an early sorghum on the same soil and therefore does not compete with these crops for farmer time or fertile soil.

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basic food needs as well as its commercial value in the market place, sorghum and millet would be the crops on which to focus one's efforts.\* If increased production of cereals could be achieved without increasing field size, farmers would benefit by the security of a solid food base and would have increased time and confidence for cultivation of other crops which might also increase their cash incomes.

(2) Collective fields represent the major activity of village groups at the present time. The formation of such groups has been a major activity of the Eastern ORD (Rural Development Organization) extension service. Agents concentrate their services to members of these groups. Members are the recipients of outside loans - provided they can prove themselves to be an effective group.

Almost all cultivated fields and plots, however, are individually owned by the Gourmantché. Ownership of land is differentiated from ownership of the standing crop on that land. The owner of the crops under cultivation is expected to compensate those who help him on the land, whether these are members of his own family or persons called in from outside the immediate family group. The nature of the compensation is different for these two groups. Cash is not a traditional form of compensation.

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\* The percent of sorghum and millet cultivated by the average household which is intended for the marketplace is about equal to the percent of all the rest of the other crops combined destined for sale. Prices are comparable as well.

The organization and responsibility of ORD groups working upon collective fields has been made to fit into this pattern. Since a field must have an individual owner, the extension agent (or the ORD as a whole) is often seen as the one in actual charge of these fields. The extension agent is clearly not in a position to meet the burden of obligations placed on him by members of the village group he has formed or is in charge of.\* Yet, with proper and responsible management, the high expectations of these groups towards the ORD should be able to work for the benefit of the development of this village.

(3) The Eastern region has great resources of unclaimed, fertile soils. It is easy to draw the conclusion that no farmer should have problems therefore in obtaining enough good land upon which he may seriously attempt to invest time and money in land improvement and fertility maintenance. This is not true unfortunately. This is only true when a farmer has clear traditional access to land. On a practical basis, future and permanent access and cultivation rights to land is a real problem for numerous Gourmantché farmers. It is already becoming serious enough in populated areas without animal traction (eg. Gobinangu region).

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\* One sometimes has the feeling that members of a village group feel they are doing the extension agent a favor by being members of such a group and working on a collective field. The agent must reciprocate this favor when members have special problems (like getting them grain when stocks are depleted).

(4) Poor soil, lack of fertilizers, labor bottlenecks, lack of capital, poor rains and health problems are commonly considered reasons for lack of economic development. However, using even traditional means at their disposal, many Gourmantche farmers could produce more than they in fact do. They do not do so because of certain cultural and practical constraints. Among these is the concept of what is 'enough', the concept of social equality (not appearing too much more prosperous or successful than your neighbor or relative\*), and the problem/obligation of giving 'freely' one's hard-earned produce and capital to needy kinsmen (for food, funeral obligations, weddings, initiation ceremonies, etc.). It might seem that the farmer would have to learn to be less generous with friends and relatives if he is to himself become a better producer and to more quickly gain a higher standard of living. Doing so, however, makes him more vulnerable when the bad times come. An alternative would be to exploit these so-called constraints.\*\*

\* Farmers often have considerably more cash reserves than outside loan agents realize. They are reluctant to 'reveal' their wealth as mentioned above, they also do not want to risk it. Acceptance of loan money can sometimes be seen as evidence of a farmer's lack of confidence in a new technology (such as animal traction). He will not use his own 'buried' money or sell his own livestock to attempt something new.

\*\* Rather than seeing extended family obligations as a drain to individual initiative and advancement, this family group could perhaps be organized and collectively helped through aid to certain influential members of the group. One could expect the establishment of extended family enterprises. An organization such as Partners for Productivity could exploit this possibility.

(5) Innovations are adapted more rapidly for commercial crops than a farmer's subsistence good crops. The reason for this might not be what a development agent would at first expect. A less significant amount of a farmer's total labor and land resources are allotted to such crops (20%-25%). As a result, these are lower risk, lower priority crops. Innovation can be risked. For this same reason, most Eastern ORD group activities for village peoples have had to do with the cultivation of cash crops (peanuts, soybeans, cotton, rice). On the other hand, until field and labor productivity increases through new technology, 75%-80% of this same farmer's total field labor and land resources must be allocated for the production of subsistence crops (sorghum and millet). Such constraints pose serious problems in setting up field rotation schemes.

(6) Even as the Mossi of Upper Volta seem, in some respects, to be a more collectively minded people, the Gourmantché could be said to be more individualistically orientated. Organizations or groupings of these people need to take account of this proclivity. Collective goals and obligations should be well understood and agreed upon. Individual benefits and safeguards should be designed into those activities where collective participation is important.

One further, though related, objective of the following report is to describe agricultural knowledge, practices and related problems from, as much as possible, the perspective of the Gourmantché farmer himself. I have tried to be sensitive to differences within

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the region.\* There seem to be enough parallels and similarities between the Gourmantché and neighboring ethnic groups to make this study of relevance to persons interested in such groups.

\* There is considerable variation in rainfall patterns and soils in the Eastern region. Rain fall varies from 500-600 mm. in the north-west to 900-1000 mm. in the south-east. I have noted as much as one month difference in the growing seasons of bush plants between these areas. Specific trees, grasses and sometimes crops bloom or mature a good month earlier in the south-east.

The dominant ethnic group of the Eastern region, the Gourmantché, possesses some variation in cultural practices. This is particularly true of the north-east (Bilanga/Piala/Bogandé). Farming communities of Mossi, Fulani (Peul), Bariba, and Zaoussé may also be found in this region.

The following code is used to distinguish various Gourmantché regions in the Eastern ORD: (F) for Fada/Ugalu; (M) for Macakoali/Kaancari; (J) for Jakapaga/the Gobinangu; (P) for Pama/Sudigi; (B) for Bilanga/Piala/Bogandé.

Material for this study comes from observations and interviews over a period of a year with scores of farmers throughout the ORD. Contact was also made with the members of three household units in each of the following villages: Nasugu, Ugalu, Bulimoanga, Buajaga, Tindaangu, Nagili, Duayaana (near Mani), Kpentuangu, Kpenpienbiga. Some of the 393 Gourmantché households scattered throughout the ORD which are part of the Eastern ORD's village level survey were also contacted. Basic research methodology is that of ethnoscience, described briefly in Document #1: Innovation Analogies among the Gourmantché.

Eighteen years residence and versatility in the Gurma language give added depth to this study.

Note: Specific Gourmantché terms used in the text represent Fada or Jakpaga dialects (which vary slightly). I am aware that some regions often use other terms to express basically the same concept. This study is concerned with reaching some kind of general understanding of land tenure and field cultivation among the Gourmantché. Intensive research of one village would certainly give more specific data to which a resident would respond 'Yes, that is just the way it is here.' Gourmantché readers of this document will find much which they recognize, some which is done somewhat differently or entirely differently in the village or area they know best. Our 1978 B.A.E.P. village survey (see Eastern ORD, B.A.E.P. report 8) helps greatly in showing some kinds of specific variation.

## 1.0 Introduction - Traditional Agriculture

Crop production in Upper Volta and especially in the Eastern region among the Gourmantché is almost entirely based on traditional agriculture. Over 90% of approximately 420,000 people in the Eastern ORD meet their food requirement needs growing staple food crops (sorghum & millet) under shifting cultivation. Population density for this region is about 10 persons/km<sup>2</sup>.

Gourmantché 'traditional' agriculture is characterized by a constant process of re-evaluation and change. It is orientated to real life issues: poor or changing soil fertility, the seemingly general shortening of the rainy season during the past several decades, irregularity of the rain that does come, complete dependence on hand labor linked with the shortage of investment capital for equipment, parts, fertilizer, etc., the ever present reality of hunger. If a 'traditional' farmer tends to be conservative and pragmatic, it is because survival in this region has always demanded this.

The September/October 1977 issue of the international agriculture and livestock journal World Crops (p. 220) had an article on Improved Technology Replaces Traditional Agriculture in which Drs. Terman and Hart stated:

"When the subsistence farmer considers an innovation, he has two main questions:

(1) Will the new method, considering costs, produce an expected yield appreciably higher than his old method?

(2) Is it likely that something might go wrong and result in a net yield below his subsistence level?

Even though the answer to (1) is 'Yes', he will not change his method unless the answer to (2) is 'No'. Thus the closer that his current output comes to his minimum subsistence level (which according to the authors represents a farmer family which consumes about 80% of its production in an average year), the more conservative he is likely to be. The more unfamiliar he is with the proposed innovation, the more cautious he will be. The problem of extension is to obtain the facts and to convince the subsistence farmer an innovation is better, and reliably so."

This statement is relevant to the situation in the Eastern ORD. There are, unquestionably, numerous possible innovations which are better than current practices of Gourmantché farmers. Whether or not such innovations can be depended upon to be reliably better (under the present social conditions and even in bad years) for these subsistence farmers is another question altogether. The risks involved could be much higher. If widespread acceptance of innovations is to be expected, such innovations will have to build on both the physical and cultural realities which exist. The present document attempts to highlight aspects of both such realities as perceived by the Gourmantché, in hope that with such knowledge will come greater sensitivity and respect for the human resources of the region.

#### 1.1 Shifting Cultivation and the Rights to Land

Shifting cultivation has probably been the dominant agricultural pattern of Gourmantché farmers for centuries.\*

\* From this predictable pattern in their lives has developed one of the common means for calculating one's child's age: that is to recall what field was under cultivation at the time of birth. A farmer might say something like this: "I had cultivated Field A for

In this system of cultivation, a farmer will cultivate a plot of land temporarily and then, for one reason or another, abandon it to fallow and move on to clear a new plot;

Low population density, combined with the practice of shifting cultivation, has not resulted in an orientation in which farmers retain little interest in upholding personal rights to land; The low population density figure obscures the fact that personal and family land rights represent a sensitive issue which is going to become a major problem area in the development of this region; Ever increasing population pressure around established communities results in disputes over land; This is combined with the need for increased yields and more efficient use of cultivated land; Great portions of yet unclaimed cultivatable land exist within this region; Such land is rarely, however, within easy access of established villages; The present agricultural situation is characterized by the seasonal migration of large segments of the population to bush fields and settlements. When harvests are in, most of these people return home. The major means of locomotion is by foot, or, at best, by bicycle; Even under unfavorable conditions, members of established compounds are reluctant to pull up roots completely from their village to migrate to new areas."

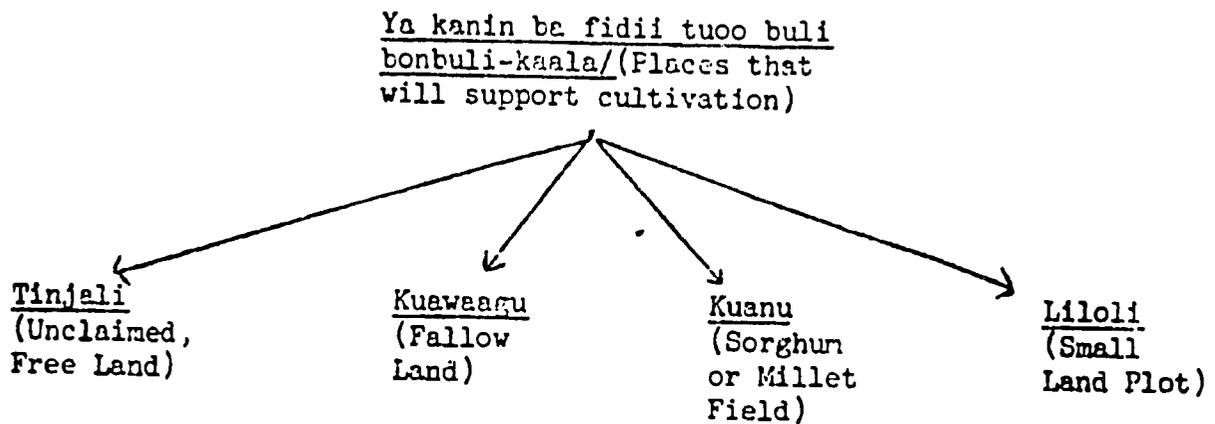
3 years when my son was born. I remained there for 4 years until I left and cleared Field B. I was there 6 years before I left for Field C, where I remained for 8 years. I have now been cultivating Field D for 2 years which makes my son 20 years old".  
\* Circumstances eventually do force family units within a compound to move out of the village. There are, in fact, quite a few villages which, within the living memory of older people today, have moved as a unit to more favorable agricultural locations.

## 1.2 Categories of Exploitable Land

All cultivated or potentially cultivatable land can be sub-divided into four major categories. The element which contrasts these categories at one taxonomic level is land use combined with the nature of land ownership.

FIGURE I

### Disposition of Land



### 1.2.1 Tinjali/(unclaimed, Free Land)

This is land which no one recalls ever having been cultivated. As far as anyone knows, no known person's ancestors cultivated it either. It therefore belongs to no one. Any person can establish personal and permanent rights to such land by simply putting it, for the first time, under cultivation. The chief in the closest village to such land has no concern over it.\*

\* This contrasts from the Mossi. Each Mossi village, as a corporate group, possesses a territory of bush land which includes all four categories of land outlined in Figure I above. A chief or chef de terre holds this land in trust for the village and arbitrates its use.

It is possible that the ruins of villages (digbena) or compounds (digbengu) may be found in the bush. Clearly the land around such places was once cultivated. Yet, if there exist no descendants who can claim the land, and the land cultivated by the original inhabitants is once again good for cultivation, then it too reverts to being called tinjali/(unclaimed, free land). Anyone can establish rights to it.

It is only within the past few years that rainy season flooded low lands (baegu) have been put into the cultivation of rice and the establishment of gardens (sardinga). The increase in the use of such bas fonds land for these purposes has been dramatic. This, in part, may be explained in the fact that traditionally, with the exception of a few isolated areas such as behind the Gobinangu chain of hills, the Gourmantché did not view bas fonds land as cultivatable land. This meant that, up to quite recently, almost all such land was categorized as tinjali/(unclaimed, free land).

The Voltaic government is presently making a concerted effort to make use of rainy season flooded lands. Realization of the value and potential of such land by ambitious and informed individuals has resulted in their laying claims to it, and cultivating it. Because of the tinjali/(unclaimed, free land) status of most bas fonds land, no one can come up to such a person later and tell him that this land was the fallow or former field of some past kinsman and that, therefore, it can not be claimed.\*

\* Some farmers today, despite the fact that they have never cultivated bas fonds land, are attempting to lay claim to such by demonstrating that their cultivated fields lie (or once lay) adjacent to a bas fonds and

What has happened when bas fonds are created by the construction of dikes is that people often do come and claim the thus improved land. Flooded lands often do belong to some person, extended family, or lineage. This is especially true if the lands are located anywhere near a village. Construction of dams pose the same problems.

