northwestern side of Gbansu land, mostly across the St. Paul River, has not yet been opened to commercial logging. Land in the high forest produces the best crop possible, as all the farmers told us. However, it is the hardest to prepare, and thus many families prefer to farm in the less productive but easier areas, such as those mentioned above.

A fifth type, which is to be avoided at all costs, is *ngiling loi*, or termite-filled soil. The reason is that the termites will eat leaves and sticks, as well as newly planted seeds, thus leaving neither fertility nor even the very rice plants. The only value of such soil is the termites themselves, eaten when they fly at the end of the dry season.

Each of the other 27 types of vegetation and soil has its advantages and disadvantages. There are doubtless other types which would be named and described by other farmers. And certainly every community has its own specialized knowledge of the soil and vegetation where it plants its crops. This knowledge must be tapped and used, if agricultural development is to take place. Foreign soil specialists cannot be expected to understand overnight what local farmers have learned over many years of intimate experience of the types of land in the forest and what they can produce.

We pursued more closely the understanding that Gbansu people have of these 32 types of vegetation and soil. Our next approach was to ask farmers to state the first things that came into their minds when they heard the names of each bush or soil type. The most common responses were not at all surprising. Rice was named in 14% of the responses, cutlass in 13% and work in 13%. The other responses were all named much less frequently, and included, among other things, some of the other crops which can be planted on these soils, including sugar cane, cassava, cocoa and peanuts.

The responses differed significantly according to the different types. Table 7.3 gives the most frequent responses for the five types of soil and vegetation mentioned above.

TABLE 7.3
MOST FREQUENT RESPONSES TO SELECTED BUSH AND SOIL TYPES

Thorn bush	Pole trees	Flat land	High forest	Termite soil
Work	Rice	Sugar cane	Cutlass	Bad
Thatch	Work	Rice	Work	Medicine
Rice	Cutlass	Cutlass	Rice	Eat it
Vine	House	Work	Tree	Impossible
Cutlass				

The first four types are suitable for rice, and thus call for the use of a cutlass. The fifth is clearly not suitable for anything except eating the termites. Each of the good types has its own special use, including the thatch for roofing a house, the poles for building a house, sugar cane as a cash crop, and the big trees which can be cut down.

Cluster analysis reveals how the types of vegetation and soil are grouped by Gbansu people, and how the free responses to the different types are grouped. Table 7.4 gives the underlying intellectual structure of the types of vegetation and soil without actually naming them, since the names would have little meaning outside areas where Kpelle is spoken.

TABLE 7.4
CLASSIFICATION OF BUSH AND SOIL TYPES

- **I. Basic rice-growing areas**
  - **A. Primary and secondary forest**
    - **1. Thick forest and bush**
      - **a. Upland areas**
      - **b. Swampy areas**
    - **2. Thorny bush**
  - **B. Special types of trees**
    - **1. Hillside trees**
    - **2. Flatland trees**
- **II. Specialized areas**
  - **A. Swamp and vine-filled bush**
    - **1. Low forest areas**
      - **a. Good bush and soil**
      - **b. Bad bush and soil**
    - **2. High forest areas**
  - **B. Flatland soils**
    - **1. Flat swampy areas**
    - **2. Flat dry areas**

Several vegetation and soil types are included under each general heading. For example, stony soil and termite soil are subsumed under the heading "bad bush and soil". Likewise old secondary bush and high forest are included under the heading "upland areas" as opposed to "swampy areas". This is because roughly the same pattern of responses is given to stony soil and termite soil, and another pattern of responses, quite different from the first, is given to old secondary forest and high forest.

Table 7.4 shows that there is a clear and consistent mental pattern by which people organize the land which they consider for cultivation. This knowledge can be tapped by the developer or the agricultural extension agent who wishes to know more than he or she was taught in school. The school of experience must be used, and there is a wealth of experience in the people who made possible a table such as Table 7.4.

Cluster analysis can be used to classify the responses themselves, according to which of the soil and vegetation types elicit each response. For example, almost the same set of bush and soil types suggest cutlass as those which suggest work and those which suggest rice. Thus cutlass, rice and work will appear together in the resulting classification. On the other hand, cocoa and sugar cane appear as responses to quite a different set of vegetation and soil types, and thus appear in a subgroup of responses separate from that which contains cutlass, work and rice.

Table 7.5 gives the classification of the terms associated by Gbansu people with the various soil and vegetation types. This taxonomy reveals much about people's attitudes toward farming, and indicates what will be in the mind of the farmer as he plans where to put his new farm.

TABLE 7.5
CLASSIFICATION OF RESPONSES TO BUSH AND SOIL TYPES

I. Features of the forest and bush
- **A. Good features**
  - **1. Parts of the tree**
    - a. Bark
    - b. Tree
    - c. Fruit
    - d. Leaves
  - **2. Forest features**
    - **a. Uses of the forest**
      - (1) Forest
      - (2) Chop it
      - (3) Axe
      - (4) Soil
      - (5) Bush
      - (6) Good
      - (7) Young bush
      - (8) Soft grass
      - (9) Thorny bush
      - (10) Hunter
      - (11) Dry leaves
    - **b. Features of the terrain**
      - (1) Rock
      - (2) Hill
      - (3) Sand
- **B. Bad features**
  - **1. Uses of bad features**
    - a. Eat it
    - b. Medicine
    - c. Impossible
  - **2. Responses to bad features**
    - a. Bad
    - b. Kill it

II. Human activities in the forest and bush
- **A. Traditional crops**
  - **1. Work in the forest and bush**
    - **a. Work above ground**
      - (1) Cutlass
      - (2) Work
      - (3) Rice
      - (4) Cut it
      - (5) Burn it
      - (6) Meat
      - (7) Vine
      - (8) Hoe
      - (9) Pole tree

(10) Person
(11) Humus soil
(12) Black soil
(13) House
(14) Thorn
(15) Shoe
(16) Cassava
(17) Clear the bush

b. Work with roots

(1) Glove
(2) Edible roots
(3) Inedible roots

2. Traditional crops other than rice

a. Swamp

(1) Flowing swamp
(2) Pond swamp
(3) Plantain

b. Dry land

(1) Maize
(2) Peanuts
(3) Swamp rice
(4) Piassava palm
(5) Okra

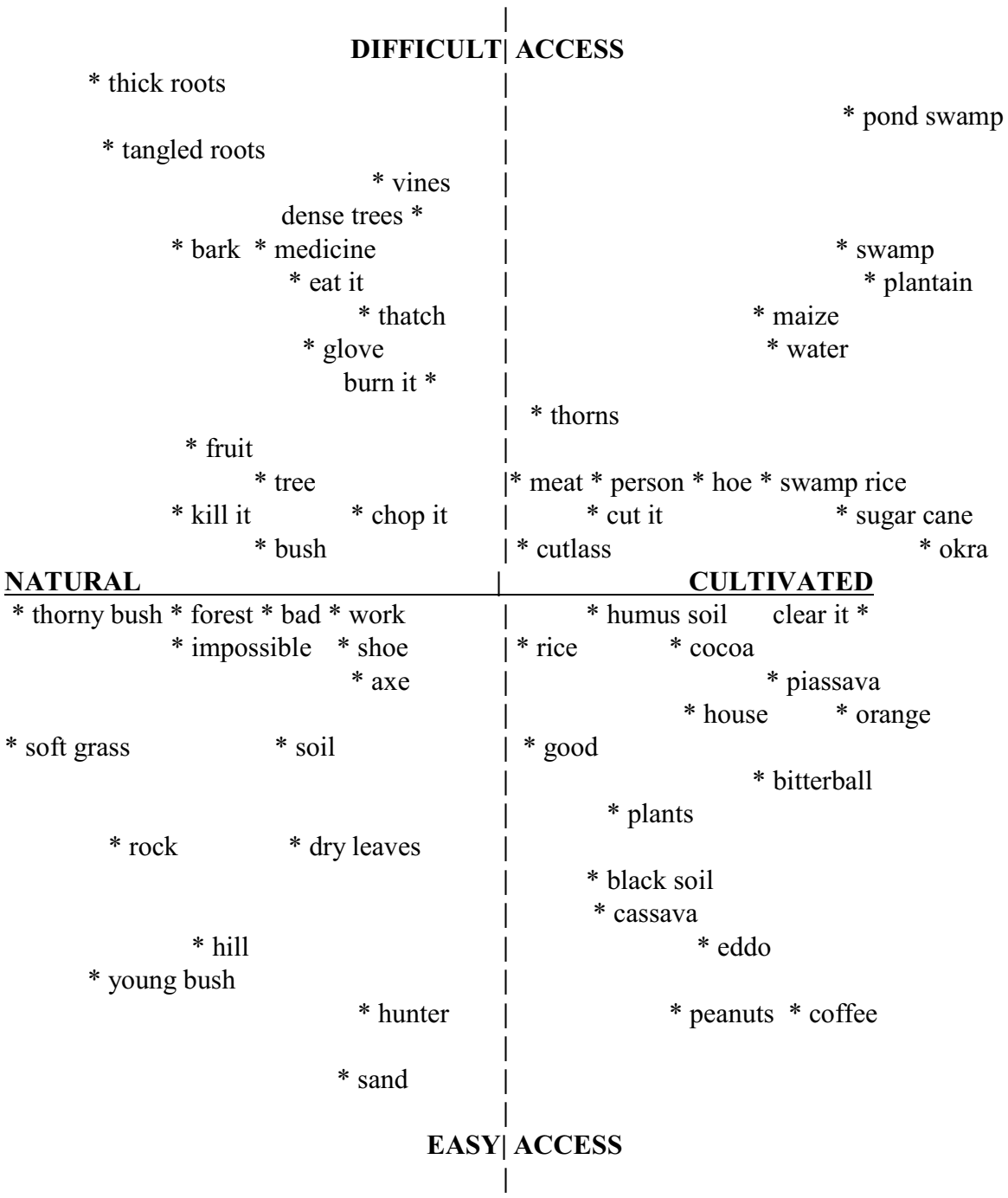
B. Cash crops

1. Sugar cane
2. Cocoa
3. Orange
4. Bitterball
5. Planted things
6. Eddo
7. Coffee

The underlying structure of these response to the different types of soil and vegetation is such that one set of responses draws attention to different features of the forest and bush, while the other speaks of the activities of people, particularly the crops they can grow. The division is not perfect, as a close examination of Table 7.5 shows. A few activities, such as "chop it" are included in the first cluster, while a few features of the soil and vegetation, such as "humus soil" and "black soil" are in the second.

Multi-dimensional scaling provides another insight into the way in which people perceive vegetation and soil. Figure 7.6 shows the reduction of the responses to two dimensions, which correspond very closely to a continuum between natural and cultivated, and a continuum between easy and difficult access.

FIGURE 7.6
TWO-DIMENSIONAL PATTERN OF RESPONSES TO VEGETATION AND SOIL



The entire left side of the diagram contains references to the forest and to soil in its natural state, or in the process of being cultivated. This corresponds to the group of forest things in Figure 2.5. The first marks of human interaction with the forest are the terms "kill it" and "eat it", followed by reference to medicine. Closer to the center line, such terms as glove and axe are found, followed by hunter, "chop it", "burn it" and shoe, which suggest the preliminary taming of the forest.

On the right side are the terms which refer to human conquest of the forest, including good types of soil, hoe and cutlass, the whole variety of planted crops, and finally the indication that the work is complete, namely "clear it". Rice and cassava are closer to the center line, since they are traditional forest crops. Farther to the right are the cash crops which are recent introductions, including swamp rice, sugar cane, cocoa, coffee, plantain and orange.

The other dimension is equally clear. At the very top are thick and tangled roots, vines, dense trees and two types of swamp. Fruit, water, trees and such activities as killing, chopping and cutting are closer to the center line. Below the center line are most of the cash crops on the right side, while on the left are soft grass, rocks, dry leaves, hills, young bush and finally sand. It is notable that cassava, eddo and peanuts are near the bottom of the chart, since they are normally planted on second year farms.

A very similar pattern appears if multi-dimensional scaling is applied to the types of bush and soil. There are two dimensions evident in Figure 7.6, just as in the cluster analysis of the responses. Along one dimension, there is a polarity leading from the twisted mat of vines which blocks passage through thick bush to the open forest floor covered with dry leaves. The second dimension is based on the contrast between the old clear farm site and the high uncut forest.

The salience of these two dimensions - degree of cultivation and difficulty of access - shows the important place of a rational analysis of the forest environment. The Gbansu farmers we interviewed know what they are looking for as they prepare for a new farm site, and they have a clear mental framework within which to analyze their perceptions as they seek a site. Outsiders who hope to influence the course of farming events in a village such as Gbansu should learn from the farmers themselves, who have lived a lifetime of learning how they can live within the forest and support themselves and their families.

The ways in which the forest is viewed by Gbansu people has been discussed in an earlier chapter. The forest is the antithesis of the village, and as such it is both dangerous and attractive. At some point every farm area must have been cut out of the primary forest. But, as has been pointed out, most farms are now made in an old farm site, after a suitable fallow period of at least 7 and hopefully more years. Old farms can only go back to climax forest after a much longer period, probably at least a person's lifetime if not more.