Land owners rarely give up permanently their land rights. Among farmers, land is never sold.\* It is only loaned out. A case in point is the dam located near Ugalu. Until this year, one farmer and his family were exploiting the rice and garden lands created above the dam. These lands belonged to the farmer's father; they were his fallow fields. When asked why they did not exploit yet available lands around the water's edge, other villagers (members of the ORD village group there) said that maybe they would ask the farmer permission to borrow some of it. This was told me before the beginning of the 1977 rainy season and nothing was done that year to initiate such exploitation. This year two men asked to borrow some land for rice plots. A similar situation exists at the PK-2 dam outside Fada N'Gourma towards Pamma. Not all the participants of this self-help project today have rights to cultivate land around the now existing dam.

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that this land thus represents part of their property. Such a farmer does not necessarily plan cultivating the land he claims in this way.

\* Traders and functionaries in large communities such as Fada N'Gourma use their influence and wealth to secure for themselves valuable property. Ras fonds lands or lands with year-round water near the surface can be purchased for high prices. Within a town, 150,000 to 300,000 CFA would not be too much to pay for a small parcel of land (1 ha.) upon which an orchard could be placed.

The complication raised by already existing rights to land are a fairly common reason for the present under-exploitation of potentially productive land in and around villages and newly created dams or bas fonds. Only official action may make change of land ownership legal through the creation of a written title of ownership. This should be done before any kind of improvements are made to the land.

1.2.2 Kuawaagu/(Fallow Land)

A second category of exploitable land resides in the kuawaadi/(fallow lands). The term refers to the practice in shifting cultivation of leaving once cultivated lands to a long period of fallow. The land is usually reclaimed by the bush. With the passing of years the soils regain slowly their fertility. Such land is still possessed by the original farmer or his descendants. Land which once was 'fallow land' but is at present once again under cultivation may also be called kuawaagu/(fallow land).\*

There are five classes of 'fallow land' which a specific Gourmantché farmer might encounter or possess. It should be noted that lands are not owned by the village or chief as such. Land is owned by individuals or larger and larger groupings of blood-linked individuals.

(1) n kuawaadi/(my own fallow fields)

These are the fields that a farmer himself has cultivated

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\* The obviously inadequate translation of 'fallow land' for kuawaagu serves to demonstrate the problem in cross-cultural communication of this kind where no one-to-one correspondance exists.

on tinjali/(unclaimed, free land) and subsequently left to fallow because of declining fertility or other reasons. Whatever the reason for its abandonment, such land remains the inalienable property of that farmer and his male offspring. Within his lifetime, it is possible that this farmer will recultivate this land several times.

(2) n ba kuawandi/(my father's fallow fields)

These are the fields that a farmer's own father originally exploited upon tinjali/(unclaimed, free land). This farmer shares the rights to this land with his father's other sons. The oldest son arbitrates if the father is no longer living.

In the case that one of the farmer's 'mothers' (all father's wives) cultivated her own parcel on unclaimed, free land, such land also becomes 'my father's fallow lands'. Though daughters can not inherit the rights to their father's lands (since women do not own land), they can pass such rights on to their own sons if their father should have no sons and if no male kinsmen of their father (uncles or uncle's sons) exist either. If these sons, in their lifetime, do not press their rights however by cultivation, planting of trees, or picking of possible locust bean produce, they will lose it. Outsiders will consider the land as having returned to its tinjali/(unclaimed, free land) status.

(3) n ya ja kuwaadi/(my grandfather's fallow fields)

These are the fields that a farmer's grandfather exploited on tinjali/(unclaimed, free land). This does not include the fallow

fields of grandfather's brothers (who in Gurma are also called 'grand-fathers'). All male descendants hold equal rights to this land; the oldest male arbitrates.

(4) n damba kuawaadi/(my kinsmen's fallow fields)

These are the fields that a farmer's great-grandfather and his offspring (with the exception of the farmer's grandfather's line) are believed to have cultivated upon 'unclaimed, free land'. They were the first to cultivate it. This includes all people referred to as baamba/(fathers) (all male kinsmen of father's generation) and ya,jaamba/(grandfathers) (all known male kinsmen of grandfather's generation and above). This includes the fallow fields of the children and children's children of such people as well.

(5) nitua ya kuawaagu/(someone else's fallow land)

This is a field which was originally cultivated by someone not considered related in any manner by blood (another clan or lineage) or in any sufficient manner (any grouping above the cuuli or badiegu level, ie. great-grandfather's generation and beyond (see Taxonomy II, Document #5, pp. 7, 8, 11, at levels 9 through 13.)). To cultivate such land, one must mia/(ask) the owner(s) permission for temporary use. Use of such land does not involve any kind of payment to the landowners.

A woman will refer to the parcels of land she works upon as n caalo kuawaadi/(my husband's fallow lands) or n caalo-kpiiba kuawaadi/(my husband's kinsmen's fallow lands). She may also use any of the five categories of land outlined above.

1.2.3 Kuanu/(Sorghum &/or Millet Field)

A kuanu/(sorghum &/or millet field) is the land under sorghum or millet cultivation and is the major source of food grain. When a Gourmantché says that n ca n kuanu po, he is saying that he is going to his field of sorghum (or millet). He would not be speaking of any other type of crop. It is quite possible that at this field (or in it) will be found a parcel of corn or peanuts. He would say n tiin-loli ye n kuanu po/(my peanut plot is at my grain field).

Any specific grain field under cultivation is the exclusive property of an individual. How that individual may dispose of the produce of this field will depend on a number of factors to be discussed later. With the exception of some collective fields, fields are not collectively owned.\*

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\* I am defining 'collectively owned' as equally sharing labor, responsibility, and ownership of land and produce. The idea that the Gourmantché collectively 'own' and work a collective field appears to originate from the Mossi region. The emphasis, as far as specific fields and plots are concerned is less on the 'collective' and more on the 'individual' efforts of family members. The family head may very well continue to work in the big field while the rest of the family are off cultivating their own plots. Because the Mossi possess a term puugo which can designate any type of cultivated area of land (and is therefore closer to what English and French speakers mean by a 'field'), there is a tendency among expatriates and extension agents alike to assume the Gourmantché have a similar concept. It is a mistake to refer to everything as a kuanu of something (a kunau of maize, a kuanu of peanuts, etc.). The term kuanu is much more restricted in its meaning. Nor can the five classes of 'fallow land' discussed earlier be adequately translated into Moré. The conception of land is different.

One may differentiate two types of kuanu/(sorghum &/or millet fields):

(1) A family head will possess a large field upon which members of the household unit may labor during the first half of the day (from about 7 a.m. to 1 or 2 p.m.). This large field may in fact, for lack of enough land in one place, be divided up into two or three non-contiguous sections. Even when this is the case, however, the family head will call the totality n kuanu/(my grain field), something the other members of the household unit can not do. For them it is either 'our field' or 'my father's field' or 'my husband's field'.

If a brother or father or other kinsman is living with this household, such a person can also have his own kuanu/(grain field). In such a case he will not be obligated to spend his mornings on the field of the household head. In this situation, a good portion of the crop from these kinds of fields will be used at the discretion of the household head. This is an obligation incurred by being a part of this household.

(2) The type of kuanu/(grain field) described above must be differentiated from what is called the suali-kuanu/(the 'extra' personal sorghum and/or millet field). The term suali implies afternoon work. Such grain fields are generally smaller than that of the head of the household and are individually owned and labored upon by the other members of the household (wives, sons, daughters) who have the incentive and time to do so. Such fields are worked in

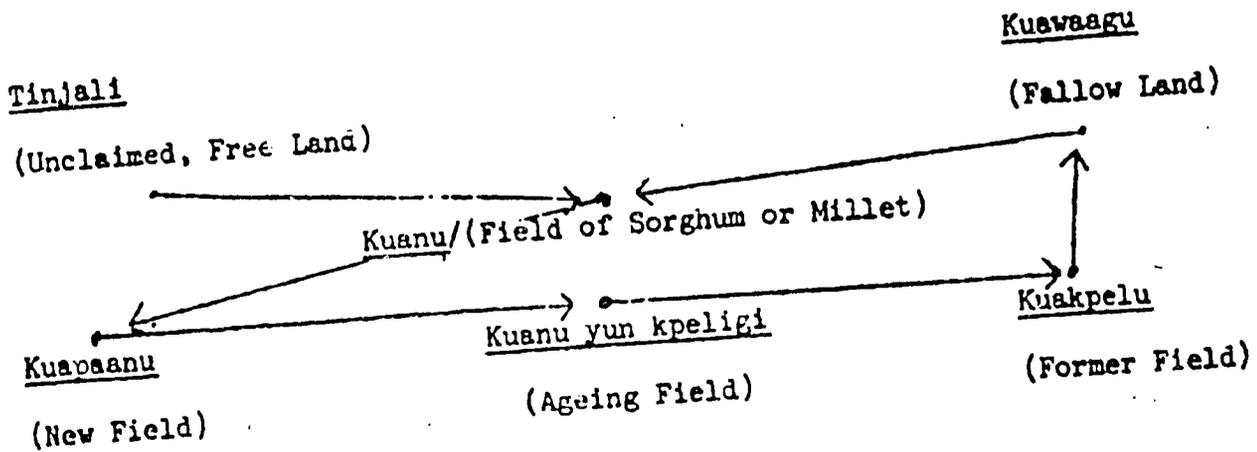
the early morning (daybreak to 7 a.m.) and afternoons (3 p.m. until nightfall). The crop from these fields can be an important insurance crop for the household should the season be poor and the harvest of the major field(s) be insufficient. The produce belongs to the individual. Whereas a wife or son can make some extra money selling the grain from his or her suali-kuanu ('extra', personal grain field), the head of the household will make his extra money through the surplus of his large field, and sale of cash crops.

The survey of Stuart Gaudin, FAC expert in the Bureau for Community Development of the Eastern ORD, among 28 subsistence groups in this region, has provided some useful statistical material. He notes, for instance, that the average amount of land under cultivation for sorghum and millet per household head is 3.9 ha. as compared to the average 1.2 ha. cultivated by the other members of the household combined.\* The difference he has noted here is the difference between the two types of kuani/(grain fields) just presented.

A farmer may distinguish three stages through which his field may pass before it is abandoned to a period of fallow. The attributes of each stage will later prove important in farmer decision making processes governing cultivation.

\* Document de Travail No. 2/78, Bureau des Productions Agricoles, Programme Experimental de Gestion des Exploitations Agricoles, juin 1978.

FIGURE II  
Stages of a Kuanu/(Grain Field)



(1) Kuapaanu/(New Field)

A new field may be established either:

- (a) from land classified as tinjali/(unclaimed, free land) or
- (b) from land classified as kuawaagu/(fallow or once cultivated land).

(a) Cultivation of 'unclaimed, free land' establishes the ownership of that land by the farmer and his descendants. It is an inalienable possession and right. When the farmer dies, all his land rights pass on to his male offspring. Women do not possess the right to own land. Should a man die without leaving a male heir, his brothers will be able to claim it. If the man's father left no living heir, then ownership will pass up to the next closest link in

the lineage, this is the father's brothers. If even these brothers no longer live, and themselves left no male heir, complications can arise. Some more distant relative may try to claim the land. Or a female descendant of the original owners may claim it in order to pass it on to her sons. In some cases the land is forgotten, totally abandoned, and reverts to tinjali/(unclaimed, free land) status.

(b) Ideally, cultivation of fallow lands should be upon soils which have been fallow for enough years to resume sorghum cultivation. Realistically, the period of fallow or lack of use of once cultivated land depends on the state of the land when abandoned as well as the needs of an ever increasing population. Because of rising populations around well established villages, land is increasingly being put back into production before soil fertility has been restored under fallow. Often, millet is the only type of cereal crop that can produce adequately. The result is that there presently is a net increase in the number of fields a farmer may expect to have to clear and cultivate during his productive lifetime. This is especially true around large towns and villages. This inevitably results in deterioration of soil and declining yields. Farmers will be forced to move farther and farther from the major center.

(2) Kuanu yun kpeligi/(Ageing Field)

A new field on unclaimed, free land, will, after four to six years, begin to become a kuanu yun kpeligi/(ageing field). A field will retain the title of 'ageing field' until it is eventually abandoned

as a sorghum or millet field - sometimes eight to fifteen years later. It may be abandoned to fallow earlier by those farmers who have access to better soils and who have a preference to sorghum as a food.\*

Recultivation of a fallow field has only two to four years before the change begins leading it to become an 'ageing field'. Some six to ten years later, it will have to be abandoned.

The readily visible changes between stage (1) and (2) fields is that while the former are excellent for the preferred sorghums, the latter only support adequate millet production. An evidence of this change in the soil is seen in the appearance of new varieties of vegetation (e.g. various Striga species). Farmers retain their best soils for sorghum cultivation. The transition on a field might be illustrated in the following manner.

During the transition years, sorghum and millet are alternated on different halves of the field. Farmers explain this by noting the fact that millet temporarily seems to restrict the growth of the semi-parasitic weed Striga of sorghum. The second year after the appearance

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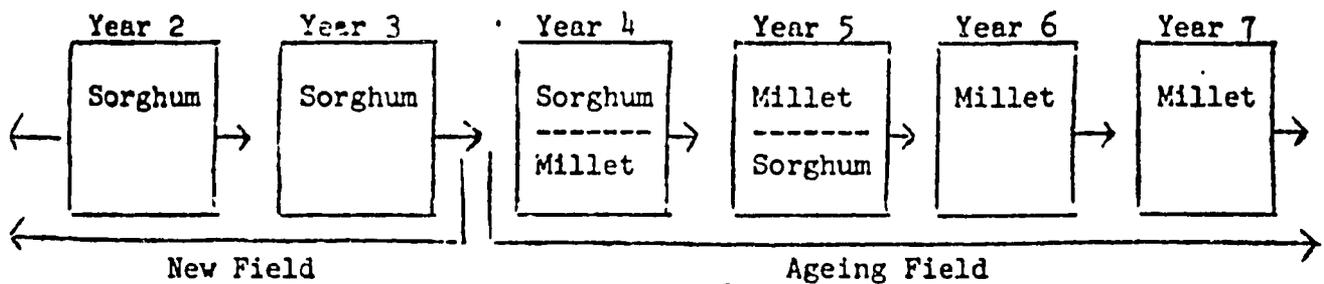
\* A farmer's decision to relocate his field does not necessarily coincide with the lack of fertility of his soils. Because fields are often out at some distance from the village, farmers like to cultivate near each other. Such proximity not only gives companionship, but gives a sense of security should unforeseen trouble arise. Many fields in one area are easier to protect from wild animals, birds and livestock. Therefore, if for some reason the owners of neighboring fields relocate, a farmer may also relocate with them - even though his land is still good.