7.4 The meaning of "bush"

The intermediate stage, namely the old farm which is regaining its fertility and growing up toward the eventual stage of forest, is what people call "bush". It is a different world from that of the forest, in that it has been cultivated by people within recent memory, and is at present in some stage of regrowth. All bush was once forest, and if it is allowed to remain undisturbed sufficiently long, it will return to forest. It is the result of human entry into the forest, and is therefore a place more comfortable to people, less powerful and less frightening than the forest.

We asked people to complete the same set of 20 sentences concerning the bush. Table 7.6 lists the principal responses concerning the bush, with the percent of the total for each response.

TABLE 7.6
MOST FREQUENT RESPONSES CONCERNING THE BUSH

RESPONSE	PERCENT
Bush is good	12.8
We work in the bush	8.9
We have bush	6.3
Bush can grow rice	6.1
We live in the bush	5.6
Bush is for farming	5.3
Bush can be bad	4.2
Bush can grow crops	3.6
Animals are in the bush	3.6
There is bush	3.2
We clear the bush	2.6
Bush gives us food	2.6
We go to the bush	2.5
Bush can grow well	2.4
We grow rich from the bush	2.1

The main themes in responses concerning the bush are very similar to those concerning the forest, but there is a difference in emphasis, as seen by comparing Tables 7.6 and Table 2.1. The bush is a place where people live, whereas only very few people live in the forest. Moreover, those who do live in the forest, such as the escaped murderer mentioned earlier, are identified with the awesome aspect of the forest, as is clear from Table 2.3 and Figure 2.6. People believe they are likely to get rich by working in the bush, while the forest is seen more often than the bush as a source of medicine and the home of dangerous spirits.

The population subgroups respond in ways that by now should be familiar. The animals that live in the bush worry schooled persons, while the unschooled see the bush as a place to farm. Village people are suspicious of the bush, thinking of it as high and as a place where people fight. Hamlet people on the other hand see it is a place to find leaves which are used in medicine. Clearly the unschooled and the hamlet residents are at home in the bush and find it a good place to live and work, while those who attend school or live in the village find it difficult and alien.

The responses to these 20 sentences can be classified by cluster analysis, with the results given in Table 7.7. This table lists only the main headings and not the details.

TABLE 7.7
CLASSIFICATION OF RESPONSES CONCERNING THE BUSH

I. Traditional means of livelihood
- **A. Traditional features**
  - **1. Plants**
    - **a. Rice farming**
    - **b. Other planted crops**
  - **2. Qualities of the bush**

B. Benefits of the bush
1. Trees
2. Subsistence farming
II. Social features of the bush
A. Farming
1. Cash crops
2. Bad qualities
B. Activities in the bush
1. Human interaction in the bush
a. Conflict and conflict resolution
b. Work
2. Abandonment of the bush

Clearly the bush is a very different place from the forest. Almost all these entries are positive, with farming and social life dominating the list. Even the subgroup of bad qualities of the bush is tiny, consisting only of the mention of snakes, hills, birds and other unspecified bad objects. Moreover, none of these bad items appear in the list of most frequent responses given in Table 7.6. The bush is a healthy, wholesome, productive place. As one respondent told us, "The bush is a gift of God".

The subgroup of responses under the heading "rice farming" is particularly rich, as shown in Table 7.8. Given what we have learned thus far about the importance of rice farming, this should not be surprising.

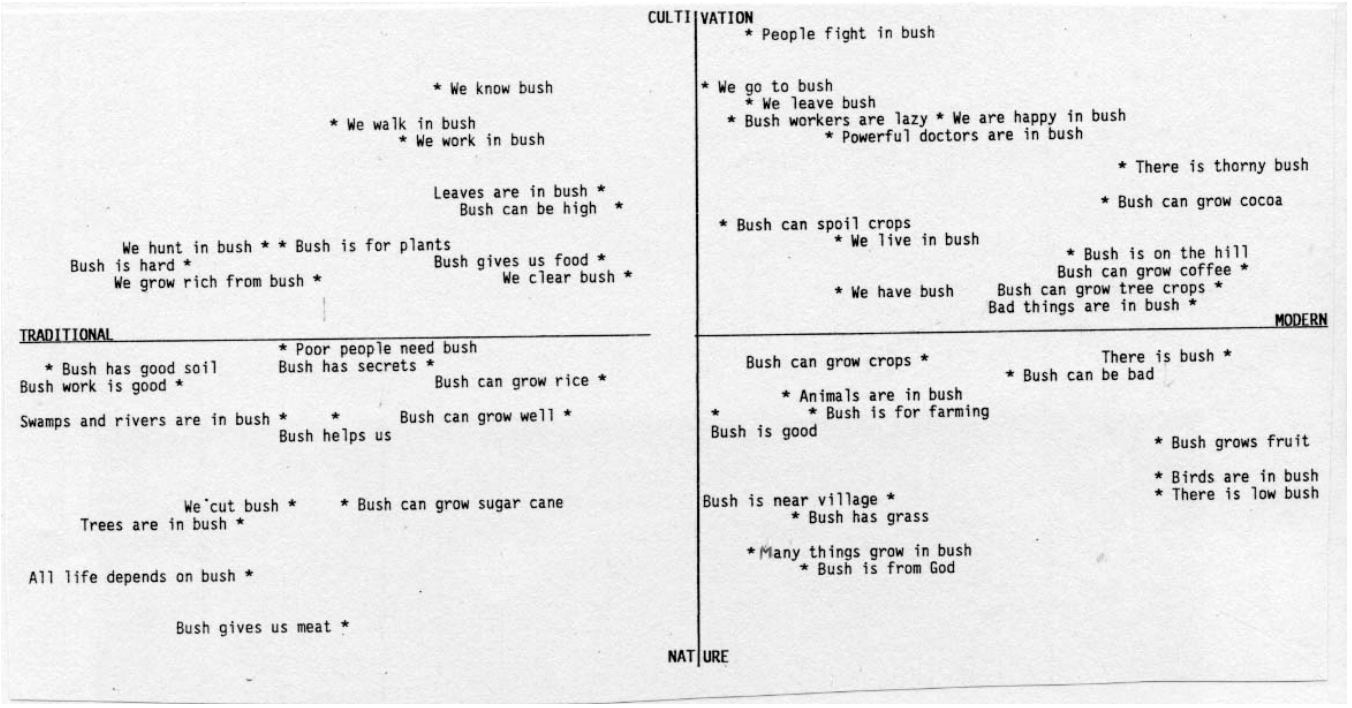
TABLE 7.8
SUBGROUP OF RESPONSES CONCERNING RICE FARMING

I. Activities
A. Rice-growing
1. Benefits
a. Bush can grow rice
b. Bush can grow well
c. Bush is good
d. Bush helps us
2. Work
a. Bush work is good
b. We grow rich from the bush
c. Bush gives us food
d. We clear the bush
B. Other activities
1. Bush has good soil
2. We hunt in the bush
II. General features
A. Bush is from God
B. Many things grow in the bush
C. Vines are in the bush

This tightly organized cluster of sentence completions identifies and characterizes the bush as a place to grow rice. The bush is good and is the source of the basic subsistence crop, namely rice. No wonder it is called the gift of God.

Multi-dimensional scaling also gives a clear picture of how the bush is understood by Gbansu people and how it is used, primarily but not exclusively, for rice farming. Figure 7.7 shows how the responses are grouped along two basic dimensions, from traditional to modern, and from nature to human intervention.

FIGURE 7.7
TWO-DIMENSIONAL REPRESENTATION OF RESPONSES CONCERNING BUSH



The left-to-right dimension moves from traditional features of the bush to modern innovations. At the left are traditional features unaffected by the modern world, such as soil, trees and hunting. On the right are new crops such as coffee and cocoa, problems with bad things in the bush, poor crop harvests, and even the village itself, which is from the long-term perspective a "modern" innovation.

The vertical dimension moves from the natural gifts of God in the bush at the bottom to the activities of people in the bush. People fight, work, walk, hunt and live in the bush, all at the top, while at the bottom of the two-dimensional representation are grass, trees, fruit, birds, swamps, rivers and secrets. As people said in this connection, "All life depends on the bush".

It is striking that the dimension contrasting the mystery and power of the forest with the human secular response is not present in the case of the bush. Some of the same elements are present, but in muted form, and merged into other dimensions. God is found at the extreme of the natural dimension. The powerful doctor appears on the side of cultivation. The secrets of the bush lie on

the side of tradition, while the bad things in the bush are identified with modernity. These elements do not form a continuum, as they do in thinking about the forest.

Bush farmers, whether citizens of hamlet or village, are ordinary citizens, not exposed to the danger and mystery of the forest, as are the two persons we have mentioned as living in the forest. The world of bush residents is relatively safe and secure, free from the power and danger of the high forest. They get less yield than do forest dwellers, but they have the modern world to rely on when things get tough. Members of their families leave Gbansu to seek employment or a western education. They may plant cash crops on bush land, and they may find their way in the money economy. In short, the bush is more nearly part of the world of "village things" than it is part of the world of "forest things".

7.5 Attitudes toward the swamp

There is one more possibility open to the farmer, as he or she decides where to place the new farm. That option is to plant the farm in or near a swamp on the family land. We found that 60% of the village farm households and 55% of the hamlet households had some swampy land in their farming area. Using the swamp is therefore clearly an option which we must examine. Figure 7.8 shows a typical swamp in the Gbansu area.

FIGURE 7.8
A TYPICAL SWAMP ON GBANSU LAND

There are reasons which people have for not making farms in the swamp, as explained in a careful study of this topic (Kellemu, 1967). People who make their farms in a swamp cannot enjoy cooperative work with others, find the work difficult and lonely, run the risk of disease and dislike

the dirt and muck of the swamp. Moreover, people tend to identify swamp farming with women who are desperate and thus plant a bit of swamp rice at the last minute. Finally, people say they don't like the taste of swamp rice as well as the taste of upland rice. Swamps may, of course, be used for other crops, which can be planted on the edges, including sugar cane, cocoa and coffee. But the moment we ask only how well they can grow rice.

Reactions to swamps as a type of soil and vegetation have been discussed earlier. This section will look more closely at the farmers' responses to the swamp, using sentence completions to elucidate the system. Table 7.9 lists the most frequent responses.

TABLE 7.9
MOST FREQUENT RESPONSES CONCERNING SWAMP

RESPONSE	PERCENT
Swamp can grow rice	9.4
We have a swamp	9.3
We work in the swamp	7.4
We make swamp farm	4.9
Swamp is good	4.6
Swamp work is hard	3.9
We should have swamp farm	3.6
Swamp can be deep	3.1
Swamp can help us grow more	3.0
We will go to the swamp	2.8
Swamp work is easy	2.8
We don't have swamp	2.6
We don't work in the swamp	2.3
We don't go to the swamp	2.3
We will work in the swamp	2.2
We won't go to the swamp	2.1

The responses to swamp differ significantly from those to forest and bush. Leading all three lists are the same basic responses: growing rice, making farm, working, owning land, and seeing the area as good. However, after that set of basic (perhaps stereotyped) responses, the uncertainty concerning swamp farming emerges. The swamp is deep, and the work is hard and unfamiliar. As a result a large proportion of the answers either admit that at present the farmers don't work in the swamp or assert that sometime in the future they will do so. Altogether about 40% of the responses either flatly assert that the farmer does not work in the swamp, give his or her excuses for not doing so, or put swamp work off to some convenient future date.

Moreover, those who say that the swamp is good do not necessarily use it for rice farming. For men, the swamp is where they find the all-purpose piassava palm tree. They make wine from it, they gather its thatch for roofing their houses, and they use its palm fronds in many ways, including weaving mats and making traps. For women, the swamp is where they go in groups to fish in the dry season when the water is low and the fish are concentrated in the remaining pools.

Altogether only about 25% of the responses clearly state that the farmers actually use the swamp for farming. Moreover, a much smaller proportion of farmers say that they know that they farm in the swamp than say that they want to do so. Many farmers also express their dislike of swamp farming and their ignorance of modern approaches to using swamps for agriculture. Only the young adults say they want to learn swamp work.

The results of cluster analysis include a subgroup of responses which show why persons do not make swamp farm. Table 7.10 gives this subgroup.

TABLE 7.10
CLUSTER OF REASONS FOR NOT MAKING SWAMP FARMS

I. Dislike of the swamp
- A. We won't go to the swamp
- B. Swamp is hard work
- C. We don't know modern swamp farming

II. Refusal to work in the swamp
- A. We don't have swamp
- B. We don't go to the swamp
- C. We don't work in the swamp
- D. We don't make swamp farm
- E. Swamp is far from the village

The hard work, the lack of knowledge, the distance and the lack of a swamp on the family land are all mentioned.

Table 7.11 give the features of the swamp that make it bad for farming.