Should, for some reason, a farmer have to abandon a 'new field', it can happen that someone else will ask permission to take over the cultivation of the field. The owner, in such cases, may demand that the borrower give him a couple tins of grain. As the owner has not yet regained the expected benefits due to the intensive labor of clearing this land (and because the newcomer has only to plant his crop and weed), a form of payment is necessary. Should the field have stood fallow for several years and requires reclearing, no such payment would be expected.

of these weeds, sorghum production will be seriously reduced unless millet is cultivated for a year upon this soil. Such rotation makes possible two and possibly three extra years of sorghum production.\*

FIGURE III

Sorghum-Millet Field Transition



When the switch over to millet becomes absolutely necessary (e.g. at Year 6 in Fig. III above), many farmers start to clear a new field so that they may retain sorghum production. This is, of course, not possible in all those areas of the Eastern region where soil fertility is already low.

One, two, sometimes more years before a farmer's present field wears down, he will establish his claims, if he can, on 'unclaimed, free land'. He will cut down a number of trees showing some kind of boundary. A planting season or two before his move, he will clear part of the land and cultivate cotton or sesame, or cowpeas. Doing this establishes his permanent claim to the land.

\* Some farmers mix seed, planting sorghum and millet in same pocket, for the same reason.

Should he die without having done so, the 'free land' remains 'unclaimed'.

Some farmers have large sections of contiguous family land which permits them to remain on one kuanu/(sorghum and/or millet field) for as long as ten, fifteen or more years.\* In amoeba-like fashion, the field moves across such land with passing years. Other farmers have sufficient fallow fields within the extended family so as not to worry too much where they will move to next. Yet others will borrow land. Of 305 household heads asked,\*\* 33% noted that they were looking for or knew where their next major sorghum/millet field would be located (a response that indicates that they are nearing the time they must leave their present location).

(3) Kuakpelu/(Former Field)

The possession of a 'former field' assumes that the farmer has a kuapaanu/(new field) somewhere. A 'former field' is not necessarily an 'abandoned or fallow field' for parts of it may be retained for use as alola/(small land plots). When finally left to fallow, the field becomes a kuawaagu/(fallow land) whose general boundaries and existence will not be forgotten for a number of generations, even if it should revert back to bush.

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\* This case seems most typical of Piala/Bogande region farmers.

\*\* 1978 B.A.E.P. survey.

The persistent downward trend in the fertility of a field's soil once it is cleared of its bush and cultivated is seen as inevitable to Gourmantché farmers. The system of naming fields above reflects this. The idea of checking or even reversing this downward trend through fertilizers, proper crop rotation and fallow periods is difficult to grasp. The possibility of such a system might excite farmer imagination if the problems on how to successfully implement such a system could be solved.

Traditional orientations to agriculture and land use pose constraints. Gaudin has helpfully suggested that a rotation scheme for each of the major classes of cultivated fields might be part of the solution.\* A rotation schedule could be set up for the plots and small fields inside the village around the compound. Another schedule could be concerned with bas fonds management, another with the more distant bush fields where good land is more plentiful. Such schedules could vary for any one of these classes of land depending on the actual conditions of the soil. Sorghum soils should not be permitted to deteriorate to millet soils. The most obvious immediate step is to retain present levels of soil fertility through proper controls of wind and water erosion. This must be done at the same time that animal traction becomes better understood, used, and widespread.

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\* Gaudin, Document de Travail No. 2 of the Bureau des Production Agricoles, ORD de l'Est, p. 18.

1.2.4 Liloli/(Small Land Plot)

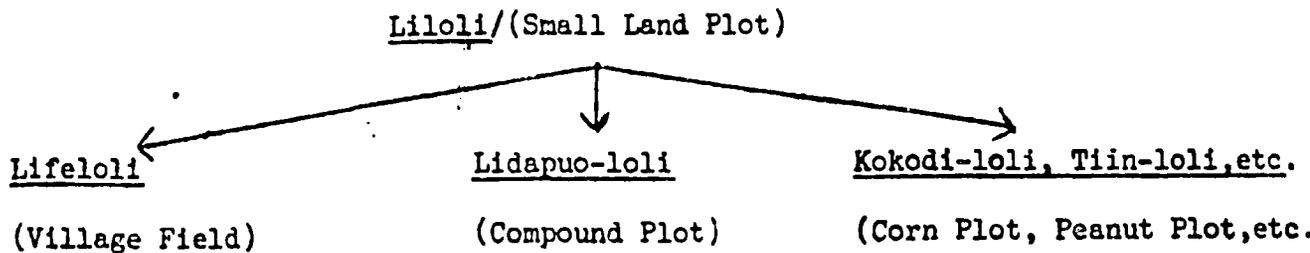
A fourth category of exploitable land is to be found in the many individually owned smaller plots of land upon which are grown quite a number of crops other than sorghum and millet. Some are cultivated exclusively for commercial purposes, others provide a supplement to the farmer's basic subsistence crops of sorghum and millet. Most crops cultivated serve both purposes, however. Such crops include rice, maize, earth peas, peanuts, tobacco, cotton, and soybeans. Okra, red peppers, cowpeas, gourds, squash, various small plants whose leaves are used for sauce, sweet potatoes, and manioc also supplement the household diet and income. It is very easy to under-enumerate these plots for a household. Each individual must be asked if he or she possesses a specific plot of maize, for example, as well as how many such plots. It is also easy to under-estimate the importance of the accumulated effect of all of a household's plots on this group's well-being.

Land used for a liloli/(small land plot) may occasionally be on recently unclaimed, free land. This is often the case for bas fonds rice lands. More often, plot cultivation is either on a kuakpelu (former field) whose soils remain adequate for this purpose, or on land classified as a kuawaagu/(fallow land). Major plot cultivation takes place within a village around the various compounds. Soils here often benefit from both human and animal wastes and as a result are cultivated year after year without a fallow period. Some plots are located around the borders of or within major grain fields.

There are three major types of 'small land plots':

FIGURE IV

Plot Cultivation



(1) Lifeloli/(Village Field)

These plots represent the small fields within the village upon which maize, early maturing sorghum varieties, millet, tobacco, squash, and rows of kenaf and roselle are cultivated. These are often the first fields planted at the beginning of a new rainy season. They are also known as sankagu (F), kuankuagidi (P), and daye-kuani (B) (See Figure V).

(2) Lidapuo-loli/(Compound Plot)

Outside a compound, behind each hut, is a plot of land which belongs to the resident of that hut.\* A compound may have as

\* Usually each married woman has her own hut. The compound head will have his own hut. Whether or not other husbands have their own huts depends greatly on region as well as husband's desire. He may sleep in the hut of his favorite wife.

many of these individually owned plots as resident huts in the compound.\* Crops most commonly cultivated here are maize, squash, gourds, kenaf, and okra, the latter two usually planted in rows to mark off the boundaries of each plot from the one next to it. These plots are sometimes also called dapuona or dapuolikvani (B), meaning literally 'behind' or 'behind plot'. N bi cuagi akokoda n dapuoi po./(I planted maize on my 'behind plot').

In addition to the plot behind his own hut, a compound head (diedaano) has the right to the plot situated directly in front of his compound called the cancanli or tapagili. Each compound has one such plot. Here, one often sees maize intercropped with early millet or tobacco. Sorghum as a sole crop is less frequently cultivated here.

(3) Kokodi-loli, Tiin-loli, etc./(Maize Plot, Peanut Plot, etc.)

Varicus (often) crop specific plots can be located throughout a village or in the bush upon which individuals cultivate one or more of the numerous cash and garden crops.\*\* The plot bears the

\* Most Piala/Bilanga/Bogande region households are different. What other regions cut up into the segments described above, these people see as one plot encircling the compound called the tapagili and controlled by the head of the compound.

\*\* It should be noted that the Gourmantche do not make the same conceptual distinction of cash crops vs. subsistence food crops made by English and French speakers. In the above framework, peanuts, soybeans, rice, and cotton are contrasted with sorghum, millet, maize, cowpeas, earth peas, potatoes, garden produce, etc. For Gourmantche farmers, sorghum and millet are contrasted as primary foods with everything else. Evidence of such contrast is best seen in the distinction between kuanu and liloli. Given a normal year, a household may sell as much sorghum and millet as the value of all the rest of the crops it sells combined. (This varies somewhat depending on time of year crops are sold and distance from major markets. Sorghum and millet are therefore major cash crops of the Eastern region.)

name of the principal crop it contains. Such plots are not to be confused with the other two classes of plots mentioned above which may also have the same crops cultivated in them.\* A farmer may have a number of such plots located around the borders (or even inside) of his kuanu (sorghum and/or millet field).

Any one person may be able to say he possesses one or more of the following plots:

mu-loli  
kanbi-loli  
kanbi-tidied  
kan-loli  
bankan-loli  
nyia-loli  
tabi-loli  
tangun-loli  
tiin-namaga-loli  
tiin-moan-loli  
kokodi-loli  
kpankpan-loli  
Iqalifa-loli  
goan-loli  
paal-loli  
jucn-loli  
beli-loli  
sie-loli  
sasiin-loli  
kunkun-loli  
man-loli  
Iqali-loli  
sogu  
tuun-nyiaga  
bali-nyiaga  
moabi-loli

rice plot  
red pepper plot (annuals)  
red pepper plot  
eggplant plot  
taro plot\*\*  
sesame plot  
tobacco plot  
manioc plot  
peanut plot  
earth pea plot  
corn plot  
variety of sauce herb plot  
variety of sauce herb plot  
roselle plot  
local bush-potato plot  
soybean plot  
fish poison plant plot  
indigo plot  
local earth pea plot  
cotton plot  
okra plot  
bamboo plot\*\*\*  
yam plot  
cowpea plot  
kenaf plot  
fonio plot

\* Though maize may be the principal crop found in a woman's compound plot (dapuo-loli), this is not strictly a kokodi-loli (maize plot).

\*\* A new and still rare crop found in the Gobinangu region. Also called amankana, the terms can be confused with the identical terms used for eggplant (European variety).

\*\*\* Iqali, a variety of bamboo, grows wild in the Gobinangu region. An extension agent has introduced it to some farmers with land around the Dabesma (Piala region) dam. They cultivate it in plots, using it for roofing poles and fences and corrals. Demand far exceeds supply.

Some of these crop specific plots are distinctive in the nature of their cultivation. Because of this distinction, special terms have evolved. Yam cultivators, who use rather unusual looking mounds for their yams, will call such a plot a sogu. One may occasionally hear non-yam cultivators call such a plot a nugi-loli/(literally 'yam plot') or nugi-kuanu/(literally 'yam field'). Farmers usually cultivate cowpeas in association with their millet and sorghum crops on a kuanu/(grain field). If, however, a farmer, after planting his crops, has a little extra time, he will begin clearing off a section of land for the expansion of his field next year. The time for grain planting has past, but the farmer can still plant cowpeas. When planted as a single crop (ie. not intermixed with other crops) in this manner, this plot is called the tuun-nyiaga/(cowpea plot) or tuu-bagili (F) or tuu-paangu (B).

Kenaf plants are usually planted in lines (ijasani) as divisions of various crops or boundaries between plots. When planted as a crop filling up an entire plot, the plot will be called a bali-nyiaga/(kenaf plot) or bali-bagili (F).

In most cases, land upon which a specific cash crop is cultivated is called a liloli/(small land plot) only when such a crop is upon that land. A tiin-loli/(peanut plot) ceases to be a peanut plot when the harvest is over. Next year something else might be planted there or the plot may be abandoned entirely. An exception to this is the mu-loli/(rice plot) which, even after a farmer has ceased to use it,

will continue to be called a rice plot. The reason for this is that the land is still good for growing rice. It in fact can grow nothing else. Unlike 'small land plot' cultivation, a kuanu/(grain field) continues to be called a grain field after the harvest because it will someday again be used as such.

In this discussion of the categories of exploited land, it has been noted that there are two major sub-divisions of cultivated land -- the kuanu/(grain field) and the liloli/(small land plot). The values placed upon the crops found in each of these types of cultivated land are different. More time is spent with the grain crops. This time represents the best working hours of the day. If for some reason some crop would need to be neglected or abandoned, it will always be the crops of the 'small land plots'. The labor time used by ORD village group members upon their collective fields often comes from time once used upon the 'small land plots'.

### 1.3 Shifting Cultivation and Population Pressure

Gourmantché communities are overwhelmingly agriculture orientated. To be a farmer is to be above all else a cultivator of sorghum and millet. Such crops represent, as one farmer told me, ti boana/(our blood). Except for a few traders and functionaries, every physically capable person is expected to cultivate land. The attempt by family groups to meet their subsistence needs can perhaps be discussed within the context of land use as it relates to the establishment of new villages.

### 1.3.1 Young or Small Villages

Most of the physically able farmers of young or small villages (up to about 35 compounds) commute by foot or bicycle to their fields located around their village or nearby in the bush. Such fields are a mixture of kuawaadi/(fallow lands) under recultivation and unclaimed, free land being cultivated for the first time. The former predominates. Only at certain critical times of the season will a farmer spend the night in his kua-dieli/(field hut). Older people will cultivate the felola/(village fields) or possible fields adjacent to the village.

### 1.3.2 Land Within Well-Established Villages

Within a well-established village, the older and weaker members of a compound (diegu) tend to cultivate the unexhausted soils remaining in or immediately surrounding the village. Such lands are kuawaadi/(fallow lands) recultivated and kuakpela/(former fields) of earlier settlers. Though it is possible to have real kuani/(grain fields) on the outskirts of a village (as in 1.2.1 above), this land is usually greatly subdivided among various members of different compounds of the village. Such land therefore represents one form or another of the 'small land plots'.

### 1.3.3 Land Outside Old or Well-Established Villages

Large villages such as Fada, Bogandé, Jakpaga, Pamma, Kaancaali, Piala, represent a different problem from younger and smaller villages. For many people, good land, even to borrow, is scarce within walking distance. A farmer will find that he can not make a living for his family on the land available to them. He will therefore

search farther and farther from the village for suitable bush land. Because of distance, it is quite likely that he will have to spend the entire rainy season at his field.

Whether he is a long-time resident of the nearby village or a newcomer, upon finding land, he will seek to learn of its disposition. Is it tinjali/(unclaimed, free land)? Sometimes the presence of climax-like vegetation upon the land can fool a person into thinking it is without an owner. Li li man tinjali or li naan tinjali/(It resembles uncultivated, free land). If it is not, however, to whom does it belong?

Knowing the owners, he will ask permission to use it. This is not a matter for the chief or the village to arbitrate, even if the farmer happens to be a stranger to that village. Once the community has given a newcomer permission to establish residence within a village, he automatically, like everyone else, has the right to seek land for his fields in the bush around the village.\* If the owners do not have immediate plans for it, they will allow the farmer to cultivate it -- usually for as long as he wishes. It is taken for granted that the farmer will eventually leave for a new site.

It is, however, within the rights of the land owners to reclaim their land anytime they choose. They usually would never do so unless real discord arose. In such an event, the owner would tell the farmer to leave before the next planting season. Except in such

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\* For a large town like Fada, it is not uncommon to find a resident who has gone beyond Cidideni (a village 10 kilometers from Fada) to find suitable land.

cases, the owners would rather themselves borrow someone else's land to cultivate (if they no longer have any of their own or family lands ready for cultivation) than make the farmer leave. They themselves might be in a similar situation someday.

It is clear that a farmer will establish himself on unclaimed, free land if at all possible. Whether or not he can do so, however, he will clear his new land and build a kudiegu/(field compound) nearby where he, his wife or wives, children, and livestock will spend the rainy season. When the harvest is in, the family will return to their compound in the village. A bush compound which is inhabited during the rainy season is known as a kudiegu or kudabili (B).

#### 1.3.4 Abandonment of Old Village

If the farmer above found unclaimed and free land in a location where water is available year-round, he may, after a year or two, decide to set up year-long residence (kuabindi-muadi) (J,F) or (kuadabili) (B). With this decision may come some improvement to his kudiegu/(field compound). Rather than grass mats for walls, he may build with mud. Mud storage silos will be constructed.

The decision to settle may also be encouraged by the arrival of other kinsmen and/or friends with their own compounds. The formation of a cluster of fields in the bush, each with their respective compound, is called a kuajaali and is given a distinctive name. This name often later becomes the name of the new community.

When the soils of the first fields in the newly established area begin to wear down, new land will again be sought. If none is within easy access, the farmer will have to move away and the community will eventually disappear. If cultivatable lands can be found, new fields are established, time passes, and the community grows. In this way, compounds or household units from within compounds of old villages relocate into more rural areas and establish new communities.

### 1.3.5 Establishment of a New Community

What now happens is that over a number of generations, if such a site proves advantageous, more and more people move to the settlement, and establish compounds in-between and around the original settlers - almost always on land formally cultivated by those original settlers. Good free and unclaimed land near the community is quickly possessed. Newcomers are given a site for a compound and are loaned some land around it for their village fields and compound plots. All the land within the community and nearly all cultivatable or fallow land anywhere near the new village belongs to the living descendants of the first compounds established in this area.\*

With the passing of one generation in the new community, come the presence of elders. It used to be that the oldest elder became the leader of the community by right of age. He would retain this position until the regional chief and his elders selected a kuanbado/(farm chief) for the community. This farm chief might or

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\* For this reason, a village does not 'own' land per se. Within a village, personal and family lands are sometimes separated from that of others by the placing of stone markers.

might not have been the eldest person depending on his attributes as a leader.

It is impossible to say definitively at what point a farm community became a dogu/(village), but a community could not have a bado/(chief) or kuanbado/(farm chief) without its being a village or town. Because chiefs no longer hold the authority they once had, the creation of new sub-chiefs, which was characteristic of the creation formally of new villages, no longer takes place.

There are many communities today within the Eastern region which in earlier times would have had their own chiefs and thus be considered legitimate villages (instead of farm communities as they are now considered). Not having a real bado/(chief) does not seem to have any negative results for the farm communities however. A practical problem has been created though. In the past, it was possible, when taking a government census, to go to all chiefs and from them and the older members of the established community, obtain the names of those families who have moved away to a farm community. Such people were still considered a part of the village as long as the community did not have its own chief. Today, however, many such farm communities are far bigger than the villages from which the original inhabitants came. These 'farm communities' are responsible to towns often smaller than themselves for the payment of taxes for instances. The names of many such communities have never been recorded on any official documents.

At this point, we have completed the cycle and returned to the young or small village.

It should be clear, therefore, that the larger a village becomes, the greater the disparity between land holders and land borrowers.\* Land within and immediately around the village is the property of a minority. As the statistical data at the end of this paper reveals,\*\* many who borrow land in the heavily populated Gobinangu region must borrow most of the land for their fields and plots. An average of 50% of all the fields and plots cultivated by farmers in the non-animal traction village of Lempoanpuoli is on borrowed land. This percentage figure obscures the fact that 8 out of 18 households sampled borrow almost all their land from non-kinsmen. One of these households cultivates 45 fields and plots, of which 40 are on borrowed land. Another borrows all its land. Of these same 18 households, 5 borrow little or no land at all. The remaining 5 households borrow about half their land.

When population density is lower, the problem is certainly less acute. In Kpajali (Pamma region) for instance,\*\*\* the village is small, great amounts of unclaimed free land can be found in the

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\* In theory, all these 'borrowers of land' should somewhere in the Eastern region have land which they could claim by inherited right. This is not necessarily true. Many people have been in a position of borrowing land over several generations and no longer know where their 'ancestral' or 'family' lands are. Even if they did know, the chances are good that most or all such land is already being used by someone in their extended family; that is, someone who has the same rights to the land. A person furthermore, might not wish to return to the original home land because of his present ties, or because of its remoteness.

\*\* Appendix III.

\*\*\* The etymology of this village's name and the work used for 'free, unclaimed' land is the same (Kpajali & Tinjali). The modifier-jali possesses a masculine overtone (ja=man) and signifies "the real thing", "bigness", "greatness", "power", etc. Tinjali therefore signifies land (tinga) which is at its ultimate best, with vegetation in climax state. Kpajali signifies literally farming/cultivation (kpaabu) at its ultimate best.

surrounding bush land. Here 41% of the 241 fields and plots of the 17 households sampled are upon recently unclaimed land (tinjali), 47% are upon recultivated fallow lands of kinsmen, and only 12% are on borrowed land. Put in a different way, 13 of the 17 households borrowed no land at all. Of the 3 which did, only 1 borrowed land for all 13 of its fields and plots (this household recently arrived from Togo).

A somewhat different set of factors is at work in the somewhat underpopulated Bilanda/Piala/Bogandé region. Here soils are poorer, the rainy season is shorter. The region seems to have been populated more evenly for a longer period of time than is the case of the Pamma region where large tracts of good land have for generations remained uncultivated. Piala, for instance, is the fourth largest town of the Eastern region's Gourmantché villages. Yet, because the region around it is fairly underpopulated, its farmers do not have too much difficulty finding land. Of the 166 fields and plots owned by the 18 households sampled (all having animal traction), 5% of the fields and plots were on recently 'unclaimed, free land', 82% were on recultivated fallow lands of kinsmen, 13% were on borrowed land. A closer look at each household shows that 11 of the 18 households borrowed no land, 4 borrowed some, and 3 borrowed all their land for their fields and plots. This pattern seems to be common of the region as a whole: almost no land categorized as 'free, unclaimed' being put under cultivation,\* the majority of the population cultivating family

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\* There is probably little land left in this region that is fairly good for cultivation that does not already belong to someone.

lands (inherited from previous generations), and a minority (approximately 20%) borrowing a major portion or all their land.

1.4 The Subsistence or Household Unit

The diedaano/(compound head) is that individual who 'owns' (gi die) an entire compound (diegu) by right of seniority. He does not have to have a wife or children to hold this position of leadership.

The dansan-daano/(head of family) is the head of the basic household unit in Gourmantche society. He has one or more wives and children. A compound may have one or more 'heads of family', one of which is usually also the head of the compound.

Three concepts in the Gurma language serve to clearly identify the subsistence unit in this society. At least two of these must be present for a household to exist.

(1) The dansan-daano/(head of family) is the head of the dansanu. This term refers to the basic units of space into which a diegu/(compound) can be subdivided. All members of this unit are members of one 'family'. The first requirement of the subsistence unit is that members live together (that is, have their principal residence in the same concession).

(2) Members of a subsistence unit also tsan sabobi-yenli, that is, they eat together from the 'same' cooking pot. The wife who prepared the evening meal will take all the food from her large cooking pot and divide it up into different containers. Men do not eat with women. Young children do not generally eat with working men. But their food comes from the same place.

(3) The third requirement of a subsistence unit is that its members share responsibility of living together as a unit. This concept is sometimes expressed by saying members ta sanfa-yendo, that is, they share 'one cooking place'. A man may have several wives, each of whom will have her own cooking place in front of her hut. But wives will share responsibility of preparing the meals by alternating cooking days, or they will all make some and bring it to their families to eat. Wives may share one wood pile which they might have even collected together. Wives will obtain the necessary grain from their husband's grainery. A woman will find the spices and leaves she needs herself for the meals she prepares.

In the Jakpaga/Gobinangu region, this concept of sharing responsibility is expressed by saying bi ta kuan-yendo, that is, they partake of 'one field'. This refers to the field or fields of the head of the household upon which the members of the household also labor at times; the fields which support the family.

Being married and having children does not mean that one is automatically the head of a household. A man and his family may share the above requirements with an older brother or father (which make them part of this brother's or father's subsistence unit). Nor does possession of one's own field mean that one is the head of a household if he partakes of the benefits of the three membership requirements listed above with another household.

If the head of a household unit is physically unable to cultivate (too old, illness, leper, blindness, cripple) but his wife or wives and children obtain the necessary food, then this man is still considered the head of one subsistence unit. If, however, a brother supports him and his family (by giving his wives grain with which to prepare food), then this man and his family are part of the brother's subsistence unit.

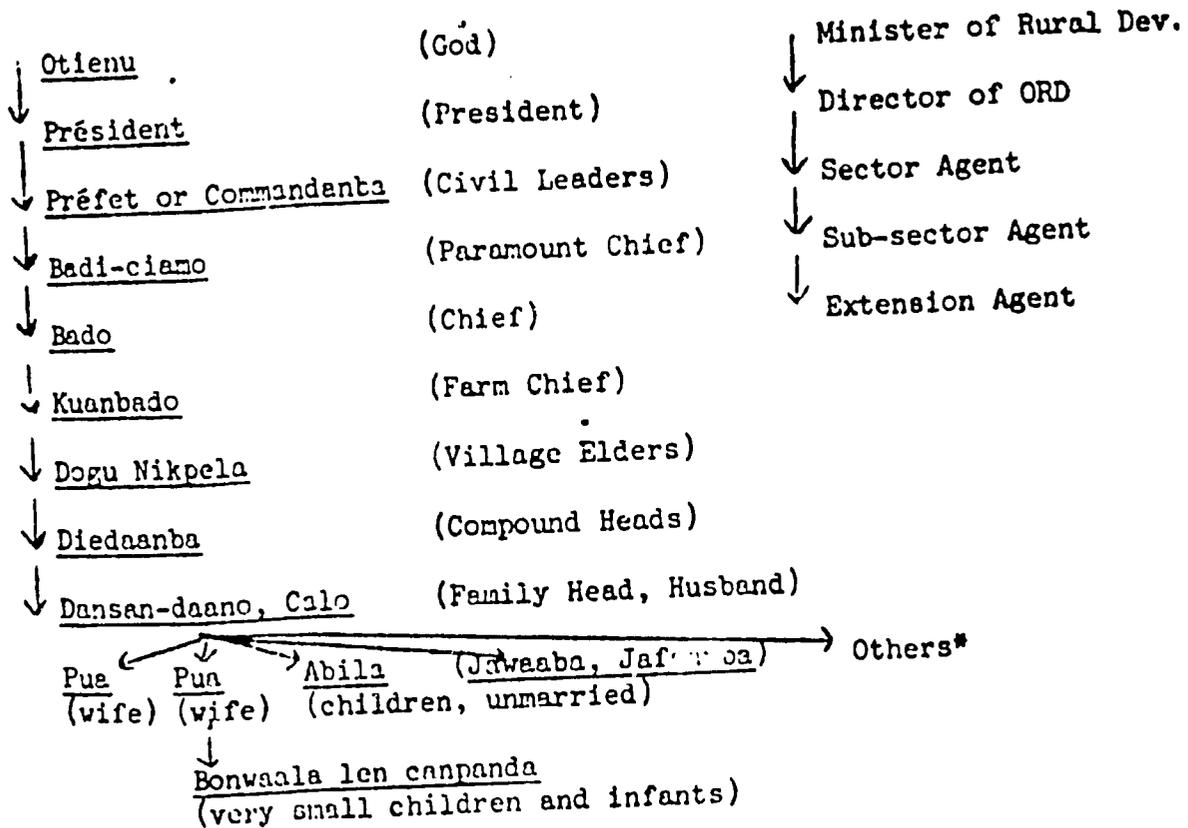
Members of a household unit are almost always related either by blood or through marriage. The few who do not fit this category might be temporary laborers 'employed' by the family head. It might be a young man living in with the family who will one day marry a daughter of that family (in these cases it is usually because this family does not have a son of their own or one old enough to help them). The Gourmantché name for such persons is nacemo.

1.5 Chains of Authority & Respect and the Obtaining of Community Land

The Gourmantché will say Yua kuli pia yua yen o, or Yua kuli pia yua die o, which is to say "everyone has someone to whom he is responsible through obedience, acceptance of authority, and showing respect". Traditionally, within any specific village, the chief was the last link in this chain of command, authority, and respect, extending from extended family elders to compound heads to husbands to wives and children. Above a small village chief (kuanbado) was the regional chief (bado) situated in a larger village who was himself responsible to the paramount chief (badi-ciamo). The latter was himself responsible to

Otienu or Oyenu/(God), and was called the Yenbiga/(child of God). Modern government has put some changes into the chain of command as shown in Figure V below.

FIGURE V  
Chains of Command



Within Gourmantche society, as in all societies, authority and direction rarely work from the bottom of the system up. Wives are not supposed to tell their husbands what to do any more than sons tell their fathers what must be done. A family head does not take place over

\* Others: father, mother, brother, sister, uncle and aunts, of the head of the household could potentially be members of one subsistence unit. Unrelated persons occasionally are members too.

compound head on issues in which the latter has the right of leadership. When these kinds of things happen, they are usually in the context of rapid social change. All of this is not to say that lower categories of people do not influence the action or decisions of those 'above' them in responsibility. Each person at his station in life has the obligations inherent to that station. There are certain things expected of a married man that are not expected of an unmarried man for example. An old woman has certain privileges and rights that younger women do not have. One earns these rights as one gets older and becomes a responsible member of one's community.

The central government has replaced most of the civil authority of the chiefs. This has in some cases diminished their religious and moral authority as well. Greatest traditional solidarity seems to remain in the chain of command from village elders on down. Figure V illustrates some chains of command. Note that an extension agent represents a system of authority, obligations, and objectives different from that of the traditional society. An agent's problem is to discover how he can be most effective in the region or village in which he has responsibility. With whom should he work in order to achieve the best results?

A village chief has remained, however, not only a leading citizen of his community, but the formal arbitrator of land owned by his own and other family groups within the village. He, himself, only has rights to land owned by himself and his family (like everyone else). Though the Gourmantche will say that a bado die odogu tinga kuli (a chief 'owns' all the land in the village), this does not mean he can

do whatever he wants with it. He only has the power to permit a newcomer to seek and possess land upon which a compound may be constructed within the village. If permission is granted, the individual automatically is given the right to seek lands for fields. Finding land, the owner will be sought.

Compounds can get too big. Disputes and tensions sometimes make it prudent for some family unit to leave and establish their own compound. Residents of a village have the right to settle anywhere they want to within the community. No one, including the chief, need be averted of the decision to move. The farmer who intends to relocate will begin\* by looking around the village for several suitable sites. A pinch of soil or a few pebbles from each spot will be taken to the tanpualo/(diviner) who will consult the oracle. He will learn which site fits in with the destiny\*\* of the farmer. Armed with his answer the farmer will return home and prepare his roofing grass and mats. When ready, he will announce to the village diedaambu/(compounds heads), through perhaps a son, that tomorrow he will need some hut posts and ceiling poles. The next day, those who desire to help will then send out someone from their compound into the bush to cut a few. That evening, the farmer will again send word around asking the village compound leaders to pa o osuangu/(give him shade) tomorrow.