TABLE 7.11
CLUSTER OF NON-FARMING FEATURES OF THE SWAMP

I. Uses of the swamp
- A. We will go to the swamp
- B. Swamp is not deep
- C. There are different trees in the swamp
- D. We fish in the swamp
- E. There is a modern way of making swamp farm

II. Bad features of the swamp
- A. Swamp is bad
- B. Swamp is for weak people and women
- C. Snakes are in the swamp

Fishing, using the trees, and farming in a modern way are all alternatives to traditional ways of swamp farming, and suggest that people will tend not to use the swamp to make rice farm. That snakes are in swamps, and that weak people and women make swamp rice farms, are also reasons Gbansu residents give for avoiding swamp rice.

Modern swamp rice farming is another story entirely. In this case plots are laid out carefully in a swamp, with properly designed and regulated stream-fed irrigation. The amount of labor required to prepare the plots is immense. The swamp must be cleared of all vegetation and then levelled. Then the ridged banks which separate the plots must be constructed, and the water supply must be controlled in such a way that the paddies will neither go dry in the absence of rain nor be flooded out when the heavy rains fall. This is not difficult if mechanization is available, but such mechanization is neither available to most rural farmers nor profitable on the small swamps which are usually found in the bush.

Even after the swamp is prepared, there is more work to keep the farm going than there is for traditional upland rice. Seeds must be planted in seedbeds and then transplanted to the paddies. The farm must be kept weeded. Birds must be frightened away at times of the year when only the swamp farms are ripening, and no other food is available for the birds, so that they congregate at the swamp in large numbers.

Furthermore, the work in the swamp is dirty and unpleasant and likely to cause disease. Schistosomaiosis, also called bilharzia, is endemic in rural Liberia, and continual work in the swamp just makes the problem worse. Moreover, swamp work is not the type of work which lends itself to using the cooperative work group, and as a result most swamp farmers work alone.

Swamp rice is becoming increasingly accepted along the main motor road, primarily as a matter of necessity, and to a very limited degree because of demonstration plots. Because of the alienation of land to rubber plantations, people along the road are finding it increasingly difficult to follow the traditional 7-10 year fallow cycle. Some have been forced to adopt a 3-year cycle, almost guaranteeing low productivity.

To be specific, in 1973, over 80 percent of the cultivated land in Liberia's Bong County where Gbansu is located, was planted in rubber, and less than 20 percent in other crops (Van Santen, 1973b). Because of the resultant land shortage, which has not as yet reached the areas such as Gbansu off the motor road, people along the road are being forced to turn to swamp farms, admittedly with reluctance and distaste.

Table 7.12 groups together and summarizes comparable responses to forest, bush and swamp. Some responses to one or more of these topics which had been subdivided in the original tables have been combined. The reason is in order to make the summarized responses comparable. The table includes only those responses which were made sufficiently often to allow a clear contrast between the three types of land.

TABLE 7.12
COMPARISON OF RESPONSES CONCERNING FOREST, BUSH AND SWAMP

RESPONSE	PERCENT Forest	PERCENT Bush	PERCENT Swamp
It exists	1.6	3.7	4.0
We have it	2.4	6.3	9.5
It is good and from God	12.8	16.3	5.7
It is bad and has bad things	7.1	7.7	6.6

It helps us with good things	11.0	11.0	2.8
It gives us food	0.9	2.6	0.7
It can grow crops well	3.7	9.6	4.4
It can grow rice	14.7	6.1	9.5
We work there	12.2	9.0	7.5
We make farm there	7.8	5.3	4.9
We cut, clear and burn it	5.9	1.5	1.0
It is hard work	1.9	0.4	4.0
It is easy work	0.0	0.2	2.8
We live there	1.5	5.6	0.0
We should or will work there	0.0	0.0	14.2
We don't work or go there	2.2	1.5	14.3
We go there	2.4	4.2	1.6
Other descriptions	11.0	11.0	2.8

This summary shows that swamps are clearly an underused resource of the Gbansu farmers we interviewed, on the basis of their own assessment implied by these responses. Farmers claim they will go there, but in fact do not go there, responses which do not occur for forest or bush. All three areas can grow rice and other crops, as people acknowledge, but swamps are much less used for that purpose than forest or bush. The potential is there, but it is not realized at present.

7.6 The final choice of farm location

The above sections have outlined all the factors which the farmer will consider in selecting the site for the new year's farm. The final step, which brings all these factors together was to ask where in fact the new farm was to be located, as reported in Table 7.13.

The table shows that hamlet farmers use either forest or thick bush, which is bush that has nearly reached the condition of forest, in 44% of the cases, while village farmers, who have less such land available, use forest or thick bush in only 31% of the cases. Both use the old farm in 11% of the cases. Village people tend to use old bush, where farms have been in recent memory, more than hamlet people. And only village people actually admit using the swamp for their basic farm.

TABLE 7.13
PERCENT OF ACTUAL CHOICE OF FARM LOCATION

LOCATION	VILLAGE	HAMLETS
Forest	2.2	12.3
Thick bush	28.9	32.1
Old bush	53.3	44.4
Old farm	11.1	11.1
Swamp	4.4	0.0

However, it should be noted that of those who have swamp in their family land, 95% of village households and 85% of hamlet households plan to use it as a supplement to the upland farm. This may seem to contradict what was said earlier, but it is important to realize the ways in which the swamp might in fact be used in farming. The edge of the swamp may be cleared down to the water

itself, and a second variety of rice planted there. Another use may be to plant vegetables or cash crops at the edge of the swamp. In neither case is this a full-scale swamp rice farm.

The final question we asked concerned the reason for choosing the particular site for the new farm. Table 7.14 summarizes the answers.

TABLE 7.14
PERCENT OF REASONS FOR CHOOSING FARM LOCATION

REASON FOR SITE	VILLAGE	HAMLETS
Belongs to family	29.8	32.9
Old farm site	40.2	28.2
Good for rice	4.3	16.5
Good for all crops	19.1	14.1
Good bush	2.1	4.7
Get food	2.1	2.4
Work for others	2.1	0.0
Bush is unclaimed	0.0	1.2

The principal reasons are that the land belongs to the family and that farms have been made there before. Hamlet farmers show a more narrow interest, namely, in the ability of the area to produce rice. Village farmers, as we have seen in other contexts, have a wider range of crops in mind, probably because of their greater concern for cash crops.

The choice of a farm site is not a simple matter, as this section has tried to show. Much thought, experience and wisdom go into the matter. If there is to be reconstruction and renewed development of agriculture in rural Liberia, this wisdom must be used. It is one thing to have good varieties of seed. What is equally important is that the right variety of seed must be matched with the right type of soil and vegetation. Gbansu women know the seed varieties. Gbansu men know the forest, the bush and the swamp. Together they have over the years been able to produce rice to feed themselves, something that modern Liberia has never achieved.

CHAPTER 8. RICE: THE COMMUNITY AT WORK

8.1 Clearing the site.

Each family in the village selects its site for the new farm early in the year in order that it can prepare for the arduous task of clearing the trees, vines and undergrowth. This must be done promptly, so that the cut vegetation has enough time to dry thoroughly before it is burned. And the burning itself must be done before the rains begin in earnest in late May or June, so that the rice can be planted in time for a good growing season. Table 6.4 lists the main stages in the rice-growing cycle, stages which must be followed in correct sequence and correct timing.

It is no simple matter to clear the forest, as the photographs of mature bush and high forest in Figures 7.2 and 7.5 show. Van Santen (1973a) estimates that approximately 27 person-days of labor are needed per hectare for brushing and felling trees. He also estimates that the average holding of upland rice in the areas he studied, all of which are within a day's walk of Gbansu and all of very similar land type and culture, is 1.6 hectares. This means that the average family farm needs about 44 person-days of labor to prepare the land for burning.

There are two ways in which this task is done in Gbansu. Most people use the cooperative work group, called *kuu* in the Kpelle language, which will be discussed in more detail later.

However, a minority of people, usually those in the more remote hamlets, prefer to use family labor only to complete the task, committing all available hands to the job. If a family in the hamlet has no real interests other than farming and if there are a number of able-bodied men and women available, which is true in some hamlets, then the hamlet people can complete the work of cutting and clearing the bush in the course of about two or three weeks.

There are other reasons why a family will prefer to do all its work alone. The man who lives across the St. Paul River does so for his own reasons, as does the escaped murderer deep in the forest. We asked people to tell us stories about different types of characters. One of these stories well illustrates the actions of a man who preferred to go it alone. We asked about a strong person, and heard this story:

> This man's wife was at Firestone, so he went on his farm and did all his work by himself. He didn't ask any woman to cook, wash his clothes and beat rice for him. He didn't use the *kuu*. He did everything by himself. But he finished all his work and his rice grew well, and he got a whole shed full of rice.

However, this is not the preferred way to complete the job. Gbansu people prefer the *kuu*, in which people from several families will agree to work cooperatively on each other's farms until the task is done. There are several functioning bush cutting groups in Gbansu, which have only a very loose continuity over the years. They are reorganized each year at the beginning of the farming season, and consist of enough persons to complete the work on each family farm in the group. The traditional ideal is a *kuu* composed only of men, but increasingly women are joining together to form *kuu*s for reasons which we will explain later.

It is usual for a *kuu* to contain one or two members from each participating family. The *kuu* will give one day's labor on the family's farm for each family member in the group. A family with only one worker is thus likely to have a smaller farm than one with several workers.

In the case of large households, family members may belong to more than one *kuu*, each of which will work on a different wife's fields. The story is told of one wealthy Gbansu citizen.

> This man had many wives, who made very large farms for him. From their work, he got enough money, food and houses to satisfy him.

In clearing the bush, the *kuu* will not remove all the vegetation. All roots are left in the earth, and all heavy logs are left in place, since they help to stabilize the soil against the heavy rains which will fall between June and October.

Ignoring this traditional wisdom can have disastrous consequences, as took place in an area which had been totally cleared by bulldozers and tractors, leaving the bare earth with no protection against rain and sun. The topsoil (and there is only at most 15 centimeters of it in the rural Liberian rain forest) had been spread over the land by the same bulldozers after they had finished clearing the area. The rice crop that first year was not too bad. But when we visited the area three years later, we found that there was scarcely any vegetation where normally a luxuriant regrowth would have started. The topsoil had all been washed away and what remained was red lateritic soil, rather like a footpath, baked and hard and filled with pebbles. The traditional Gbansu farmer would never have treated his or her land in this way.

The second reason farmers give for not clearing everything off the land is that many of the plants are profitable to the family. In particular, oil and piassava palms, kola trees, and all varieties of fruit trees are left standing. They benefit from the sun and the freedom from competition, and their ability to produce fruit is enhanced.

Clearing the forest or bush is supervised by the leaders of the *kuu* who instruct the other men where and what to cut. The strongest men are sent into the most difficult areas, where the leaders and strong young men who aspire to be leaders have a chance to show off their skills, and perhaps earn the right to wear bells and an animal tail.

The new recruits are under the tutelage of one of the experienced members, who has already earned his insignia and is usually now into middle-age. These new recruits are sent into the more nasty areas, where the saw-grass and thorns are sharpest and where there are swarms of bees or wasps. These young people must prove themselves before being promoted to the next rank. The lazy and devious person, on the other hand, is one who avoids such places. The story is told of one such person.

> This man was a member of a *kuu*, but found every means he could to leave the work when the bush was filled with thorns. After that part of the bush was cut, he returned to the *kuu*.

The day begins early, perhaps thirty minutes after sunrise. The members of the *kuu*, including the leaders, the experienced men, the young apprentices, the water-carriers, the bearer of the sharpening stone, and the musicians, start to work while it is still cool. They are assigned to begin where the owner of the area has marked the edge of his land for that year, and they start cutting from there toward the center of the field. The owner of the field and the leaders of the *kuu* guide the men along the desired boundaries. A line of trees is traditionally left along any trail that may skirt the area, so that walking the trail in the heat of the day is not so uncomfortable. However, as land pressure increases, this practice is dying out.

FIGURE 8.1
MUSICIAN FOR BUSH-CUTTING GROUP

FIGURE 8.2
BUSH-CUTTING SKILL

The men rest in the middle of the morning and are provided with the first refreshments of the day. Traditionally, fresh palm wine was brought out at this point, but now it is more likely to be raw rum bought by the owner of the farm from one of the village brewers or perhaps brewed by himself after the dry season harvest of his own sugar cane. One story is told of an important person who made a successful *kuu*.

> This man had the *kuu* work on his farm. His wife cooked good food for the people, so that they worked very hard. He took good care of the people, and gave them plenty to drink. They were happy and danced very much, and all got drunk.

After a short rest, the men go to work again, singing and talking, accompanied by the musicians performing on their drums and rattles, as illustrated in Figure 8.1. It is at this time that those men who want to make a good impression will demonstrate their talents.

One rule is that no one must lean against a tree, lest it be cut out from under him. A stranger learns this rule the hard way, since a *kuu* member may cut the tree down with one blow of his cutlass, leaving the victim half-suspended in the air, the subject of everyone's laughter. One of us learned this very lesson, while leaning against a small tree to watch the work in progress!

Young women have arrived by this time, and clap and sing and cheer as the young men demonstrate their skill. The real triumph is to fell a small tree with one blow of the cutlass, as shown in Figure 8.2. But to overestimate one's ability is to bring only laughter.

After the late morning push, in which group work and solo display alternate, it is time for the main meal of the day. The wife of the owner of the farm is expected to have prepared a substantial dinner for everyone, and the quality of the work in the afternoon is a direct consequence of the quality of the meal. A story is told of a poor person who was unable to provide for the members of the *kuu*.

> This man wanted to buy fish with which to feed the *kuu* on his farm, but none remained to be bought. So he refused to have the *kuu*, since he had nothing to feed the workers.

Usually the food is cooked on the spot, although if the farm is close to the village or hamlet, it may be prepared at home. Everyone sits down in the heat of the day and eats a substantial meal of rice with meat or fish and vegetable stew poured over it. The separate subgroups of the *kuu* eat together, and in silence, squatted around large pans of food. The leader of each subgroup will distribute pieces of meat or fish, according to how well individuals have performed during the morning, as shown in Figure 8.3.

The poor worker will get a poor meal, as illustrated by this story:

> This man was a member of a *kuu*, but when the food was distributed nobody thought to give him any meat. He only ate soup on his rice.

To complain about the food received or to be greedy is to violate the norms of courtesy at a *kuu*. Two stories reveal the underlying ethic of the Gbansu people.

FIGURE 8.3
THE NOON MEAL FOR BUSH-CUTTING GROUP

This man went to work on a *kuu*, but was not satisfied with the amount of food he received. The owner of the farm tried to explain, but the man preferred to fight. Thus the members of the *kuu* drove him away.

This man belonged to a *kuu*, but feared he would not get enough food to eat. So he cooked his own food and took it with him. He found plenty to eat on the *kuu*, and so had to throw his own food away.

After eating, the men will rest in the shade, perhaps talk, perhaps even sleep, before the afternoon's efforts. Then comes the final push of the day. No talking or playing is allowed during the late afternoon drive to finish the farm. Instead, the men line up and fight in earnest against the remainder of the bush, assuming, of course, that they were satisfied with their dinner. The section leader, animal skin glove on his left hand and a cutlass in his right, will roll up the undergrowth, while the others will follow him and sever stem from root. The drummers and rattle-players will press close behind the men, singing at an ever-increasing pace, praising the hard and competent workers, and insulting those who cannot keep up.

Finally at a signal from the leader, the day will be declared over. Some men will put a few finishing touches on places they did not properly clear, the owner of the farm will check the area, the family will collect their pans and dishes, and everyone will go home. They will reach the village at sunset, and hopefully will find water heated for a bath at their houses, as well as a second meal at the end of the day.

We have described in detail the men's bush-cutting *kuu*. Most villages have also at least one women's bush-cutting *kuu*, and Gbansu is no exception. Such a cooperative work group functions very much as the men's group, but is generally considered not so efficient. Women may work in such a group if their men are away or sick or deceased, of if they want to make an unusually large farm. A women's *kuu* is shown in Figure 8.4.

FIGURE 8.4
WOMEN'S BUSH-CUTTING GROUP

A family may continue clearing the bush or forest for another several days of individual effort after the *kuu* has finished its allotted time on the farm. No *kuu* will work every day in the week, but will leave several days free for resting or for private work by individual members. In those cases, therefore, where the *kuu* did not clear enough land to satisfy the owner of the land, perhaps because the family has only one member in the *kuu*, it is possible to enlarge the plot by concentrated family effort.

8.2 The individual and the community.

As should be clear from what has been said about clearing the bush, the people of Gbansu use the *kuu* as a convenient way to get work done, but not as an unchanging part of traditional ritual. When the *kuu* is needed to achieve a goal, it is used. The *kuu* is not some kind of primeval African socialism, now unfortunately denatured and destroyed by modern civilization. It is doubtless true that as the old culture of Gbansu and places like it is diminished, institutions like the *kuu* will also diminish. But that is not because the great old African communal spirit has been lost. It will be

because the *kuu* is less useful to individual members of the community than it once was in achieving their goals.

The *kuu* is used not only in farming. It is a body of people brought together by mutual agreement to do a specific task. Figure 4.2 showed a palm-nut beating *kuu* at the village elder's hamlet. In this case some of the members of the *kuu* expected to be paid by the elder, in addition to being given the substantial meal shown in preparation in the foreground. Others, however, were looking forward to assistance when the time arrives for them to prepare their own palm oil.

Figure 8.5 shows another type of *kuu*, this one formed in order to plaster a newly-built house with mud. Such a *kuu* includes young children as well as adults, and consists usually of all the members of a particular quarter or hamlet. Not only will the *kuu* be well fed, but its members can themselves expect to be helped in the same way if they build new houses.

FIGURE 8.5
HOUSE-BUILDING WORK GROUP

We will see as we proceed just how the *kuu* is used in the complex set of activities which make up the yearly rice-growing cycle. Where it is needed, it is used. But before looking at the remaining stages in the rice cycle, we first analyze more closely the community's understanding of the *kuu*. We interviewed people from the villages and the hamlets, male and female, schooled and unschooled, children, young adults and middle-aged adults, using the sentence completion method.

Table 8.1 lists the principal sentence completions concerning the *kuu*, as given by those we interviewed. It is particularly striking that so many responses affirm membership in a *kuu*.

TABLE 8.1
RESPONSES CONCERNING THE *KUU*

RESPONSE	PERCENT
We belong to a *kuu*	14.3
Kuu can work hard	5.7
Kuu does our work	5.0
Kuu works poorly on some farms	4.6
Kuu is good	3.7
There is a *kuu* in our village	3.3
Kuu helps on our farm	3.2
Kuu finishes its work	3.0
Kuu helps us	2.9
Kuu does all kinds of farm work	2.7
Many people form a *kuu*	2.6
A *kuu* member is in trouble	2.6
Kuu members can drink	2.5
Kuu has lazy members	2.5
People work in *kuu* as friends	2.5
Kuu eats food on the farm	2.4
Kuu is coming	2.1
Kuu has a leader	2.1

Membership in the *kuu* is the most commonly mentioned fact. The *kuu* is associated with hard work, particularly the work required for the family farm. The *kuu* is basically a good and useful institution, one which is enjoyed for good food, drink, friendship and mutual support. Few of the responses are negative, and those that are reflect laziness and poor work on the farm, perhaps because the food and drink were not satisfactory.

The differences between population groups are those which would be expected. The unschooled are the ones who mention actually participating in the work of the *kuu*, while their schooled brothers and sisters speak about the *kuu* at a distance. They recognize its value, and acknowledge how important it is for growing rice, but they do not participate. Instead, they speak of going to school and hiring the *kuu* to do their work for them. They acknowledge that the *kuu* has rice while they themselves do not, but their response is not to join the *kuu*, but rather to depend on others to join it, while they reward the members with money and food.

The taxonomy of responses concerning the *kuu*, as generated by cluster analysis, reveals the vitality and life within the *kuu*. Table 8.2 presents a sub-cluster about life within the *kuu*.

TABLE 8.2
LIFE WITHIN THE *KUU*

I. Value of the *kuu*
- A. *Kuu* is important in Liberia
- B. *Kuu* can make you rich

II. Activities of the *kuu*

A. Membership
1. *Kuu* is good
2. *Kuu* gets work done fast
3. Many people form a *kuu*
4. People work together in *kuu* as friends
5. *Kuu* members fight and sue each other
6. *Kuu* hunts and fishes together

B. The pleasure of the *kuu*

1. The day's work
- a. *Kuu* can drink liquor
- b. *Kuu* eats food on the farm
- c. *Kuu* can work hard
- d. *Kuu* helps on our farm
- e. We give meat to the *kuu*

2. The results
- a. *Kuu* helps have large farm
- b. *Kuu* helps us

Those who join the *kuu* find each day's work an enlivening and exhilarating occasion. The liquor flows and the mid-day meal is (or should be) excellent. The members are friends, and yet they compete vigorously against each other. They look for what animals they can find in the bush to bring home as meat for supper. The work is done quickly, and the result is a large farm for each member.

8.3 Organization of the *kuu*

The *kuu* is organized by people who have a task to do and who feel that the task can better be done communally than individually. No one is required to join a *kuu*, as should be clear from the discussion of clearing the site for the new farm. If a person or a family wishes to work on their own, they are welcome to do so.

There can thus be many different types of *kuu*, of different sizes depending on the particular task. The members are usually friends and relatives, from enough different households to allow a rotation of the work, but not so many that any one family will have their work done too late to be useful.

The *kuu* chooses its leaders, including an overall head, section heads, a treasurer, and a musician, as well as some minor office holders. Further details of the organization of the *kuu* in similar parts of Bong County are given by Seibel and Massing (1974).

The *kuu* is divided into sections, one of which usually supervises and teaches the young members and another of which is composed of the best workers, who are given the key tasks. The treasurer

keeps the fines, obligatory in case any person misses a day for some reason other than bad health. The musicians maintain the rhythm and pace of the work, singing compliments to those who show the greatest vigor and efficiency, and insulting those who are lazy or incompetent.

The *kuu* plans its schedule for the activity at hand, whether clearing the bush or planting the rice or harvesting the crop or whatever other task may fall to it, partly in advance and partly as the work proceeds. In particular, important decisions are made the night before the work is to begin on a particular farm.

The object of the *kuu* is to finish the work of each member at a convenient time during the appropriate season. If the rice from one household ripens earlier than that of another, for example, the harvesting *kuu* will keep that in mind as it plans its schedule. If one household has chosen a site which must dry longer than the site of another after clearing and before burning, the bush-cutting *kuu* will clear that family's bush earlier than that of others. If one household has selected a rice variety which requires a longer time to ripen than that of its neighbor, its rice will be planted toward the beginning of the season.

If rain comes to spoil the day's work, then the family must arrange for the *kuu* to come another day. This may be difficult, since it means organising food and drink again, and may even be impossible, if the schedule is too tight to allow another day's work. For this reason, the *kuu* may use a powerful doctor, who contacts forest and ancestor spirits and applies traditional medicines in order to prevent rain. We were told that a person capable of preventing rain in this fashion must pay for this power by having all his children die at an early age. The leader of all the cooperative work groups in Gbansu, a man who is also a principal blacksmith and probable leader of the secret society, was reputed to have had the power to stop rain in his youth. It is said, however, that he gave up the power in order that his children might live.

There may be other reasons why a *kuu* may be postponed, leaving the owner in the position of having double expenses. One such reason is explained by the following story:

> This man had a *kuu* scheduled to work on his farm the day the chief announced that everyone should work on the government farm. The *kuu* left his farm, but he didn't complain. As a result he had to provide food and drink a second time for the *kuu*.

Exploitation by government is obviously the sub-theme of this story, and so it was not only the farm owner who suffered but also everyone else who had to leave the village and the work to serve an outsider.

A family might have more than one member in a particular *kuu*. It may provide a strong young man to cut bush, a girl to bring water, and a boy to hold the sharpening stone for the men. The *kuu* will work for one day on the family farm for each member of the family that belongs to the *kuu* and works in a satisfactory way. A family may, however, decide to spread its members around in different *kuu*s for the activity at hand, since Gbansu has more than one *kuu* for each agricultural task. In this way, the family can get the help of each *kuu* to which it contributes members. Some members believe this procedure is likely to be more productive than concentrating all the human resources on one *kuu*.

Kuu membership is thus not identical with family membership or with making farm in a particular farming area. A family plans its strategy in accordance with what it conceives to be its maximum

benefit, given the human resources at its disposal. It may even be that the family members available are not capable of maintaining the pace set by the *kuu* to which it would like to belong. If the persons are lucky, they may find a soft place in the *kuu*, as in this story.

> This man joined the *kuu*, but he was unable to clear bush, and so the members told him to carry the stone for men to sharpen their cutlasses.

If less fortunate, the household members may either join no *kuu* at all or join the women's *kuu*. Those who join no *kuu* at all are often forced at the end to make a small rice farm in the swamp, as was mentioned earlier. However, who are weak and poor, as discussed here, should not be confused with those who prefer to make their own farm because they are strong and vigorous and do not see the necessity of joining a *kuu*. It must be remembered that the *kuu* is not obligatory, and the strong family, particularly if it lives in a remote hamlet, may decide to proceed on their own. The story was told earlier of the strong person who did everything by himself. Another story has the same message.

> This man made a farm and cut his rice and put it in the shed, so that the rice filled the shed. One day he was sitting under the shed, when it broke. He got up and held the roof in place until his people brought a new stick.

The women's bush-cutting *kuu* in fact has a few men in it, as a close inspection of Figure 8.4 reveals. These men join the women's *kuu* either because they cannot work well or because the other men wouldn't have them in the men's *kuu*. A woman may join this *kuu* either because she wants to supplement the work done by her husband's *kuu*, or because her husband is not willing or able to work. The work done by the women's *kuu* is known to be poorer than that of the several men's bush-cutting *kuu*s, but nonetheless they fill an important place in the community.

Unlike hamlet people, all of whom tend to work on the farm unless they are physically unable to do so, village families choose with care those who will participate in the *kuu*. The family must have enough rice at the end of the farming season to survive, and it will choose the strategy which satisfies that need as well as the personal preferences of its family members. As a result, there is a strong tendency in Gbansu village for the uneducated, the young and the powerless to join the *kuu*s, while the educated, the modernizing element, and the power elite of the village remain at home or go to work in the outside world. Moreover, if a family is sufficiently wealthy and powerful that none of its members wishes to work on the farm, it may hire a *kuu* to do its work for it. A story is told of such a family.