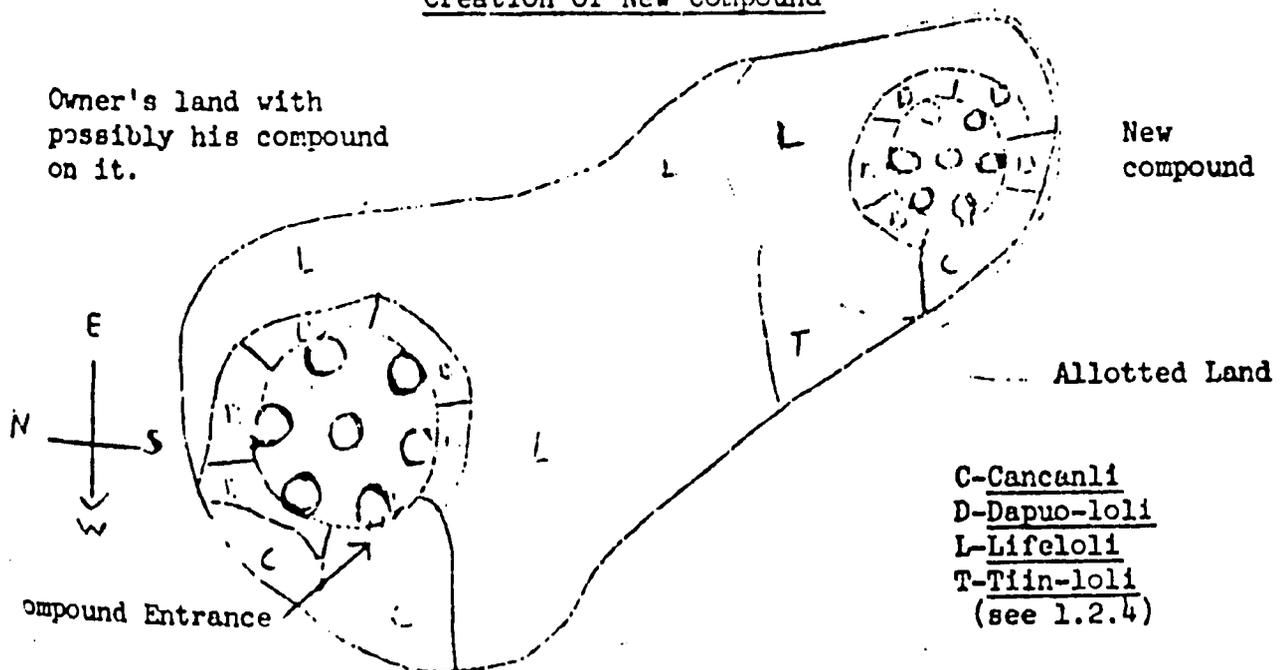
\* This description applies specifically to the Gobinangu region. Other areas have their own variation of this practice.

\*\* See Destiny Among the Gourmantché, Eastern ORD, B.A.E.P., Document #3, May 26, 1977

That night at midnight or at the first cockrow, the husband and his first wife will take their beds or mats out and sleep upon the new site. The next morning they will be seen there; no one will have known of the location beforehand. This precaution is taken for fear some enemy will bury fetish medicine of some kind on the site which will bring harm and perhaps death to the newcomers. The entire compound will be completed that first day with the help of village people. About the fourth day after completion, the new compound head will seek out the owner of the land. The owner will trace out how much of his land he will permit the new compound for a feloli/(village field) and dapuo-lola/(compound plots) (see 1.2.4). The owner may take back any part or all of this land when he has need of it--up to the very walls of the compound. No one can ever be forced to leave this site. The site of the compound itself becomes their land.

FIGURE VI

Creation of New Compound



Strangers can gain rights to compound land within a village by first going to the chief. He will, after due consideration, either invite the newcomer to look for a site or inform him that he can not settle. Given clearance, the stranger will follow the procedure outlined above.

#### 1.6 Usufructory Access to Land

. Certain, usually implicit, agreements exist between an owner of land, and the farmer who wishes to gain access to such land. People who have permanent rights to land generally know very well where such land is, what the boundaries are, and guard it carefully from improper encroachment by outsiders.

(1) The farmer can never own the land he borrows for cultivation. Even if the owner, out of friendship, should say he permanently gives this land to the farmer, it is quite possible that subsequent years will find that same owner or his children re-establishing their rights. In past years, when land was more abundant, this was not a problem. Today, unless the farmer has the foresight to gain legal Voltaic documents stating the original transfer of ownership transaction, he can be forced to leave. In a recent communication with Yentangu, the Gourmantché paramount chief of Fada N'Gourma, on this problem, I was told that farmers should be encouraged to realize the possible importance of such a step or how they might go about doing this if they did.

(2) Ownership of land is seen as separate from ownership of the standing crop on this land. Because trees remain longer on land than a cultivation season or the period a farmer might use a tract of land, special restrictions are made. Farmers are not usually permitted to plant trees on borrowed land. To plant trees is to establish ownership of those trees and, in a sense, the land shaded by those trees. Up to 15 or 20 years ago, the principal reason Gourmantché farmers gave for refusing outsiders (non-kinsmen) permission to plant trees on their loaned out land was that trees use up space that could (and implicitly should) be used for the cultivation of sorghum and millet.

(3) Should a farmer gain permission to plant trees, he was permitted to ownership of those trees (and his children after him) but not the land. For most Gourmantché today, the mango tree (especially grafted) is still the only tree considered worth planting and caring for. Furthermore, it is believed that trees should be purchased. Freely given trees can be expected to die.

In many parts of the Eastern OGD, the locust bean (néré) tree continues to be the only non-cultivated tree whose produce belongs permanently to the owner upon whose land it was found. They are never purposely planted. New trees which might come up during the period of someone else's borrowing the land remain the owner's property. He will come at the appropriate season to pick the produce or will allow the farmer to pick it with the understanding that about half will go to the owner. The importance of this tree is not declining despite the importance of soybeans as a substitute to the seeds of the locust

bean tree.\*

Other non-cultivated produce bearing trees are gaining importance in populated areas. Shea (kariké), fig, tamarind, ronier palm, and certain baobab trees have, in some places, become considered the exclusive property of certain landholders (because they are found on their fields or family lands). This is becoming a cause for increasing discord as demand increases. In most areas the produce to these and other 'bush' trees are still considered available to whoever wishes to pick the produce.

Rural disputes over land often arise over owner attempts to reclaim land loaned to a farmer under the conditions stated above (but which the farmer wishes to ignore). In self protection, land owners are even more insistent that farmers not plant any kind of trees on their land. They will go so far as to pull out the young trees someone may have started without permission.

(4) Because it is a basic right of every person to have a means of feeding himself, land is generously loaned out to those who request it for cultivation. A farmer may very easily loan out all his land to various kinsmen or non-kinsmen and in a few years need to himself borrow land from other kinsmen or non-kinsmen. The farmer will rarely make those borrowing his own land leave. He will expect that his lands will be, sooner or later, abandoned to fallow. After a number of years

\* Processed seeds form an important ingredient of daily meals (gijonga, soumbala).

either he or his children can once again cultivate it (or once again loan it out to someone whose need for land arises first).

The existing disparity between the Gourmantché and official Voltaic orientations to land acquisition and ownership does appear to present obstacles to the development of the region. Many farmers do not have clear access to long-term future use of the land under present cultivation. For these farmers, crop rotation and fallow systems, which might prove beneficial in sustaining or even improving soil fertility, will not be easily adapted. Thousands of farmers are restricted from developing the gardens and fruit orchards they might otherwise want to have. Much of the incentive for substantially improving one's fields through fertilizers or other means is lost because the owner may step in and repossess his land. For specific examples of some current problems encountered by farmers, see Appendix I.

1.7 Implications of 1978 Socio-economic Farm Level Survey Data and Conclusions\*

Any specific field or plot may be listed under one of three categories.

- (A) The field or plot, when recently cleared for the first time for cultivation, was cleared from tinjali/(unclaimed, free land). It is the exclusive property of the man who cleared it.

\* The 1978-1979 farm survey has been conducted by the Applied Research Section of the Eastern Region's Bureau of Economic Analysis and Planning (BAEP). The baseline data provided will be used in designing a regional development plan for the Eastern Rural Development Organization (EORD). The BAEP employs the services of thirty-eight persons including five AID contractors. A preliminary description of the survey is given in the Michigan State University Contract Team's Six Month Report, August 1978.

- (B) The field or plot was once before cultivated by a kinsman or the farmer himself. The farmer shares ultimate rights to this land with specific kinsmen (p. 18, 19, categories 1-4).
- (C) The field or plot is borrowed from a non-kinsman, (p. 19, category 5), who himself, or whose kinsmen, established their land rights by being the first to cultivate it). The farmer has no right of any kind to the land. His rights only extend to the standing crop upon this land, one year at a time.

Most farmers today cultivate land which would be classified as kunwaadi/(fallow fields). This assertion is verified in data obtained through the 1978 socio-economic farm level survey conducted in the Eastern region. The 370 Gourmantché households studied in this 12 month study possessed a total of 4,639 fields and plots. This is an average of 12.5 fields and plots per randomly selected household. Of the 4,639 fields and plots identified,

- 12.4% were on unclaimed, free land (category A above)\*
  - 5.1% of this represents sorghum/millet fields or plots
  - 7.3% of this represents plots of all other crops
- 60.3% were on previously fallow lands of kinsmen (category B)
  - 28.4% of this represents sorghum/millet fields or plots
  - 31.9% of this represents plots of all other crops
- 27.3% were on borrowed land (category C above)
  - 12.2% of this represents sorghum/millet fields or plots
  - 15.1% of this represents plots of all other crops.\*\*

\* See Appendix II, where for each sample village, a breakdown of fields and plots is given for the three major categories of ownership presented above. Stuart Gaudin's sample is also given.

\*\* FAO farm management expert Stuart Gaudin conducted a farm level survey in the Eastern ORD (1977, 1978) among 23 Gourmantché households. His sample was necessarily more limited geographically than the BAEP survey. Unlike the BAEP sample, which was randomly selected, his households represent (in the opinion of village leaders he asked) the very best farmers of the 9 villages worked in. Of these, 46.7% of the Gourmantché farmers possessed some form of animal traction equipment.

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From this data we learn that 87.6% of the fields and plots cultivated were on previously cultivated lands; lands which belonged to someone. Taking these once fallow lands as a whole, we see that 31% were borrowed from someone unrelated to the farmer.\* This borrowed land is the source of most land disputes, though occasionally disputes can also arise between family members over land they share in common.

A number of explanations can be given to support the belief that land problems are going to become even more acute in the near future:

- (a) Population is greatly increasing. There are more people living today than the fallow lands of close kinsmen categories 1-4 (p. 18) can handle. Some land must be borrowed from others.
- (b) Migration. People are more mobile now than in past years. People leave bush villages for larger towns. There they borrow land from its residents.
- (c) Land owners may loan out their land, thus giving cultivation rights to others. Land owners may thus use up their own lands and have to borrow land themselves (rather than expelling others from their land).
- (d) Animal traction is expected to result in households cultivating more land. One can expect continuing increase in the number of households using animal traction. One can also expect these farmers to continue their system of shifting cultivation - spending perhaps an average of 5 years on a particular field before it is abandoned to long period fallow. There is no viable land management (fallow and field rotation) system being designed for the region.

The BAEP passed two of its base-line questionnaires with his select sample (August 1973). From these we learned that of the 458 fields and plots his farmers cultivated in 1973:

- 5% were on unclaimed, free land
- 79.7% were on fallow land of kinsmen
- 15.3% were on borrowed land

\* A Gourmantché farmer would not borrow land from someone else if he had land of his own to use. Land is borrowed out of necessity. A farmer might not have to borrow land for a field if he went far enough from the village. Yet leaving a single field in the bush is hazardous - it is difficult to protect the crops from birds and various bush animals. Fulani cattle are mercurial to wander into the field during the night or day. It is therefore preferable to borrow poorer land situated in the midst of other fields near a community.

It was our hypothesis that "in the sparsely populated Eastern ORD, village size does not have an important influence on farming systems".\* According to the 1975 National Census figures, approximately 60% of the people of the Eastern ORD live in or around villages with populations of over 1000. In the BAEP survey 16 out of 21 villages have populations of less than 1000. Our assumption was not totally justified.

As discussed earlier (p. 41, 42), it appears to be village size linked with population density around these villages which influences farming systems. The Gobinangu region is not sparsely populated. Land acquisition and maintenance problems there are different from a truly under-populated area such as Kpajali and Tindangu in the Pamma region. Piala, it was pointed out, is a very large village, but land is available at the present time for most farmers - even if they have to borrow it.

Unfortunately, our data does not include a random sample of farmers from villages with over 1000 inhabitants, with the exception of the three villages selected from the Gobinangu region. Piala and Jakpangu farmers were selected on the basis of being reportedly good animal traction farmers in the area of these large villages.

What makes large villages most different from small villages is that farmers from small villages can usually walk or ride a bike to their fields and back each day. Such farmers can more easily partici-

\* MSU Contract Team Six Month Report, Fada N'Gourma, August 1978, p. 40.

part in ORD village group activities centered in their village. Animal traction equipment used on bush fields can be more easily used on the village fields. In large villages, a large percentage of households (we don't know how many) have either a rainy-season bush hut or compound set up at quite some distance from the village where some or all the household will spend the farming season. Such farmers are necessarily more cut off from ORD village group activities in their village.

On the other hand, the actual agricultural systems used by large village residents commuting seasonally to farm settlements is not significantly different from year-long residents of small villages. It is clear, however, that land borrowing is higher for fields and plots located near large villages. Here land fragmentation is higher.

Among the 370 Gourmantche households surveyed, a sub-sample of 311 were questioned specifically about land tenure. Preliminary analysis of some of these data provides information pertinent to this paper.\*

1.7.1 Where are the principal household fields located?

- (a) A farmer may reside in a village and commute daily to his fields. At critical periods of the year a member of the household may spend several nights in a rudely constructed farm hut.
- (b) A farmer may have his fields far enough away from his village so as to wish to spend the entire rainy season at his field. It is here that most of his labor for the cultivation months will be concentrated. He will

\* See Appendix III for breakdown by village for questionnaire data results for the topics to be discussed below.

construct a bush field compound and move in with some or all of his household. His livestock will also resettle. Older household members may stay in the village compound to tend the small village fields (felola) and compound plots. After harvests are in, most farmers return to their village compounds,\* where a new rhythm of life and labor sets in for the dry season months.