> This man came from Monrovia to make a farm in the village. He was himself unable to work, and so he had to hire the *kuu* with money to do his work for him.

The situation in the hamlets is quite different. There the principal object of life, as has been shown in earlier chapters, is rice farming, and rarely does a modernizing or powerful person live permanently in the hamlet. It is true that some of the hamlets are owned by powerful village people, such as the chief and the elder, but they do not live permanently in their hamlets.

Many of the hamlets are in effect family farms. The residents of the hamlet all work, except for the very old, the very young, and the disabled and blind. If the hamlet is large enough to have several farms, the households may join to form a *kuu* of their own. In some cases also they may join the families of the next hamlet to form an inter-hamlet *kuu*. For example, the people of farm

areas 413 and 414, as shown in Figure 2.3, form a single *kuu* which works on all the farms in the two areas.

In other cases, the hamlet consists of one family which does all its own work. The rugged individualist already mentioned, who lives across the river in area 164, does his own work with the help of his wife and his two children. By dint of very hard work they have cut down the high forest and have made a substantial rice farm, which is pictured in Figure 7.5. In fact, it was not necessary for him to cut a new farm in the year we were living in Gbansu, since the previous year's farm was still sufficiently fertile to serve all his needs.

8.4 Burning the farm.

The land is normally cleared between roughly mid-January and the beginning of April. However, some persons delay clearing their site until mid-April or even May. Usually such persons are sorry, because they run the risk of the cut vegetation not drying sufficiently well to burn completely. Burning the cut trees, vines, shrubs and roots accomplishes two absolutely essential purposes. First, it gives access to the land, both for people and for the sun. Rice cannot grow in the shade. Second, it adds fertility to the soil through the ash. The land has gradually recovered its fertility over the years of the fallow cycle through leaves and other organic material falling from the trees. But the bulk of the fertility of a tropical rain forest lies in the leaves and branches, which must be burned to provide nutrients to the soil.

It is also not good to clear the land too early in the season, unless the bush is of certain types, as mentioned earlier. If the wrong types of bush are cleared in early January and then not burned until May, they may grow up once again, taking advantage of residual moisture in the soil and air. In such a case, the bush will not burn properly because of new green matter.

Ideally, the cleared land should rest until some time at the end of April or the beginning of May, when it is judged ready to be burned. People tend to wait as long as possible until rain is imminent, and then burn the farm just before the rains begin. The family which waits too long is just as unfortunate as the family which did not wait long enough. Burning the farm after it has rained means contending with excess moisture, and as a result the farm will not burn well. We were told of one man who made a swamp farm, and failed to burn it in time.

> This man made farm in the swamp, but did not burn it until the rains began. As a result he never finished his farm, and had to beg for food.

The very fact that this man made his farm in the swamp may indicate that he had other problems as well as being late with the burning. Often swamp farms, as mentioned before, are last-minute attempts to save a bad season, and as this story shows, they may well fail on all counts.

The difficulty with the farm not burning well is that many sticks will be left unburned, making it very difficult to plant the rice, and also reducing the total input of ash into the soil. If this happens, it is necessary to repeat the cycle, dry what remains and burn a second time. This is, of course, very difficult if the rains have begun in earnest.

During the period of waiting, some families cut and stack the drying wood on the farm. If they are optimistic and the land seems good, they may omit this step. But anything that can be done to

improve the chances of a successful burning operation is a wise move. The operation of preparing the farm for burning is shown in Figure 8.6.

FIGURE 8.6
PREPARING A FARM FOR BURNING

A morning then comes in early May when the air feels different. It is the end of the dry season, and the full rains can come at any time. It may have rained several times already, but they have been isolated heavy thunder storms, deluging the earth and running off into the rivers as quickly as they came. On such occasions, one can even see the rain go back up into the clouds, as mist rises from the ground once the sun comes out. But by early May there is a different feeling. The weather is about to change, and the rains will begin to fall and not be immediately drained off into the rivers or sucked back into the atmosphere.

On such a day, people come out of their houses, check the air and the wind, and then one after another choose that day to burn their farms. Perhaps it is a matter of mutual reinforcement, or perhaps each family makes the decision separately. But, by mid-morning, most families have taken piassava torches, and live coals wrapped in banana leaves, and have gone to their farms.

Burning the farm is not an occasion for a cooperative work group. Instead 5 or 6 household members go to the farm, each with a torch. At the down-wind end of the farm the first person sets the fire in a clump of dried grass and vines. A small ceremony accompanies the setting of the blaze, and shortly thereafter other members of the family start their fires at strategic points throughout the farm. Within minutes the air is too thick with smoke to see anything, and as a result each member of the family continually sings out his or her position, and calls to the others. No one wants to be trapped in the middle, as occasionally does happen, with fatal results. On the other

hand, the risk is inevitable, since the fire has to be set in a number of places throughout the farm, since there is still enough moisture in the air, the ground and the cut vegetation to prevent a total holocaust.

The wind rises from the edge of the farm, pulling with it fresh cool air from the forest on all sides. By this time, all family members have fled from the farm itself and stand watching at the edges. Occasionally, one sees through the smoke and flames an area which is not burning properly, and he will thus dash back through the farm to start the fire in a fresh spot. And, after the blaze has passed over a given spot, it may be necessary to try to pile half-burnt sticks together to encourage the fire to come again and finish the job.

On such a day, all throughout the countryside there are columns of smoke rising from burning farms. On one such occasion, we even saw the remarkable effect produced by all these massed columns of dust and moisture laden smoke. A miniature thunder cloud formed over the area, and it actually began to rain a few drops, rain caused by the people's efforts to clear the land.

The whole job is over in less than an hour, at which time the family begins to search in the charred stumps and still-smouldering ashes for any small animals that might have been trapped by the fire. If they are lucky, they may find some giant rats or tortoises and take them home to eat. A more fortunate family may even find a small antelope that will give meat for several days. Good fortune, however, lies primarily not in animals killed, but in the farm burning reasonably well, with only a few pockets of unburned brush here and there.

Some families may have only a small amount of work still to do after they burn the farm. Others have much more, where the fire has really failed to do its work properly. Very few have totally clean burns to show for their day's work. Thus almost every family has to go back to the farm and try again to clean the area before planting can be done.

This means cutting, piling, organizing and tidying the farm so that it can be burned a second time. The unburned wood is carried to areas where it is thickest, and put in piles. Areas which have burned well are simply made tidy, so that rice planting will be easier in the next big operation. For some households, this may be a matter of a couple of days. For others, it can mean hard, back-breaking work for two or three weeks.

Then the family must wait until there is another dry spell before trying again. They can no longer count on the massive uprush of flame to sweep their farm clean. They must make a series of small fires, and light and relight them until the area is clean.

Of course, clean does not mean absolutely clean. Everyone leaves enough half-burnt sticks on the farm to help prevent erosion, and to provide firewood for the rest of the year. Small boys and girls from the family are sent daily to the farm to bring home the firewood needed for the day's cooking and for heating the obligatory daily bath water. On the other hand, the amount of unburnt sticks left behind must not be enough to hinder planting, tending and harvesting the rice.

According to Van Santen, who worked in an area close to Gbansu, the total burning and clearing operation can take up to 15 person-days per hectare, or a total of 24 person-days for the average farm of 1.6 hectares. Granted the initial investment of about 6 to 8 person-days on the first

burning, it means that about 3 weeks must be spent in reclearing and reburning the average farm. It is not an easy task!

8.5 Planting the rice.

Roughly another month must pass before the rice can be planted. The rains must have come in sufficient quantity to settle the ash and soften the soil and give a good base for the rice to germinate and put up its first growth.

If a family plants its rice too early, it may lose the whole crop. The rice may germinate, put up its head, and then fall over and die for lack of moisture. A story is told of a family, called stupid by those who related the events, which behaved in just this way.

> This man made his farm very early, even though people said not to do it. He didn't listen, but planted his rice so early that the birds ate all of it when it sprouted. He got nothing as a result.

It is possible that the problem was with the man, rather than with his wife. It is quite likely that he gave his wife orders, and did not listen to the advice which both she and the neighbors would give.

The timing is critical on the other end as well. If the rice is planted too late, it may not receive enough rain when it is maturing before harvest, and the crop may be poor and thin. Moreover, if the harvest is too late, the family may suffer if they are forced to eat all the rice stored from the previous year. The hungry time, from the end of August until the first harvest in October, was in former days a time when some families in fact starved. The introduction of such alternative crops as maize and cassava has helped overcome that problem, but even today there is suffering if the old rice is finished before the new rice is ready. This is a particular concern in these days of civil war, when soldiers from all sides commandeer rice, leaving the families without sustenance until the new harvest comes in.

When the time has come for planting, the women organize their planting *kuu* to work on the farms of its members. Those whose rice variety has a long growing period will have their farms planted first, while those whose rice requires a shorter growing period will be planted later. The planting *kuu* is not as large as the bush-cutting *kuu*, and may have between 10 and 25 members, almost all women except for the musicians.

Experienced women lead the *kuu* across the field, as the members follow the matriarch of the family who broadcasts the rice across the damp ash-laden soil, as shown in Figure 8.7. She has chosen her rice varieties in the way already described, and she moves with confident expertise to scatter the seeds in the right amounts and in the right places.

FIGURE 8.7
FAMILY MATRIARCH BROADCASTING RICE SEED

The women follow with short-handled hoes, mostly made by the village blacksmith. They move in a line across the field, covering the rice seed in a layer of 3 or 4 centimeters of dirt, working to the beat of the *kuu*'s musician, as in Figure 8.8.

FIGURE 8.8
WOMEN COVERING RICE SEED

Just as with clearing the bush, this is an occasion for celebration and ceremony and skill. The best rice-planter may move ahead of the group and dance to the accompaniment of the drummers and rattle-players and singers, as she dances a complex step over the rice she is covering, as shown in Figure 8.9. The other women will echo her steps in an intertwining network of feet and hoes, while the men standing by clap their hands and praise her skill. The singers, as in the men's group, insult the lazy and praise the skilful, and, if neither target is available at the moment, comment in improvised song on affairs of the village. A man's sexual prowess may be praised, a woman's handling of her home may be censured, or a child's beauty may be complimented.

The owner of the farm must, as in all *kuu*s, provide a good meal as well as plentiful drink for the women. How well the family provides is a measure of how well the *kuu* will work.

FIGURE 8.9
DANCE AND SONG AS RICE IS PLANTED

At the end of the day, the rice has all been scratched into the soil, and the women gather up their belongings and go home. The family may remain behind to tidy a few corners, check that no areas went unscratched, and look for rice seeds that might lie uncovered. As dusk falls, they too will go to cook the evening meal, although at this time of year, the beginning of the rainy season, they may sleep on the farm, either under the eaves of the rice storage shed or in the newly built farm shelter.

Van Santen's estimate of the time spent on sowing and scratching the rice is 18 person-days per hectare or 29 person-days for the average farm. This implies that the *kuu* may have to return to a particular farm on a second day in order to finish the job, since the planting *kuu* rarely has more than 20 members.

8.6 Caring for the rice.

The next five months is a time of caring for the rice, to prevent predators and weeds from destroying the crop. Birds, as has been noted above, may snatch up the newly planted rice grains or the tiny seedlings. Thus children are expected to chase birds on these first critical days before the rice is firmly established. At the other end of the growing season birds also threaten the ripening grain, and the children are sent once again to chase the birds.

There are several methods for chasing birds. Some children use slings to hurl stones at the swooping flocks of birds, not allowing them to rest on the ground or on the ripening stalks. Others rig up long lines of piassava rope on which they suspend stones or tins which flutter and sound in the air as the children shake the ropes. Others set up scare-crows in the field, and hope for them to frighten the birds.

One thing is sure. Birds must receive constant attention, or the entire crop can be destroyed in a day. One of the reasons why some people like to farm deep in the forest is because birds will not find them there. Certain areas, on the other hand, have vast colonies of birds, particularly nesting in the palm trees, and special care must be taken in such areas to ensure that the crop survives.

Another danger is small animals, particularly the so-called "cane cutters" which infest the forest and bush. They may come at night and eat the young plants just as they are most tender and fresh. To ward this off, men must build fences to surround the entire field. These fences are built of short sticks, often taken from the unburnt wood left after burning the farm, tied together with vines to form an unbreakable wall. At intervals along the wall, which may be as much as a meter high, there are traps to catch small animals which try to invade the farm.

In the deeper forest areas, there may be large traps to catch the occasional leopard, dwarf buffalo, pygmy hippopotamus or even elephant that may wander across the farm. It is said that s single elephant or hippopotamus can strip a rice farm clean overnight if it is hungry. However, at present these large animals are rare in the area where most people make their farms. They seem to be more afraid of people than people are of them.

Men will spend two or three weeks on their family farm to make a proper fence. Several families may have farms adjacent to each other in order to reduce danger from animals. In such cases they do not need to fence the boundaries between farms, thus saving work and enhancing protection.

After making the fence, the men turn to repairing the rice storage shed and possibly making a temporary shelter for their family to rest in during the rains. If the farm has already become a hamlet or is on the way to that status, the men may build a house or else improve the shelter or rice storage shed to the point where it is a house, as we have already said. The first step beyond a simple shelter is to make mat walls to enclose the area under the rice storage loft. Often the farm community never gets beyond the stage of mat-walled shelters, but in some cases permanent mud-and-thatch houses may be built.

The women's task on the rice farm during this period is to weed the field, as well as to plant and care for such other crops as may be intercropped or planted on the field in the second year. Weeding may not in fact be necessary, depending on the number of weeds. In some cases, particularly in fields in the high forest areas, there is little undergrowth to compete with the rice, and so weeding can be neglected. However, near the villages a strong growth of weeds is common, particularly where a new and vigorous species of weed has threatened to take over the fields.

Van Santen estimates the number of person-days per hectare spent weeding at about 3.5, so that roughly 6 days of labor are spent for the average field of 1.6 hectares. This seems about right for the fields we saw, probably because many of the Gbansu fields do not need as much weeding as the fields nearer the motor road. Van Santen also estimates about 12 days per field spent on fencing and construction, which also seems reasonable. He does not include the time spent on the children's task of chasing birds, since it is difficult to allocate the time accurately. A good guess is that this activity might require two weeks from two children at the beginning of the season, and another three weeks from two children just before harvest, for a total of 35 children-days of labor, which can be translated to about 20 person-days.

8.7 Harvesting the rice.

When the rice is ripe, a harvesting *kuu* is formed. It will be about the same size as the rice-planting *kuu*, and may well consist of the same people. The women schedule the harvesting kuu for the time when each woman's farm becomes ripe. It is thus necessary that there be some difference in ripening time, or else some of the women would surely lose their rice to birds or even to scattering, if they had to wait too long before harvest. The only time of the year when it is safe to leave unharvested rice is at the very end of the season, when birds seem to be satisfied and don't trouble the remaining rice.

Animals and birds are not the only predators. At times it is other people who steal rice, as this story indicates.

> This woman made her farm near another woman's farm. The other woman's rice was ripe before her own, and so she stole her friend's rice. She was caught and now no one trusts her.

In another similar event, retribution seemed to be swift and inevitable.

> This man went to his neighbor's storage shed to steal rice to feed the *kuu* on his farm, but a snake bit him. He lay there crying for help until the owner of the shed came and found him. He was brought to the village and fined heavily.

The harvesting *kuu* operates in a similar way to the brushing *kuu* and the planting *kuu*. The women come to the field early in the morning, accompanied by the family which owns the field as well as by the musicians. The women line up with their small knives, either made by the local blacksmith or bought in one of the village shops, and work across the field to the beat of the drummer.

The laws of the *kuu* apply equally to this as to other activities. One story illustrates the way in which reciprocity is guaranteed.

> This woman joined a *kuu* in order to cut rice. The *kuu* was late reaching her farm and so she cut her own rice. Thus when the time came to clear the bush she asked the *kuu* to do that instead of cutting her rice. Thus she had a big farm that year.

Each woman cuts the rice with her right hand, and holds the growing bundle of stalks in her left until she can hold no more. She then gives the bundle to the man who owns the field. He ties the bundles together and puts them on a convenient tree stump left standing in the field.

When he has enough bundles, he puts them on a raised platform which he has set up in the field, building in this way a pyramid of rice. The bundles are carefully laid on the pyramid in such a way as to build the steepest possible stack. Thus, if it does happen to rain during the period after harvest, the rain will run off and not penetrate the stack of rice. This is a time of further drying before the rice is stored, and so excess water is a danger. However, the dry season sun is sufficiently hot and powerful that normally the rice dries very well, so that it can be put in the storage shed after a month or so in the sun.

After a hard morning of harvesting, the women are given the usual noon meal and a chance to rest. They then return to finish the task in the afternoon, or possibly the next day if the harvest is good. In general the family contributes as many persons to the *kuu* as days appear to be required for harvesting. If more rice remains uncut at the end of the harvesting period, the family must finish the work by itself.

Van Santen estimates the harvesting time at approximately 43 days for the average field of 1.6 hectares. Our experience makes this seem reasonable.

8.8 Post-harvest activities.

The rice must be stored in the shelter, which was made or at least repaired during the rainy season. Transport of the rice in the past has not been a major task, since normally the shed was adjacent to the drying rack. However, as modernization overtakes people in villages like Gbansu, and as thievery accompanies modernization, people increasingly bring their rice to the village to store in their locked houses. This means a large amount of time spent by such persons in carrying the dry rice home.

It is very difficult to make no firm estimate of the time spent, and Van Santen does not consider this activity. A reasonable guess is that the roughly 1800 kg of uncleaned rice from the average field of 1.6 hectares would require carrying about forty 45-kg bags or the equivalent in basins from the field to the home, usually by women. The average field is about a 45-minute walk from the

house, and so on average about two trips can be made in a day, requiring thus about 20 person-days on the average to bring all the uncleaned rice to the village or hamlet.

Eventually all the rice must be carried to the home, if not for storage then at least for eating. Thus the amount of time which has been estimated should be included in the total amount of time spent in the overall rice cycle. Some of the rice, moreover, may be carried beyond the village, if it is to be sold in the market.

The next step is threshing the rice. This is also a woman's job. She takes bundles of dry rice and uses her feet to strip the rice from the stalks while standing on a mat, or else she strips the grains by hand. The space around the mat has been cleared of all debris, and the chickens are driven away to prevent them eating the rice. We did not measure the time spent on this operation. A reasonable guess, very rough indeed and made after the fact, would be that a skilled woman can in one day thresh a 45 kg bag of rice from the stalk. If this guess is correct, an additional 20 person-days of labor are required for the average farm. If this threshing is done on the farm itself, then clearly not so much labor has to be expended in carrying the rice home, since according to Van Santen the weight of threshed rice is only about 60 percent of the weight of the unthreshed rice.

The final operation is milling the rice to remove the husks before cooking. A rough estimate can be made here also, because we did not actually time the operation. Women beat the rice in wooden mortars, with long wooden pestles. A skilled woman can beat a kilogram of rice in about 15 minutes, as a very rough estimate. Thus if she has to mill 1100 kg of rice (which is 60 percent of 1800 kg), this will require about 300 hours of work or roughly 40 days of labor. These figures have been deliberately rounded off, because such estimates cannot be made accurately, particularly long after leaving the village. Unfortunately, we did not at the time of the research carry out a time-and-motion study of women at work. Such a study would be very useful, particularly because women do so much work that is unnoticed. Cooking is not included in the time estimates of agricultural labor, since it is not exclusively part of the rice cycle.

8.9 Total time requirements for rice farming.

There are a large number of assumptions hidden along the way in our calculations. Van Santen's estimates have been taken where they were available, and other estimates have been added. These assumptions include an average field of 1.6 hectares, which is about 45 minutes walk from the home. With all these assumptions, it is possible to make an estimate of the number of man-days and woman-days required to produce the rice. The results are given in Table 8.3.

TABLE 8.3
PERSON-DAYS IN RICE PRODUCTION

ACTIVITY	MAN-DAYS	WOMAN-DAYS	TOTAL
Clearing	40	4	44
Burning	14	10	24
Planting	4	35	39
Weeding	0	6	6
Fencing and building	12	0	12
Chasing birds	10	10	20
Harvesting	5	38	43
Transporting	5	15	20
Threshing	0	20	20
Milling	0	40	40
Total	90	178	268

The time has been allocated between men and women roughly as we saw it in the field. If the time spent in threshing and milling the rice is included, women do almost two-thirds of the work on the rice farm. Excluding these operations, the time spent is more nearly equal between women and men.

The striking fact is that so much time is spent for so little production. If in fact only 1100 kg of clean rice is produced on the average Gbansu farm, this means that only about 4 kg of rice are produced per person-day of work. Rice was selling at the time we did the survey for about $.20 per kg in the market at harvest time and for about $.30 per kg in the hungry time, for an average of about $.25 per kg overall. This means that rural farmers in 1974 were working for about $1.00 day, if the time were monetized. This is roughly comparable to what men were then getting for tapping rubber, and it is not much. No wonder the younger generation is not interesting in remaining at home and working hard on the rice farm!

CHAPTER 9. OTHER CROPS

9.1 An overview.

Table 2.5 showed that planted things form a subclass of both forest things and town things. Those that are edible form a subclass of working things, under the heading household things, the subheading cooking things, and the sub-subheading foods from the forest. There are five types of planted things in the forest: root crops, vines, trees, shrubs and mushrooms. The distinction between the types of planted things is based on how each one grows: under the ground, as a vine needing a tree for support, as an independent free-standing plant with a single stem, as an independent free-standing plant with several stems, and as a leafless plant growing out of rotting material.

Some of these planted things grow wild in the forest or bush, while others are cultivated. The primary distinction which outsiders might make between the cultivated and the wild plant seems not to be the critical issue to those we interviewed in Gbansu. Rather the important facts about a plant are whether it can be eaten or otherwise used and how it grows.

We asked what are the major crops planted in Gbansu and the hamlets. Table 9.1 lists the crops and the percent of families planting each crop in the 1974 season.

TABLE 9.1
PERCENT OF HOUSEHOLDS PLANTING CROPS IN 1974

CROP	VILLAGE	HAMLETS
Rice	100.0	85.2
Eddo	53.3	53.1
Cocoa	46.7	38.3
Cassava	33.3	42.0
Sugar cane	26.7	29.6
Sweet potatoes	22.2	11.1
Bananas	20.0	18.5
Maize	15.6	8.6
Plantain	13.3	21.0
Peanuts	8.9	8.6
Okra	6.7	8.6
Beans	6.7	2.5
Oranges	4.4	8.6
Green vegetables	2.2	6.2
Coffee	2.2	6.2
Bitterball	2.2	1.2
Yams	2.2	1.2
Rubber	2.2	0.0
Pepper	2.2	0.0
Kola	0.0	1.2
Pineapple	0.0	1.2

That only 85.2 percent of the hamlet farmers report planting rice may be an omission on the part of some households, perhaps because the farmers assumed it is obvious they would plant rice. On the other hand, we know of at least one hamlet household that did not plan to grow rice in 1974 because its previous harvest had been so good.

The remaining figures are consistent with what is known of the value of particular crops. Eddo, cassava, sweet potatoes, maize, peanuts, beans and okra are important subsistence crops. Probably more of the small crops were planted than reported, particularly pepper, bitterball, greens and okra, because they may have been considered too small to be considered when answering a question. The main cash crops planted are cocoa, sugar cane, and to a lesser extent coffee. Other main tree crops which people planted include bananas, plantain and oranges.

The time spent cultivating or gathering these crops complements the time spent on growing rice, which is the principal agricultural activity. The effort that goes into these crops fills gaps in the time spent on rice production, and in many cases does not add substantially to the total effort. In other words, some forms of intercropping give additional production with little additional effort.

The major effort of clearing the bush and preparing the rice field makes it possible to plant maize, cassava, pumpkins and other vegetables along with the rice, and also to grow a second year's crop on the old farm, without the labor of clearing it for the second time. It is true that the rice stalks from the previous year must be cut and the weeds removed, but this is by no means as onerous a task as the original clearing. The work is done by the women during the time that the men are cutting the bush for the new farm.

The second rice crop is planted by a women's kuu and is cared for in much the same way as the main rice crop. The other crops, planted along with the rice on both the new field and the second year's field, are cared for at the same time as the rice. Thus they can be considered, to a very large extent, a bonus for initial hard labor.

Fruit trees also do not require substantial effort. They need little initial clearing, since they are planted on an old rice field or else near the house, and they require little additional management. They are commonly planted from seed available either from the family or within the village, and they are located around the farm shelter and farm storage shed or the house in the village, and thus get almost automatic care. They too are a bonus for the initial hard labor on rice.

There are, however, some crops must have land planted to them alone, and these demand substantial effort. In addition to swamp rice, which was discussed earlier, these include sugar cane, cassava, peanuts, coffee and cocoa. Each of these crops must be grown separately and managed as a plot or farm of its own. In the case of peanuts and cassava, however, these may at times be intercropped with rice.

The *kuu* is rarely used for planting, cultivating and harvesting crops other than rice. Normally, the family either plants and tends these crops by themselves, or hires local labor to work at a daily wage. For example, one man, who will be discussed later, told us that he will plant his cocoa when he is at home, but then will hire laborers to keep it clean, while he continues his job as a driver.

Swamp rice, as mentioned earlier, is one alternative to upland rice, admittedly not very popular as yet because of the inordinate amount of work required to start and maintain the farm. It has also proved not to be particularly profitable for those who do grow it.

Planting cocoa and coffee is initially very hard work. On the other hand, keeping the areas clean, whereas perhaps a nuisance, is not a significant burden. It depends on the market price whether people devote the time needed to keep the trees free of weeds and disease. Low prices in the years prior to our research led to the neglect of coffee farms, but people were maintaining their cocoa farms well because the price was reasonably good in the mid-70s.