- (c) A farmer may have his fields located in a farm community located at some distance from the village (see 1.3.5). Here, half a dozen or more scattered compounds will be located with their fields around the compounds. Such settlements can become permanent, with a majority of households members remaining year-long if water is readily available.

Household heads of our sub-sample of 311 households were able to categorize the location of their household's principal fields using the three divisions given above. Of these 311 households, on the average:

- 18% of the principal fields were located in farm communities (kuajaana)
- 12% of the principal fields were located around rainy season inhabited bush field compounds
- 70% of the principal fields were located near or immediately around the home village.

For our sample therefore, approximately 30% of the major household fields are located at considerable distance\*\* from the village. Put another way, about 30% of the households sampled live away from their home village during at least the farming season months (May-November).

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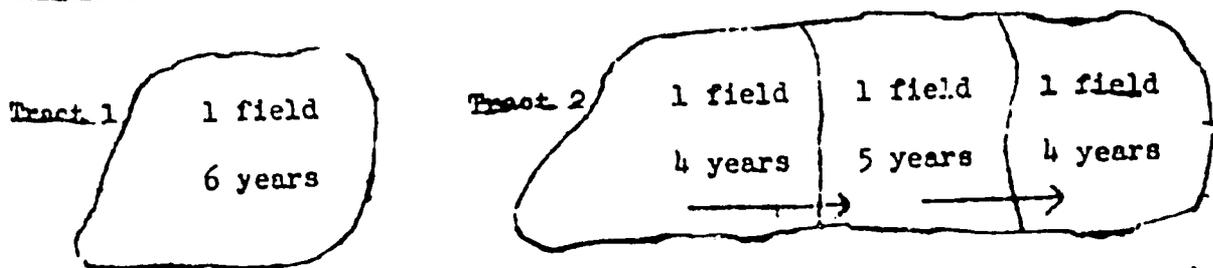
\* They often have no choice in the matter. With termination of rains, the household may no longer have a source for water (as small ponds and shallow wells dry up).

\*\* Too far for daily commuting by foot or bike. One means of assessing degeneration of soils around a particular village is to determine the distance the majority of village households must go to find suitable land for sorghum/millet fields.

Looking at a high population density region like the Gobinangu, an average of 49% of our sample's principal fields were located in farm communities or around bush field compounds. Only 51% commuted daily to and from their fields (Appendix III).

1.7.2 Number of Fields Cultivated and Duration of Cultivation Per Field Per Household Head

When a farmer leaves to long fallow a tract of land he has been cultivating for a number of years, he will call it a kuawaagu/(fallow land) (p. 17). Upon this tract of land, the farmer may have had one principal sorghum and/or millet field. Or, if the tract was large, he may have had the equivalent of two or even three such fields. The farmer will refer to both of the tracts of land below as one kuawaagu/(fallow land) but in size they can be quite different.



A farmer can quickly and accurately recall how many kuawaadi/(fallow lands) he has cultivated since he obtained his own first field.\* He will also recall how many years he spent on each, as well as how many actual 'fields' each 'fallow land' constituted.\*\* Survey results indicated the following:

\* Taking a first wife often precipitates this step.  
\*\* Such fields do not include personal sorghum/millet fields (suali-kuani) (p. 21).

- (a) Average Age of Gourmantché Household Head: 44 years\*
- (b) Average Number of Principal Fields Cultivated by Household Head Since He Obtained His Own Field: 3.5 fields\*\*
- (c) Average Number of Years Field Cultivated Before Left to Fallow: 5.4 years\*\*\*
- (d) Average Age of Household Head When He Obtained His First Principal Field: 25 years\*\*\*\*

We were not able to determine accurately the number of years specific tracts of land were in fallow before the farmer himself, or someone else, came along and used it again. Farmers were able to indicate, however, whether or not the vegetation upon the land had 'climaxed' or not before it was cleared for a field. Farmers will say li faadii gbeni about fallow land which has 'completely leafed out' (trees are once again large; rich soil varieties of grasses have reappeared). The land has returned to 'normal' bush conditions. Such 'normal bush conditions' are almost certainly not comparable to what a farmer's grandfather would have considered 'normal climaxed bush' to

\* For the 370 households sampled. This is an average variation of 38-50 years per sample village. See Appendix III for details.

\*\* Such fields do not include personal sorghum/millet fields (suali-kuani) (p. 21).

\*\*\* Reasons analyzed for leaving fields included wear down of soils, dryness of soils. Cultural reasons for abandoning fields were not included. Example: death of household member is attributed by sand-writer/diviner to have originated with an evil spirit residing in new field. Field is abandoned after only one year cultivation. It is important to note that about 30% of all major fields abandoned (having been cleared and cultivated for at least one year) were left because of other than strictly agronomic reasons (death, sickness, 'evil influences', moved, fields 'too low' (inundated) or too 'high' (short season, rapid run-off)).

\*\*\*\*  $3.5 \times 5.4 = 18.9$  (19);  $44 - 19 = 25$  years. This age corresponds nicely with the average age one would expect a man to marry.

look like. Though vegetation may resemble closely climax vegetation, the depth of top soil that has had time to develop might be completely different.

If the land has not 'climaxed', farmers know it by the vegetative growth upon the land. Lack of available land sometimes forces farmers to reuse land before it has 'climaxed'. Of our sub-sample of 311 households,

(e) 11% of all the principal fields were upon land which had not climaxed before being once again cleared

64% of all the principal fields were upon land which having once been cultivated, then left to fallow, had reached 'climax vegetation' when again cleared

25% of all the principal fields were upon tinjali (free, unclaimed land), land bearing no external evidence of ever having been cultivated and therefore in a climax state when cleared.

For the sample as a whole, 89% of all principal fields were upon what might presently be considered relatively good land, with only 11% being on inferior land where number of years of cultivation per field can be expected to be low (2-4 years). The poorer soils and rainfall of the Bilanga/Piala/Bogandé region reflect in the fact that the average for the villages in this region (23%) is well over the average for the Eastern region. Piala and Dabessma (6 kilometers away) give an average of 41% (of all principal fields upon land which had not climaxed before being once again cleared for cultivation). This reflects the high population of this area combined with the reality of poorer soils and rainfall of the region. 50% of the principal fields in northern Gbanlambe were already on inferior land when the land was recleared for cultivation.

The above figures should be compared with the Gobinangu region where high population density is combined with good rains and good soils. Here we noted that 49% of the household's principal fields were located far from the village in farm communities (compared to 22% for Piala/Pilanga/Bogande region). However, only 9% of Gobinangu farmer's principal fields were started upon 'unclimaxed' land. The reason for the big difference between Piala region and the Gobinangu (41% vs. 9%) is to be found in the fact that a large percentage of the households in the Gobinangu spend the rainy season far from their home villages upon lands which are fertile.

The Pamma region villages sampled (Kpajali, Tindangu) did not start any major fields upon 'unclimaxed' land. Population is low, much good land is available. Clearly this region has the greatest potential of any other region within the Eastern region for agricultural development and population resettlement.

### 1.7.3 Land Ownership and Borrowing

(a) A survey of 311 households indicates that there are enough kuawaandi/(fallow lands) possessed by various households through right of inheritance to give an average of 3.5 'fallow lands' per household.\* Giving each such 'fallow land' a minimum value of 1 major field (yielding most of the household's yearly produce), there should be land worth approximately 19 years of cultivation (3.5 X 5.4 years). The right to

\* 1 kuawaangu/(fallow land) would constitute land enough for one or more principal kuani/(sorghum and/or millet fields).

cultivate these 'fallow lands' is shared, however, with other family members (younger or older brothers - who may also be household heads).

If we were to use a low estimate of two households holding equal rights to these 3.5 'fallow lands', we get an average of 1.75 'fallow lands' or 10 potential years of cultivation. Add to this an average 1.1 kuawaadi / (fallow lands) which the household head owns exclusively.\* The result is land availability worth an average of 15 years of cultivation per household. (These calculations do not include land upon which households are presently located of which 60.3% of fields and plots is upon inherited 'family lands', 12.4% is upon exclusively owned land, 27.3% is upon borrow land.)

If we can use the figure of 15 years as indicating the land available to the average household, it is clear that this land alone would never be enough in the years to come,\*\* without the household having to borrow someone else's land (which only compounds the problem) or finding new land which can be claimed from the Eastern region's large reserve of 'free, unclaimed' (tinjali) land. The latter would be found only at considerable distance from the village.

\* They were the first to cultivate 'free, unclaimed' (tinjali) land, giving them exclusive and permanent right to this land (see 1.2.1).

\*\* It certainly takes more than 9.6 years (15-5.4) for worn down soils to return to a 'climax' state without the aid of organic or chemical fertilizers.

Even though these figures are only a very rough estimate, they do suggest that the coming years will be characterized by a great increase in farm communities along the pattern already in existence in the Gobinangu region. At the same time, there will be an increase in cultivating lands which have not had the time to be restored through the traditional system of fallow. Serious land degradation will follow.

Several courses of action could be taken by the E. ORD. First of all, it is essential that some system of field/crop rotation and fallow be developed appropriate to the different regions. This must be done immediately. One could be optimistic by stating that with proper land management, the 2.85 'fallow lands' each household could have (with equal land distribution) from the existing stock of 'fallow lands' could be enough for the needs of most of the households of our survey (and perhaps, by extension, for people throughout the Eastern region). Since this figure represents an average, however, some expropriation and reallocation of lands seems inevitable. The alternative would seem to be large holdings of land cultivated by tenant or sharecrop farmers, a situation which does not yet exist.

Using Stuart Gaudin's sub-sample of the 'very best farmers' (p. 55), we are told that households possessed an average of 7 hectares under cultivation. (It should be noted that household size varies greatly within the Eastern region, so that the figure of 1.18 ha. per working adult may be more meaningful). For these farmers, 7 ha. could

probably be compared favorably with the average size of 1 'fallow land' (kuawaagu). This would suggest that households already have, on the average, the use or access to an average of 20 hectares of land each\* an amount which should be sufficient to base a viable system of land management.

Another step the E. ORD might take would be to encourage the creation of new farm settlements in presently under-populated regions. By doing so, the ORD may be able to stall the increasing degradation of land around the more populated areas. Along main roads one sometimes sees where an enterprising person, usually a fonctionnaire, had been able to get a grader to plow a rough road back into the bush to a good farming location. If the ORD could encourage such activity and combine with it proper care of the new land being exploited, good results would be forthcoming. Planned farm communities could be set up in such locations with each farming household assured enough land to practice proper land management schemes.

Increased extension agent farmer training in land management in populated areas must be met with an equally determined effort to see that newly created farm communities (as well as existing ones) are organized in a way that permits proper land management. There is no reason why such farmers can not be encouraged to serious investment in land improvement and fertility maintenance. One does not wish to contemplate what the alternative might be as population

continues to increase with the present lack of concern for the land.\* Fifty years ago Fada N'Gourma was a bush village, today it is highly populated with farmers who must go great distances to find good land. This expansion has been at the expense of the land and can not continue indefinitely.

Any widespread and concerted effort by the E. ORD to resolve the problems of rural development will require agents who appreciate the problems of land deterioration and who understand and can apply land management principles. It seems clear that the Voltaic government must formulate some kind of land ownership and use policy which is relevant to the situation of various ORDs. Such policy could result in not only greater productivity of a region in the long run, but would result in food reserves for the country as a whole. The E. ORD will need a great deal of technical and material aid to realize the proper conservation and exploitation of its natural resources.

(b) Survey households were asked whether or not they possessed some land which would be suitable for rainy season rice cultivation and dry season gardening. An average of

58% of households possessed suitable garden/rice land

42% of households do not possess suitable garden/rice land.

By no means all the people who possess suitable garden/rice land use

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\* As it is, it seems to be a waste to see farmers go back into an almost virgin like land, cut down and burn off the giant trees standing there and cultivate the spot for 7 or 8 years and then move on across the land continuing the same destruction. There is little or no preservation of very old trees (many whose continued existence is justified by the honey it would provide beekeepers of the region).

it. Out of the total survey sample of 370 households,

36% (134 households) actually had at least one rice plot

11% (40 households) had at least one garden.

Of the 40 households with gardens, 24 also had rice plots (60%).

There are, therefore, only 150 households who possessed garden/rice lands who used it.

17% of sample households with garden/rice lands are not using their land (63 households). Only 41% of survey households have rice and/or garden plots.

Out of a total of 4,639 fields and plots for the 370 households,

249 were rice plots

44 were garden plots.

The average per household which cultivated these plots is

1.9 rice plots per household\*

1.1 garden plots per household.

A first step in increasing rice production in the Eastern region would be to expand use of the land already available for this purpose in numerous unused bas fonds. The construction of small earthen dams would be very beneficial to the large number of households who have no means of presently cultivating rice. The promotion of garden produce should be increased, perhaps by making garden seed packets more easy to obtain at the end of the rainy season.

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\* Because rice plots tend to be fairly small and uniform in size, these figures should help in projecting a fairly accurate estimate of actual and potential productivity of rice in the Eastern region.

(c) The sub-sample of survey households (311) indicated that:

76% of household heads would loan a non-kinsman one of their 'fallow lands' if asked. This person would want to use it for a field.

24% of household heads would not loan anyone their land if asked. They either need it themselves soon or fear losing it to the person borrowing it.

Household heads who indicated they would permit a non-kinsman the use of their land noted further that it would depend on who the person was. The most important qualifying rule was that the person borrowing the land be a resident of the village or community. A closer look at the actual land-lending habits of these households indicates that, over the past 20 - 25 years, an average of only

43% of sample households loaned out any land

57% loaned no land to anyone.

(d) Household heads were asked: "When someone asks you for 'fallow land' and you respond positively, do you give them the land (permanently) or do you only loan it (temporarily)?"

95% of household heads responded that land is only loaned out temporarily

5% of household heads responded that they were giving the land away.\*

When asked further if they would permit the land borrower to plant (mango) trees upon the land,

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\* Among those who answered this way were those who did so for asking such a 'foolish' question - so they gave the opposite answer. Others might feel a negative answer would reflect badly on them.

91% said they would not permit tree planting

9% said they would permit tree planting.\*

Earlier (p. 53), we noted that an average of 27.3% of the ,639 fields and plots cultivated last year were on borrowed land. It could seem to be that one desired result of serious investment in land improvement and fertility maintenance would be long term use of specific tracts of land. Shifting cultivation practices presently used would have to eventually be restricted or modified. Households would be encouraged to remain more attached to specific tracts of land and to manage it better.

Clearly such a step, if successful, would conflict immediately with current land use systems. Farmers borrowing land for such a venture would be placed in the same category as farmers desiring to plant trees upon borrowed land. If even 91% of ORD farmers no longer permitted non-kinsmen borrowing of land, serious problems would be encountered even at the present average level of land borrowing (27.3%). Animal traction brings with it need for more land which will eventually mean more land borrowing.\*\* This could conceivably result in better off farmers borrowing (expropriating?) land from those who can not perhaps afford the investment of animal traction.