Planting sugar cane is also hard work, but the immediate financial reward is sufficient to make it a most attractive crop. It is generally planted in the flat bottomlands near swamps or rivers, but it is nonetheless basically a dryland crop. The work of clearing and preparing the land is not all that different from the comparable work required for rice. The harvest is laborious and the milling and distilling require considerable effort, but the end result, according to Van Santen, is worth almost four times as much per hectare as rice farming. Moreover, raw rum is easily transportable, is highly desired by the village people, and finds quick sale, without the need to carry it to a distant market. For this reason, no one in Gbansu even tries to produce sugar or molasses from their sugar cane crop. It simply isn't worth the effort, in their view.

The time spent on sugar cane, as likewise other cash crops, may be given at the expense of time spent on upland rice, but for many people the loss of harvested rice is worth the gain in cash income. The major investment required for producing rum is a mill and still combination, which are normally located at the cane farm itself. The cost at the time of our research was about $400, according to the people we interviewed, an amount which can be met by just over a hectare of sugar cane production. According to Van Santen, sugar cane farms average about .8 hectare in size, so that a farmer can easily earn the cost of the mill and still in two years of farming. The only problem is that he (for only men make sugar cane farms) must have the capital before he starts, which prevents many men from making the investment.

9.2 The meanings of crops

Table 7.5 listed the responses of Gbansu people to the various soil and bush types. The second major category in the classification of responses as produced by cluster analysis consists of human activities in the forest and bush.

The crops other than rice which people grow appear in three places in this taxonomy. Cassava, which is an important staple crop in southeastern Liberia and is a common starch available in time of hunger in Gbansu, is in the same category as rice. Other crops appear in the category of traditional crops other than rice, including plantain, maize, peanuts, swamp rice (!), piassava palm and okra. And finally there is a separate group which has been categorized as cash crops, including sugar cane, cocoa, orange, bitterball, planted things, eddo and coffee. The categorization of these other crops is not perfect, but the general pattern of their difference from upland rice is clear. Only cassava falls in the same group as upland rice, and that, as has been pointed out, is most likely because it too is a basic staple crop.

Not all the crops which are in fact planted appear among these responses to the vegetation and soil types. Overall we were able to identify 56 crops other than rice which are commonly planted by the people of Gbansu, and doubtless we could have found others, given time and patience. These crops include garden vegetables, root crops, tree crops and spices. Some are planted among the rice on the new farm, some on the second year's farm, some on land of their own, and some as casual crops around the village or hamlet.

In order to understand the meaning of these crops to the people of Gbansu, we did several different studies. In the most general study, we asked people to complete the now familiar set of 20 sentences concerning planted things. Table 9.2 lists the principal responses.

TABLE 9.2
MOST COMMON RESPONSES CONCERNING PLANTS

RESPONSE	PERCENT
We have plants	18.9
We plant crops	11.9
Plants are good	8.5
Plants can grow	8.5
Plants provide money	6.7
Plants help people	6.6
Plants don't grow well	3.9
We must care for plants	2.1
Plants are in good soil	2.1
Plants are many	2.1
Plants take people from trouble	1.9
We work for the future	1.8
Animals and birds eat plants	1.7
Plants provide food to eat	1.5
Plants need water and rain	1.5

The basic emphasis is on the benefits of plants to people. They provide money, food and a better future. They are not, however, the basis of life, as is the case with rice. Rather they add good things to life. They are, as it were, the sauce that is served on rice.

Table 9.3 gives the cluster naming the beneficial aspects of plants in the taxonomy of responses concerning plants.

TABLE 9.3
THE VALUE OF PLANTS

I. The growth of plants
- A. Plants can grow
- B. Plants bear
- C. We have plants
- D. We must care for plants

II. The benefits of plants

A. Plants help people
B. Plants take people from trouble
C. Plants are good
D. Plants provide money
E. Plants are in good soil
F. Plants grow well on an old farm site
G. Plants can build a house or buy land

Plants are obviously good, but people realize that they must be cared for properly if they are to produce well.

Table 9.4 gives the difficulties which may arise in caring for plants, as listed in another cluster in the taxonomy of response to the sentence introducers.

TABLE 9.4
DIFFICULTIES WITH PLANTS

I. Dangers to plants

A. Plants are in the sun
B. Plants are in bad soil
C. Plants are in the dry season

II. Destruction of plants

A. Animals and birds eat plants
B. Plants don't grow well
C. People steal plants and spoil them
D. We pick and cut plants
E. Plants are bad

Planted crops suffer from climatic and other difficulties, particularly those caused by people.

Emphasis on other planted crops, as opposed to the staple crop rice, is made by village residents, schooled people and males. This is the exact opposite of what was found for rice, which is more often the concern of hamlet residents, unschooled people and females. Males, more than females, emphasize the ownership of plants and the purchase of plants and seeds. Village residents, more than hamlet residents, see plants as a source of food. Schooled persons, more than unschooled, say that they plant crops and identify the difficulties which might arise because of bad soil. It would appear that plants, with their ability to generate money and a better life for the family, appeal to those who are a part of the modern world and who are not merely subsistence farmers.

On the other hand, people do not forget the importance of vegetable crops as a supplement to rice. One story makes this clear:

> This man planted many vegetables on his farm, which helped him through the hungry time before rice harvest. Many people had to ask him for help because they did not have enough food.

9.3 The classification of crops

We selected 26 of the most commonly grown crops and asked village and hamlet residences to state the first things that came to their minds in response to these crops. These responses were then used as the basis of a cluster analysis of the crops themselves. Table 9.5 gives the classification of the crops according to the cluster analysis program.

TABLE 9.5
CLASSIFICATION OF CROPS

- **I. Staple crops**
  - **A. Subsistence crops**
    - **1. Farm crops**
      - a. Rice
      - b. Maize
      - c. Sesame seed
      - d. Cassava
      - e. Papaya
      - f. Sugar cane
    - **2. Garden crops**
      - a. Melon seeds
      - b. Pineapple
      - c. Plantain
      - d. Eddo
      - e. Yam
  - **B. Cash crops**
    1. Cocoa
    2. Rubber
    3. Kola nut
    4. Peanuts
    5. Beans
    6. Orange
    7. Coffee
    8. Pumpkin
- **II. Garden vegetables**
  - **A. Sauces and flavorings**
    1. Okra
    2. Small bitterballs
    3. Pepper
    4. Eggplant
    5. Large bitterballs
  - **B. Basis for stew**
    1. Greens
    2. Sweet potato

There are a few exceptions to a clear pattern of division of crops into meaningful sub-classes. One is the presence of sugar cane among the farm crops, whereas one might have expected it to appear among the cash crops. Likewise, pumpkins are not normally a cash crop, and might have been expected rather to appear as a garden crop. Otherwise, this taxonomy gives a clear outline of the major crops that the people of Gbansu plant.

We asked people to state the first things that came to their minds when each of these crops was named. Not unexpectedly, among the principal responses were planting, eating, picking, cooking and earning money. Another major category of responses was to name a crop associated with the stated crop. For example, the single most common response associated with cocoa is coffee and vice versa. A total of 83 different plants were named, more than the 56 we originally identified. Most of the additional crops, however, were varieties of the major crop types. For instance, 8 different types of leafy vegetable were named.

Of particular interest are the crops which suggest money as a response. These are listed in Table 9.6.

TABLE 9.6
CROPS SUGGESTING MONEY AS A RESPONSE

CROP	PERCENT
Rubber	5.5
Sugar cane	5.1
Beans	4.6
Coffee	4.5
Cocoa	4.5
Peanuts	3.7
Sweet potatoes	3.2
Orange	1.7
Greens	1.6
Kola nuts	1.6
Plantain	1.6
Melon seeds	1.6
Eggplant	1.5
Eddo	1.5
Pumpkin	1.5

At the top of the list are crops which are grown mainly for sale. At the bottom are crops which may be sold at times, but which are generally used for home consumption.

A crop which is not on the list is the oil palm, doubtless because it is not planted by the people of Gbansu. It grows wild and is protected when the rice farms are burned. Palm oil is an important part of the diet, and cutting palm nuts to be beaten into oil is a basic activity, as been pointed out on several occasions already. Palm oil can also be sold in the market, and can therefore provide good income to the family. We heard several stories about the sale of palm oil, and about the people who had become rich in this way. One story is the following:

> This man cut palm nuts and sold oil for good money, which he used to buy a sugar cane mill, without telling the others in the village. He then made a sugar cane farm, and when the people asked him what mill he would use, he said he would use their mill. But when his sugar cane was ripe, he got the people to help him carry his own mill to the farm. He used it to make plenty of money and also help others in the village.

Another story is similar, and contrasts the wise and the foolish person:

> This man cut palm nuts with his friends. He took his nuts to his farm and made oil with the help of his friends, and made good money from the oil. His friends, on the other hand, left their own palm nuts in the bush to spoil.

9.4 The knowledge of crops

We designed an experiment to test the ability of Gbansu people to enable listeners to identify planted crops without having heard their names. We had thought the task might be difficult, and would reveal experts in these crops, in the same manner as the study in communicating rice varieties showed us who are the rice experts.

In fact, the task proved extremely easy for all those we worked with. The person communicating the information about the crop would generally pick out a salient feature or two and stress them to the person who was supposed to identify the crop. The salient feature sometimes concerns eating the food. For instance, pepper is always identified with eating rice and burning the mouth. Sometimes it is the texture of the fruit. Coconut is identified by the hard flesh and the liquid in the center. For some plants, it is the way it grows. Cassava is known by the way it is planted and the way its full, round root grows under ground. Some plants are identified by their origin. Peanuts are associated with the Mandingo people, and avocado pears with the people from the coast. Some are named according to their use. Cotton is spoken of in terms of clothing and kola nuts in terms of their use in settling disputes. Some are identified with money, especially coffee and cocoa.

Two crops were described in ways that are particularly interesting and revealing. One description is as follows:

> There is something that we work for. We work for it very hard. We suffer for it. After you make the farm, you start scattering it. Can you tell me that thing, do you know it? That thing, after we have made the farm, the women start scattering it, as though we don't like it. They scatter it and start scratching it.

This crop is clearly rice. It is described in such a way as to emphasize both its basic necessity for survival, and the intensity with which it is cultivated. In no other case is this struggle to survive so vividly brought out as in this example.

The other crop is described as follows:

> There is something. It came from the hands of the *kwii* people. They brought it here. It is the thing that has broken our land. The leaves can get very long, and the trees can be very

> tall and very big. We have some around this village. They give us a knife to tap it. Do you know it?

This is, equally clearly, rubber. The significant element in the description is that rubber has "broken our land". By this phrase the speaker is referring to the fact that so much good forest land has been removed from cultivation and turned into rubber plantations. There is a poignancy in the comment, "They give us a knife to tap it." The remote coastal elite referred to as "they" have profited from rural land and labor, through the labor of others who plant and tap rubber.

Another description displays the traditional style of speaking in proverbs and riddles. The description is simple:

> There is something. When you are going, you don't know it is pregnant. But when you come back, you see it with a baby. Do you know that thing?

The description refers to the pineapple, which grows alongside every bush trail. It grows wild, and bears fruit without anyone cultivating or tending it. Today some farmers are growing it as a cash crop, but this is not yet common.

We found further evidence of the knowledge of planted crops in our effort to collect seeds of customary crops for a world-wide seed bank. Not only did we locate 112 different varieties of rice, as we stated earlier, but we also found many different varieties of seeds of other familiar plants. For instance, villagers brought us seeds for 4 varieties of okra, 4 varieties of bitterball, and a total of 10 varieties of maize. All these varieties have been stabilized into known local varieties, after having been introduced from abroad.

9.5 Tree crops.

Tree crops form an important subgroup of planted crops, many of them a major source of income for the people of Gbansu. They in particular represent a way to tap the resources of the outside modern world. Some of the tree crops, like kola nut and palm nuts, are traditional, while others are strictly modern, like rubber and coffee. But all have an important role to play as Gbansu and villages like it become increasingly a part of the money economy.

Trees which are planted for monetary gain are, of course, only a part of the larger group of all trees known to the people of Gbansu. We asked our respondents to complete the usual 20 sentences concerning trees. The most common responses are given in Table 9.7.

TABLE 9.7
MOST FREQUENT RESPONSES CONCERNING TREES

RESPONSE	PERCENT
We cut trees	14.0
We have trees	7.9
We plant trees	7.0
There are many trees	5.7

Trees are good	4.2
Trees are big	4.0
Trees are hard	3.7
There are many kinds of trees	3.4
We don't cut trees	2.9
There are kola trees	2.4
We need trees	2.2
There are palm trees	2.1
We use trees	2.1
We make farms	2.0
Trees are in the village	1.8
We don't have trees	1.7
There are orange trees	1.5
My father works on trees	1.3
We worshipped trees as God	1.2
There are fruit trees	1.1
We preserve trees	1.1
Trees are small	1.0
There are cocoa trees	1.0

Trees provide a great many services to the people of Gbansu, from wood to tree crops and even, in the old days, to worship. Trees are a possession which can be cut, planted, used and preserved. It is noteworthy that the principal tree crops are relatively low on the list. The traditional kola and palm trees are highest, followed by orange trees, while cocoa trees only appear at the bottom of the list. Other tree crops, including rubber and coffee, are mentioned even less often.