\* We have noted here that many who would permit tree planting did not realize this meant they might also be giving up the rights to the land. They thought the trees belonged to the planter, they owned the land.

\*\* Unless animal traction farmers relocated to farm settlements where they can, for the present at least, find sufficient land to expand in.

1.8 Farm Communities, a Pattern for the Future?

Survey data seems to suggest the view that in most parts of the Eastern region, farmers have access to the land they need to subsist. The region of greatest population density (Gobinangu) is also the region of greatest land borrowing and number of land disputes.

The center of agricultural activity in the Eastern region centers on the numerous fields located around smaller villages and farm settlements. The rainy season farm communities have become the means of meeting agricultural needs in regions of highest population density.

The common farm community of the Eastern region seems to suggest an alternative model for possible future resettlement programs in this region. The AVV model whereby households are given parallel strips of land to cultivate seems best suited to groups of people who are less cohesive as a group, who traditionally tend to live in very scattered household groups. Some of the failures of this model system can be no doubt explained in that some groups of people do not like to be fragmented/scattered, such as along a road. It is hard to see the AVV model for household resettlement in terms of a cohesive community.

A small Gourmantché village or farm community is made up of a group of compounds (each with one or more households). Each compound has a major sorghum/millet field or two either right around the compound or located just outside the village. When a community is still small like this, there are usually sufficient lands available for everyone

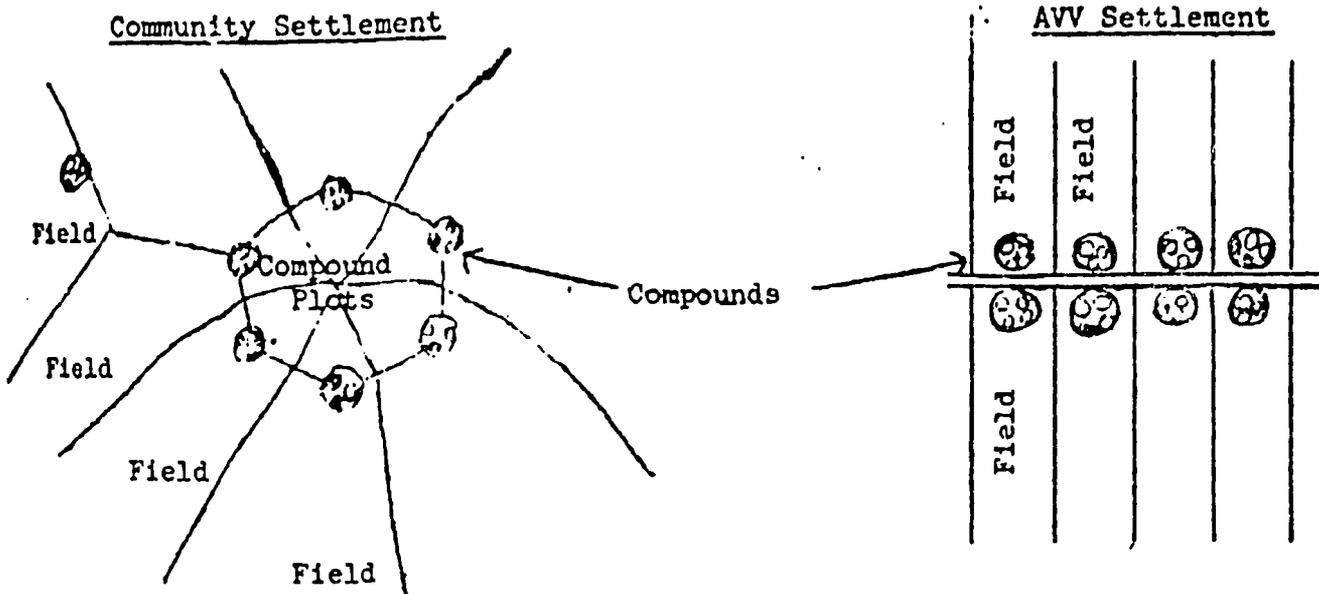
nearby in the bush.

The E. ORD could perhaps center more of its activity on such small communities. It could encourage the establishment of new ones. Households in such a community could be guided in better land management systems even as AVV agents try to do with their farmers. Each household can obtain enough land, while it is still available, to practice animal traction on contiguous plots of land as well as to set up fallow sections. Crop rotation schemes could be developed. If each household were to have about 20 hectares of land (as current data suggest they would have - on the average), one would be able to determine the optimum size a farm community might have. Size would depend on the total cultivateable land available within a reasonable walking/riding distance from the community.

Farm communities could be established through resettlement. Farmers would have to practice land management systems similar to those being experimented by AVV farmers. Fields could be set up around a community axis, with the usual compound plots centrally located (see Figure 1). Depending on present size and potential future growth of a household, a household would be legally given enough land around the community to practice some land management/field and crop rotation system.

Other settlements could be set up around the first settlement so as to keep enough land within a reasonable distance of compounds. Excessive growth of a community would lead to fragmentation of land around the community, which would lead eventually to the common

Figure 7



problem of all large communities: not enough land close enough to village. Excessive growth of a community would inevitably result in household fallow lands (under land management system) being cultivated too early - by the wrong people. Other planned settlements must be available therefore to an expanding population.

To encourage farmers to remain on these settlements all year long, adequate water sources must be available for both human and livestock consumption. Clusters of farm settlements should also have access to some central settlement (or village) providing the necessary living necessities and distractions (a good marketplace in particular). A farm community system like this would appear to be more adaptable to the Gourmantché use of space and sense of community. This might be true of other ethnic groups in Upper Volta as well.

It is clear that though land availability may not presently be a pressing problem in most areas, it certainly promises to become so in the near future. This is especially true as population grows and as animal traction becomes better understood, managed, and widespread. The time to plan for these problems is now.

When farmers are telling us that they will not permit non-kinsmen to plant trees on their family lands, they are saying they want to retain possession of their lands. If farmers are to succeed in increasing agricultural production and incomes through animal traction, they will have to have enough land available on a long term basis to succeed. Nor can they be permitted to indefinitely move from one 7-12 hectare farm to another every 5 or 6 years. Good land is not in unlimited supply; conservation of soils is required.

It therefore seems imperative that the Voltaic government, through the technical advice of its ORDs, set up some guidelines as to long term ownership of land. Rural people should be aided in obtaining legal titles to at least some portions of their land. It would never be justified to grant farmers title to only the land they are actually presently cultivating. This would not give them enough land for future needs. Yet the resources do exist for an equitable sharing of existing 'fallow lands' which would at the same time permit land management schemes to function. Densely populated areas may be helped best through recruiting households to establish planned farm communities in the farther out bush areas. Upper Volta would benefit in a timely resolution of the potential problems of land, food, and population distribution.

Appendix I

Current Problems: Ti ban ke gitinga pia mayuli hali  
boncianla/(We know the great value of land.)

A number of examples are given below to illustrate more clearly some of the specific problems encountered in the present state of change in widely held traditional principles of land tenure. Since any farmer wishes to avoid land disputes, many today simply state, at the beginning of another person's request for land, that absolutely no trees or permanent improvement is to be made upon the land. Farmers still feel obligated to let other people use their land if they ask for it. The time has already come, however, that some landowners will not loan out their land for cultivation - even if that landowner has no intention of ever using it himself. He is afraid of losing his land in some way to the newcomer.

(1) A Gourmantché farmer from Nagili (Nagili is an old village of about 2,500 people.) I quote the farmer.

"We hear on the radio that it is everyone's responsibility to plant trees on their land, for this will bring profit to them in the future and will also cause rains to return as we used to know them. Everybody now knows that if you give a person your land upon which to live (ie. a compound) or farm, he will attempt to plant trees (implied mango) so that his children will reap profits in the future. Yet this will leave the original owner with nothing. And worse, you, who gave the land, and your children, will end up having to buy the fruit from him to whom you gave the land. This causes some people to refuse tree planting on their land."

"If you give a person your land and you permit him to plant trees, then even if later you get your land back (ie. farmer moves elsewhere), he will still own those trees. You can

can not get your land back along with the trees. It won't work. There are many large mango trees today in Nagili which were planted by people who did so on borrowed land. Today they live elsewhere, but they still own those trees and their produce."

It is interesting to note that in this as well as in other texts to be presented, the farmer is more concerned about the expected benefits another (non-kinsmen) farmer will reap than in his own lack of endeavor to reap such benefits himself. He himself does not necessarily want to see someone else profit in something in which he himself might have profited. He continues:

"It is for this reason that my older brother and he who 'gave' him some land had a dispute. My brother had small mango trees on this land. One night someone (we did not know at the time, but it was the owner) came and pulled up all the trees and stuck them back into the soil. They all died. My brother then went and bought some more mango trees and told the owner he was going to plant them on the borrowed land. The owner said he would not permit it, so my brother took his trees and planted them out in the bush farm where we own the land completely."

This farmer was fortunate to have someplace else to plant his mango trees. Many are not so fortunate.

(2) Another Gourmantché from Nagili

"A young man went and asked an old man for a part of his feloli/(village field). It was close to the baugu/(bas fonda) and there he could make a garden. The old man gave his permission. The young man made his sardinga/(garden). However, he also went and bought mango trees and planted them around outside the garden. Seeing this, the old man took fire and went and made as if to burn off his 'village field'. He manage to include the mango trees, killing them.

The old man did all this because he saw that if this continued, it would not be long before there would be no place left on which to grow sorghum or millet. Nor was his

permission asked about tree planting. Well, the young man made a real fuss with the old man, asking him why he hadn't been told he was going to burn the field. This angered the old man who then told the young man he could now leave his garden as well if this was his attitude. The young man left."

The young man made several mistakes. He was not content with what had been given to him but, by planting outside his garden, clearly was showing expansionist intentions. Planting trees was also a clear signal that he intended to keep this land in the future, even when he knew very well that the old man had not given him this land permanently. For the old man, the land was clearly more valuable in the grain it could and would produce than the season fruit the trees might eventually produce.

(3) Yet Another Gourmantché from Nagili

"Now, (as things have changed) people hear and have also seen that if you offer a person your land and he plants trees on it, that when you decide you want that land back, you will not get it back. Nowadays, when you possess your land, you also possess your trees (and vice versa) (the government policy). For this reason the people of Lantago came to blows."

"A long time ago, their fathers were close friends. One of them gave his good friend some land, permanently, because he didn't possess a 'village field' upon which to cultivate. It came to pass that when their children had grown up, the two now old men did not get along so well any longer. During the years since he had received his land from his friend, the one farmer had planted numerous mango trees, many of which were now bearing fruit. The previous owner and his children became envious. These children told their father that they would repossess the land. The father said to let it be. But they refused and started up a big dispute."

"The children of the old man who had been given the land said they would not return the land because their trees now stood upon it. A fight issued in which one person was seriously injured. Because of this injury (and not the tree dispute), a court case issued. The reason for the fight came out."

"Well, the court said that anyone, anywhere, who possesses (fruit) trees also owns the land on which those trees are found. The tin-danba/(land owners) seeing that they were going to lose the case, gave a gift to the judge. This swung the decision in their favor. This in turn caused the ti-danba/(tree owners) to offer their own gift. Not knowing what to do now, the court decided that the 'tree owners' must pull out all small trees and give back the land to the 'land owners'. The large trees would remain with the land under them the property of the 'tree owners'. Here the case settled."

In this text, the speaker made a clear differentiation between 'tree owners' and 'land owners'. It is implied that, were it not for those trees, the land owners would have had their land back. Without trees, what justification could the other party have had to keep the land?

The moral of this account was clearly that one must be careful about letting someone else cultivate your land -- especially if you know that person intends to plant trees. Clearly, any other kind of improvements which a 'land borrower' might make to borrowed land which would tend to keep that land in the possession of the 'borrower' for longer than normal, would present complications with the 'land owner'.

(4) Cakpaaga farmer (This is a small village near Bilanga)

"My (Gourmantché) father gave some Mossi farmers the right to plant mango trees on his fuanu/(sloping land), thinking it would benefit him as well some day (he'd get some of the fruit). We heard that those who gave their land to others to plant trees would not get the land back. The tree owners would own it. Therefore, I told my father something had to be done. He, after much angry exchange, managed to repossess

cultivate because, he said, this land was his, that if he permitted them to cultivate it, the soil's fertility would not be restored quickly enough. He would need it someday again. The women had to look elsewhere.

The following rather long account illustrates rather clearly some of the hidden struggles often involved in the search for land - simply for cultivation.

"Last year I realized that the land I was cultivating was not much good any longer and I saw some land that was really good (eleven kilometers from Fada). So I planted some rice in the bas fonds that was part of this new land. I was not able to plant too much and the water flowed much too forcefully last year so that I only got 10 tins of rice."

"Someone from the village of Cicieni saw this rice plot and said, "My, that is nice. You know, this next year, you and I will divide up this land." I asked him how we were going to divide this rice area, seeing that it already was quite small. "No," he said, "even so we will divide it."

"A few days later, another farmer (X) came up. I had heard from others that he had planned to cultivate rice on the plot in the past, that he had even chopped a few trees down around the spot. I told him that this year I planned to make my farm here but that there had been someone along who said he was going to take half my plot over. "Oh, who was it?" asked farmer X. I told him it was a Cicieni land owner. "Well," he said, "let me tell you no one owns this land." So I told him that I had heard someone tell me he had once cut some trees down around here. "No," said farmer X, "I do not own this land."

"Later, I saw another Cicieni man who told me, "Hey, you are cutting down the trees on my land I hear." "Yes," I said, "but I am only a stranger here, I do not come from Fada but from Jakpaga." I asked him if he owns that land and he said he did. I asked if I could cultivate there and he said I could. "But," he said, "I do not want you to pick the fruit off my locust bean tree there. I also ask you not to plant any trees on this land. Someday I may wish to do something with it."

"Now when I learned of this man, I thought I would ask around Cigideni among the other older people to see if this man really did own the land. If he did, then I wanted to ask him if he really intended to use the land someday and if I could plant trees too if I wished to do so. The land was a long ways from where the old man lived and it was certainly too far for him to use himself."

"Well, last year, when my rice was growing nicely, farmer X was in the area and saw that my rice was nice. He came by my home later and told me, "Oh, you were right about that land. I do own the land there. I do not want alot of trouble and 'words', you and I will divide that plot next year." I asked him how it was that when I told him that a supposed landowner had told me to divide up the land before, that he had told me no one owned the land - including himself. "How is it that you now tell me we have to divide up the land," I asked him. He warned me not to make trouble with him or else he would cause real trouble for me. I told him I already had asked permission from the real landowner to use the land -- that he did not own it. I told farmer X he had no say at all over the land. I then went ahead and cleared the land for my field this coming rainy season. Last month (December), after having burnt off some of the now dried shrubbery, I went on a trip to Macakoali and was there for six days. The second day after I left, farmer X came and gave my wife a letter in which he wrote, "If you want things to work out between you and I, do not ever again set foot on the new field. I have owned that place for a long time and everyone knows this."

"When I returned home and read this, I went to his home to confront him about it. He wasn't there. I decided to go once again to Cigideni to try to learn once and for all who owned the land. I talked again to the old man previously encountered, who claimed to own the land and who had given permission to use it. I told him about farmer X who wished to remove me from this land - even writing me a letter never to set foot on it again. "Yes," he said to me, "I do own that land. Farmer X came to me some time ago and told me that there was someone planning to cultivate my land (see how farmer X now speaks), but that if the old man wished, he, farmer X, would get that man off my land."

"The old landowner told farmer X, "No, I gave him the right to cultivate that land when he asked me. I can't have you do anything against him now." This is what the old man told me when I went to Cicidade that day."

"The old man was getting disturbed by all the fuss by this time. He said that if this is the trouble the land was going to cause him, then he didn't want anyone to cultivate it. Another old man, sitting there and hearing this, advised him that to follow this course of action would be only to judge 'this besieged and innocent farmer' who had already gone to so much work in clearing the land for the coming year's crops. "He should be permitted to cultivate on the land as formally agreed upon." So I was permitted to go ahead as planned."

(The old man was afraid that all this would end up by coming to serious fighting and that a court case would result in which he would also become involved. He also feared farmer X who was known and feared in that area as having powerful fetish medicine that could bring harm and even death to those whom he wanted.)

"So the old man told me to give a piece of land to farmer X. I did this. I asked farmer X to show me what portion of the land I had already cleared he wanted to take. He could take what he wanted. So farmer X showed me what he wanted to take that was in the rice plot. Yet even today, farmer X isn't happy about the outcome. He is angry. He slanders me everywhere saying I want to steal his possession. There will be more problems."

There were. Since I recorded this interview, farmer X was able to make this farmer leave this already cleared field and return to his old field of the year before. The unfortunate farmer is afraid to go to court about it. He is a stranger in Fada N'Gourma. He has only lived there for seven years.

Appendix II

BAEP Farm Level Survey: 370 Households		Fields Established Upon:								
		Free, Unclaimed Land			Fallow Land			Borrowed Land		
Villages	Total Fields Plots	Sor./ Millet *	Other Plots	Tot- al	Sor./ Millet	Other Plots	Tot- al	Sor./ Millet	Other Plots	Tot- al
Boamboanyenga	194	2	7	9	65	60	125	31	29	60
Lenyabidi	151	5	3	8	61	51	112	13	18	31
Gbanlamba	153	3	3	6	56	44	100	29	18	47
Komboassi	143	1	1	2	66	54	120	12	9	21
Dabessma	153	4	5	9	52	87	139	3	2	5
Piala	166	2	6	8	54	83	137	9	12	21
Buodi	236	7	7	14	86	98	184	21	17	38
Ugalu	219	14	22	36	83	64	247	19	17	36
Diapangu	354	25	33	58	109	127	236	10	50	60
Tilonti	96	8	6	14	38	25	53	18	11	29
Ponyinkenli	168	7	11	18	36	67	103	13	34	47
Ugalu	281	16	29	45	67	106	173	23	40	63
Woodaagu	144	8	5	13	71	39	110	14	7	21
Dmancangu	159	17	9	26	73	42	115	11	7	18
Fuambounli	182	27	35	62	27	19	46	45	29	74
Boamnoandi	340	30	26	56	50	101	151	57	76	133

-continued following page-

Lampoanpuoli	393	7	6	13	97	85	182	97	101	198
Cindi-Kombu	314	13	26	39	56	80	136	49	90	139
Loagibu	329	5	10	15	63	98	161	55	98	153
Kpajali	241	26	72	98	42	72	114	14	15	29
Tindangu	223	10	18	28	63	87	150	24	21	45
TOTALS	4,639	237	340	577	1,315	1,479	2,794	567	701	1,268
AVERAGE	12.5	5.1%	7.3%	12.4%	28.4%	31.9%	60.2%	12.2%	15.1%	27.3%

Gaudin's 23 Sample Households	458	11	12	34	159	206	365	16	54	70
AVERAGE	19.9	2.4%	2.6%	5%	34.7%	45%	79.7%	3.5%	11.8%	15.3%

\* Sorghum and millet plots and fields included all major sorghum/millet fields, village sorghum/millet fields, and compound plots.  
 'Other Plots' combines all the plots of all other crops.

Villages*	Household Samples		Households With AT**	Household		Random	AT#	Random	AT#
	Random	AT#		Random	AT#				
1 Soamboanyenga	18	-	5.5%	7.2	-	43	-	5.5	3.2
2 Lanyabidi	18	-	11.1%	8.0	-	42	-	4.9	3.2
3 Gbanlamba	18	-	-	6.6	-	42	-	5.1	2.4
4 Komboassi	18	-	-	6.1	-	40	-	5.7	2.4
5 Dabessma	18	-	27.8%	5.9	-	44	-	4.7	2.2
6 Piala	-	16	100%	-	8.3	-	38	4.0	3.3
7 Buodi	17	-	-	8.3	-	48	-	5.3	4.1
8 Ugalu	19	-	-	7.0	-	47	-	5.5	3.6
9 Diapangu	-	18	100%	-	10.7	-	39	5.9	3.1
10 Tilonti	9	-	11.1%	7.1	-	50	-	6.1	3.6
11 Ponyinkonli	15	-	-	6.1	-	43	-	5.1	4.3
12 Ugalu	-	13	100%	-	11.7	-	41	4.6	3.4
13 Moodsagu	10	-	-	7.0	-	49	-	4.9	5.5
14 Dnancangu	12	-	-	9.8	-	41	-	5.1	4.5
15 Fcanboanli	11	-	-	6.5	-	40	-	5.2	3.1
16 Boemmoandi	11	-	-	10.4	-	45	-	6.1	3.5
17 Lampoanpuoli	11	-	-	11.3	-	48	-	5.4	4.8
18 Cindi-Kombu	14	-	-	9.1	-	44	-	6.0	3.6
19 Loagibu	-	16	100%	-	10.8	-	42	5.6	4
20 Kpajali	16	-	-	6.5	-	38	-	6.6	2
21 Tindengu	16	-	-	7.9	-	47	-	6.6	3.3
TOTAL/AVERAGE	251	63	22%	7.7	10.4	44	40	5.4	3.5
Gaudin's Sample		23	46.7%	6	'working units'	45		6	3.8

\* Villages grouped by sub-region. Major agro-climatic aggregation would be villages 1-8; 9-12; 13-16; 17-21. TA = Animal Traction; HH - Household Head

APPENDIX III

Villages*	PRINCIPAL FIELDS LOCATED IN				Average No. FF* Possessed by HH*		Average No. FF* Owned Exclusively by HH*	Percent HH* Who Borrowed At Least One FF* Last 20/25 yrs	
	Farm Settlement		Bush Field Compound		Village	Random			TA*
	Random	TA*	Random	TA*					
1 Boamboanyenga	11%		11%		78%	2.7	-	.5	39%
2 Lanyabidi	17%		6%		77%	3.0	-	.7	28%
3 Gbanlamba	17%		-		83%	3.1	-	.2	44%
4 Komboassi	7%		-		93%	2.3	-	.1	22%
5 Dabessma	5%		11%		83%	1.9	-	.1	17%
6 Piale	25% TA*		-		75% TA*	-	3.7	.3	44% TA*
7 Buodi	5%		35%		59%	2.4	-	1.5	65%
8 Ugalu	-		25%		75%	1.8	-	.8	50%
9 Diapangu	11% TA*		11% TA*		78% TA*	-	2.3	1.1	33% TA*
10 Tilonti	33%		11%		56%	3.9	-	1.2	33%
11 Fonyinkonli	7%		7%		86%	4.5	-	1.3	67%
12 Ugalu	15% TA*		8% TA*		77% TA*	-	4.2	1.4	59% TA*
13 Moodaagu	-		-		100%	6.6	-	1.1	50%
14 Mancangu	25%		-		75%	6	-	2.2	58%
15 Foamloanli	100%		-		-	3.2	-	1.5	45%
16 Boamboandi	9%		-		91%	3.6	-	1.7	18%
17 Lampanpuoli	18%		18%		64%	4.5	-	1.8	73%
18 Cindi-Kombu	5%		29%		14%	4.5	-	1.5	57%
19 Loagibu	19% TA*		6% TA*		75% TA*	-	4.7	1.6	75% TA*
20 Kpajali	-		13%		87%	1.6	-	1.4	10%
21 Tindangu	-		69%		31%	3.4	-	1.6	38%
TOTAL	Random 18%	TA* 18%	Random 11%	TA* 6%	Random TA* 68% 76%	3.5	3.7	1.1	45%
Gaudin's Sample	17%		9%		74%	3.2		1.0	65%

\* Villages grouped by sub-region. Major agro-climatic aggregation would be villages 1-8; 9-12; 13-16; 17-21. TA = Animal Traction; HH = Household Head; FF = Fallow Fields; PF = Principal Field

Villages*	Percent of Households Who Own or Have Access to Garden/Rice Land		Percent of HH* Who Would Permit non-kinsmen use of Fallow Land		Percent of HH* Who Have Actually Given non-kinsmen use of Family/Personal Land	
	% Who Have	% Who Don't	% Would Permit	% Would Not	% Given Land	% Given None
1 Boamboanyenga	33%	67%	99%	11%	33%	67%
2 Lanyabidi	33%	67%	94%	6%	56%	44%
3 Gbanlamba	6%	94%	94%	6%	61%	39%
4 Komboassi	26%	72%	83%	17%	33%	67%
5 Dabessma	50%	50%	35%	65%	5%	95%
6 Pinala	60% TA*	40% TA*	85% TA*	15% TA*	50% TA*	50% TA*
7 Eadli	29%	71%	93%	7%	17%	83%
8 Ugalu	37%	63%	64%	36%	21%	79%
9 Dispangu	61% TA*	39% TA*	56% TA*	44% TA*	33% TA*	67% TA*
10 Tilonti	67%	33%	75%	25%	56%	44%
11 Ponyinkonli	67%	33%	93%	7%	53%	47%
12 Ugalu	100% TA*	- TA*	92% TA*	8% TA*	46% TA*	54% TA*
13 Moodaagu	80%	20%	20%	80%	30%	70%
14 Dmancangu	50%	50%	92%	8%	50%	50%
15 Foamboanli	18%	82%	91%	9%	73%	27%
16 Boamroandi	82%	18%	82%	18%	60%	40%
17 Lampoanpuoli	82%	18%	73%	27%	73%	27%
18 Cindi-Kombu	71%	29%	77%	23%	79%	21%
19 Loagibu	69% TA*	31% TA*	75% TA*	25% TA*	56% TA*	44% TA*
20 Kpajali	62%	38%	70%	30%	10%	90%
21 Tindangu	63%	37%	73%	27%	19%	81%
TOTAL	Random	TA*	Random	TA*	76%	24%
	50%	73%	50%	27%		
Caudin's Sample	58%	42%	73%	27%	52%	48%

\* Villages grouped by sub-region. Major agro-climatic aggregation would be villages 1-8; 9-12; 13-16; 17-21. TA = Animal Traction; HH = Household Head

Villages*	Percent of HH* Who State That Land is only Given to Non-kinsmen:		HH* Would Permit Non-kinsmen to Plant Trees on Family/Personal Land		Percent HH* Presently Looking For or already Know Where Next PF will be	
	Temporarily	Permanently	Would Permit	Won't Permit	Looking/Know	Adequate PFS*
1 Boanboanyenga	94%	6%	11%	89%	76%	24%
2 Lanyabidi	91%	6%	6%	94%	61%	39%
3 Gbaalamba	82%	18%	53%	47%	17%	83%
4 Kambossi	94%	6%	33%	57%	26%	72%
5 Dabessma	100%	-	-	100%	22%	78%
6 Tiala	91% TA*	9% TA*	- TA*	100% TA*	19% TA*	81% TA*
7 Buodi	76%	24%	8%	92%	13%	87%
8 Kambou	100%	-	20%	80%	11%	89%
9 Diapangu	94% TA*	6% TA*	6% TA*	94% TA*	22% TA*	78% TA*
10 Tilonti	88%	12%	25%	75%	67%	33%
11 Panyinkonli	100%	-	-	100%	53%	57%
12 Uralu	100% TA*	- TA*	- TA*	100% TA*	3% TA*	92% TA*
13 Moadangu	100%	-	10%	90%	40%	60%
14 Nranvangu	100%	-	-	100%	30%	67%
15 Poamboanli	91%	9%	-	100%	27%	73%
16 Poamboandi	100%	-	-	100%	45%	55%
17 Lampanpuoli	100%	-	9%	91%	45%	55%
18 Cindi-Kombu	100%	-	7%	93%	30%	62%
19 Karihu	100% TA*	- TA*	- TA*	100% TA*	38% TA*	62% TA*
20 Kpajali	100%	-	-	100%	-	100%
21 Tindangu	100%	-	-	100%	44%	56%
TOTAL	Random TA*	Random TA*	Random TA*	Random TA*	Random TA*	Random TA*
	95% 96%	5% 4%	11% 1.5%	82% 98.5%	37% 22%	63% 78%
Gaudin's Sample	96%	4%	4%	96%	52%	48%

\* Villages grouped by sub-region. Major agro-climatic aggregation would be village 1-5; 9-12; 13-16; 17-21. TA = Animal Traction; HH = Household Head; P = Principal field PFS = Present Field

Post Available from 1950

Villages*	Percent of Present Household Principal Fields on Land which recently was:			
	Free, "Virgin", Unclaimed	Climaxed Fallow	Non-climaxed Fallow	
1 Boamboanyenga	12%	88%	-	
2 Lanyabidi	17%	77%	17%	
3 Gbanlamba	11%	39%	50%	
4 Komboassi	5%	78%	17%	
5 Dabessma	6%	50%	44%	
6 Piala	- TA*	62% TA*	30% TA*	
7 Buodi	13%	81%	6%	
8 Ugalu	21%	68%	11%	
9 Diapangu	50% TA*	44% TA*	6% TA*	
10 Tilonti	44%	56%	-	
11 Ponyinkonli	7%	86%	7%	
12 Ugalu	7% TA*	86% TA*	7% TA*	
13 Moodaagu	30%	60%	10%	
14 Dnancangu	45%	55%	-	
15 Foamboanli	36%	64%	-	
16 Boamboandi	18%	82%	-	
17 Lampoanpuoli	9%	82%	9%	
18 Cindi-Kombu	57%	43%	-	
19 Loagibu	25% TA*	56% TA*	19% TA*	
20 Kpajeli	69%	31%	-	
21 Tindangu	34%	56%	-	
	Random TA*	Random TA*	Random TA*	Random TA*
	25% 20%	65% 62%	10%	18%
TOTAL				
Gaudin's Sample	22%	65%	13%	

\* Villages grouped by sub-region. Major agro-climatic aggregation would be villages 1-8; 9-12; 13-16; 17-21. TA = Animal Traction