There is clearly a tension between cutting trees, having trees and planting trees, which are the three most common responses. People say that they want to plant trees and dislike cutting them, but nonetheless the dominant response is to cut them down.

The population subgroups differ significantly on this point. Table 9.8 contrasts male and female, schooled and unschooled, and young adults and children on the question of cutting or planting trees. The table gives the percents of each response given by each contrasting group, so that the total percent for each pair must be 100.

TABLE 9.8
PERCENTS FAVORING CUTTING AND PLANTING TREES BY GROUP

GROUP	CUT TREES	PLANT TREES
Male	40.7	64.4
Female	59.3	35.6
Schooled	38.2	62.7
Unschooled	61.8	37.3
Young adults	41.2	66.7
Children	58.8	33.3

Each contrasting pair, e.g., male and female responses to cutting trees, is significant at the 5% level, and as a result the four-way contrasts are very highly significant. Uniformly, the males, the schooled and the young adults are concerned with planting trees, while the females, the unschooled and the children emphasize cutting them down.

9.6 Tree crops and the money economy

This result supports the earlier findings that subsistence agriculture is the concern of the unschooled, females and children, while the schooled, males and adults are involved in the modern cash economy, which includes tree crops as an important component. It was suggested earlier that developers concerned with subsistence rice production should make primary contact with the less modernized component of society. The implication of this present finding is that developers concerned with tree crops and forestry should deal instead with the modernized elements of the community.

It is these modern people who understand well how to care for tree crops. Kola trees can grow anywhere, they say, but they give careful prescriptions of where other trees can grow well. Cocoa trees grow best on black soil near water, preferably under tall cotton trees, with low grass around them. Coffee trees prefer rocky or black soil, and do well where the so-called Christmas tree grows. Sugar cane grows best near swampy land, where a particular type of dense thorny bush also grows. Oil palms and oranges prefer black or sandy soil, surrounded by low grass, ideally where there was once a village or hamlet.

They know that cocoa is difficult to get started and may easily die, and welcome assistance from outsiders in learning how to plant cocoa. They also know that coffee must be kept clean if it is to bear well. And they know the importance of having a good labor force, particularly if there is a large plantation of these tree crops. One incipient capitalist told us:

> First I was driving a gas truck for ten years. I felt then that the only lasting source of income was planted things in the soil. If I plant cocoa and other crops, when I die my family will have something to hang on. If I continue to drive until I die the little money I have will be spent for my funeral and that will be the end. My children will be the losers. For this reason I came home to plant cocoa and now I have at least a thousand young cocoa plants in the bush. I will care for them until after five years or more, and when they are growing very well, I will go back to work. The money I earn will be used to pay people to brush under these crops.

This man knows what he wants, and he knows how to get it. In the end, if all goes well, he will have a job, he will have a flourishing cocoa farm, and he will provide employment for other people in the village and hamlets, assuming, sadly, that he and his trees are still alive at the end of the civil war. One question, of course, is whether the world cocoa market will be even more depressed than it was at the time of our research if more and more people like himself plant cocoa. The second question is whether he himself will become an exploiter of his own people in the end, paying them minimal wages for cleaning his farm, picking the cocoa and processing it for eventual sale.

The commercial ethos is present in a story we heard about a lazy man:

> This man worked for pay on his neighbor's farm, but did not finish the job. As a result, the man did not pay him, and thus he did not have enough money to buy food.

Another story illustrates the problem of not having the capital with which to pay laborers:

> This man planted rubber trees which grew well. But he had no money to pay rubber tappers or transport the rubber. Thus he sold his farm.

Seeds for the more traditional crops can be obtained within Gbansu itself, but seeds for the modern crops must be obtained outside Gbansu. In particular, cocoa and coffee seeds and seedlings are in more than half the cases bought outside Gbansu, and rubber seeds and seedlings in all of the cases. In fact, local seeds and seedlings are often not as good as those obtained outside, particularly in the case of commercial crops - just the opposite of what appears to be the case for rice and other traditional crops.

The concern for trees and tree crops on the part of educated, modernized young men appears in many conversations we had on the topic. The village chief told us:

> Our people used to depend on kola nuts to support them in their old age. A man who had plenty of trees was respected, but today a person is only respected if he has plenty of cocoa and coffee, and a sugar cane farm.

Kola nuts are still planted and cared for in Gbansu and neighboring villages, but the future is with the new cash crops, as the chief, himself an older traditional person, recognized in this statement.

A leading shopkeeper in the village supported the chief's position:

> I have two major things that I want to do when the road reaches Gbansu. I would like to have a large shop that will also have a place for dancing. Secondly, I would like to improve my house. For these reasons, I have planted lots of cocoa and sugar cane. I think these two crops will provide me with enough money to enable me to carry out some of my plans.

The shop, with a dance floor as an extra, is part of the modern world, but the shopkeeper sees that the only way he can finance it is through agriculture. And the only kind of agriculture which can produce the amount of money he needs to achieve his goals is cash crop agriculture.

A second shopkeeper added to the point:

> People like us who have a large family and who are not working have to find other means of bringing income. For the country man, the only way he gets money is to plant crops. If he does not plant cocoa, coffee, oranges and others, he must plant sugar cane or grow more rice on his farm. I would like to be selling other goods in my shop when the road comes. The source of my capital for buying these things will be my crops in the bush. If the government can bring us some other valuable crops and teach us how to plant them, some of us will be very glad to have them on our land.

He too sees his future as dependent on the income from crops. He cannot get a loan from outside banks, and so he must depend on another source of capital.

Subsistence crops are looked down on by these informants, but yet they realize they cannot survive without rice. Another young man, a rising farmer in one of the hamlets, said:

> This time I prefer planting cocoa more than even making rice farm. The only reason why I make rice farm each year is that a man's money is another man's property when he does not have enough food to eat. People who always buy their food the whole year round are considered lazy people, especially when there are good places for farming.

And yet he continues, with respect to rice farming:

> We have been farming since we were 10 or more years old, but we can't point to anything we have gotten from rice farms. But I can point to my house and say it came from my cocoa.

Rice farming is discouraging since it requires hard labor and produces nothing lasting, but it is important, since it keeps the family alive.

Another man, a young contender for the chieftainship in the village, said:

> A man who wants to settle down and does not partake in planting crops in the bush will suffer. Even sometimes making rice farm is not enough because we eat what we produce without selling much or any at all, because of the large number of children we have. But if you have a small cocoa farm, as some of us have, house tax and other small money problems in the family will not give you a hard time.

He went on to call his crops his bank, and said:

> When the cocoa, coffee, kola and other planted things bear well, our bank will have some money in it, but if they don't bear well, then our bank is empty.

For these men, economic planning is built around tree crops. They are well aware that they must have a source of capital, in order to keep up with the increasingly monetized world around them. They know rice will not serve the purpose, although they also realize that rice is necessary to maintain life.

This bank, this source of capital, must have permanence. These men are therefore concerned to secure their land against the incursion of modern society. This is a further advantage of tree crops. They are the property of the person who has planted them, even if the land changes hands. One of the shopkeepers described the process as follows:

> I have an area about 300 acres along the river and have the hope of adding more to it. Though I have not legally bought the place, I have started planting cocoa and other crops there. I don't think that anybody will be fool enough to see these crops in this particular

> place, and then decide to have the place for himself. What I have done is to secure this place until I have the chance to get a legal deed.

Rice-farming land is not permanent, and its borders are indefinite. Its possession is by custom and tradition, through an informal agreement with the chief and elders of the village. The land can be lost at any time to someone with the power, money and influence to get an official title deed to it. However, if there are extensive plantings of tree crops, such alienation of the land will not be so easy.

Another advantage of permanent tree crops is that the family owning them can provide an education for its children and can expect security for its members in their old age. One man said:

> I don't want anyone to ask my children, "What did your father do here?" When I am old my children should look at my property in the bush and remember that I was a serious person. It will be left with them to care for it or to destroy it.

A Mandingo shopkeeper continued similarly to contrast the value of money and tree crops:

> When you leave money behind, the children or somebody in the family will spend it foolishly or will not care for others. When you leave planted things behind you, your children will enjoy them for a long time.

Incidentally, almost all the persons we interviewed agree that the eldest son is the one to inherit the trees upon the death of their owner. Thus the family will continue to benefit from the trees planted in previous generations, and the trees will continue to be managed by one person.

Still another consideration in planting tree crops is the coming of the motor road to Gbansu. At the time of our survey, a road was being planned, and in fact by the end of 1977, the construction crew had actually reached Gbansu with a barely passable road. We were able to drive to the village in early 1978, although the road seemed already to have been damaged by rain. Several of the persons we interviewed in 1974 were planning to make use of the road. One said:

> One other thing I want to do is to save some of my money to get a deed for my area when the road comes. People from other places will be coming to us for land. Because my crops are in the bush, I will not let anybody take the area.

Another said:

> I have a deed for 500 acres that I am using now. I will increase it when the chance comes. The road not being here yet is the discouraging factor. Anyway, one must prepare himself before the road comes, so that he will be benefited by it. One thing I know is that competition for land will be a serious problem when the road comes. With my 500 acres, I can join the newcomers in the struggle for more land, but I will be depending on what I have already.

The legal deed is a vital document. Without it, even possession of tree crops might not prevent the more rapacious of the outsiders from taking over the land.

The road is clearly a mixed blessing. It brings the opportunity for more business, more sales, more imported goods. Yet it also brings the competition that has so weakened the position of the traditional occupants of the land along the main road. And finally, it has made it easier for the rebels under Charles Taylor to grab food, possessions, and even soldiers from Gbansu.

Rubber is a case in point. It is important to remember what was quoted earlier, that rubber "is the thing that has broken our land." In fact only three persons in Gbansu have planted rubber, in part because they know what it has done to their fellow rural Liberians nearer the main road and the coast, taking away their productive land and turning the people into wage laborers.

Surely one of the major sources of resentment against former President Tolbert, resentment which boiled up into the coup of April 1980, is that he had alienated tens of thousands of hectares of good farmland for his personal rubber farm, which lay not far from Gbansu and which was coming closer even during the eight months we worked in the village. Gbansu residents could see what had happened to their brothers every time they walked out to the main motor road and passed Tolbert's farm. They were surely correct to fear the consequences when the motor road finally reached their homes.

9.7 Use and sale of tree crops.

Fruit trees are usually planted for family consumption only. We rarely saw a plantain, banana, papaya, lime, avocado pear, orange, mango or coconut sold in the village, even though we outsiders would have been obvious customers. It was often difficult for us to persuade people to sell their fruit, even at the inflated prices we offered. The main crops from trees planted by the people that are sold are sugar cane, kola nuts, coffee, cocoa and rubber, rather than fruits.

Sugar cane is used strictly for local sale. Sugar cane spread widely throughout rural Liberia after the Firestone Rubber Company introduced convenient and cheap mills and stills through its trading outlets. At the time of our survey, a Gbansu resident could buy the needed equipment for about $400. With a still, he can grind the sugar cane and extract the juice, which can then be cooked and fermented, and finally distilled into raw rum with the still.

The resulting liquor is impure and powerful, but a great favorite in the village. The traditional alcoholic drink has always been palm wine, whether from the oil palm or the piassava palm. The raw rum is much more potent, even potentially dangerous. It is a principal way by which outside income is redistributed in the village, as the raw rum producers sell their products to those who bring migrant earnings or to those who have sold their coffee and cocoa to outside traders.

Kola nuts are primarily sold to the local Mandingo trader, an old man who arrived in Gbansu about 50 years ago and who is still active in buying kola nuts, tying them in palm-leaf wrappings, and sending them off to be sold in Guinea and Mali. The kola trade is of great antiquity, and was traditionally the medium of exchange by which salt and cloth were sold to the forest areas where they were not as easily available as in the savanna. The trade still continues, since there is a continuing demand for kola nuts in the drier zones where the trees do not grow.

Kola is a mild stimulant and is also an important part of the social and legal rituals of many west African peoples. There are Mandingo traders in most rural villages in northeast Liberia, and these

men have usually, as in Gbansu, built a house, married local women, and established an outpost of Islam, so that there is a Mandingo Muslim section in each such village. In Gbansu, this Mandingo section has married into the chiefly lineage, and in the future there may well be a Muslim chief in Gbansu.

Coffee and cocoa are sold primarily to Lebanese merchants on the main motor road, mostly in the central market town of Gbarnga, which is now Charles Taylor's headquarters. The Liberian government, at the time of our survey, had introduced a marketing system, but as far as the Gbansu people were concerned it was not working effectively. They prefer to sell to the Lebanese traders, even though they get a low price, because at least the traders are always available and the money is always forthcoming.

The one man who is tapping rubber sells it to Firestone buyers on the main motor road. When the road is finished to Gbansu, it may be that rubber selling will increase, because the latex is very bulky and inconvenient to transport by head load.

It is very difficult to make accurate estimates of the cash income Gbansu households obtain from selling tree crops. In all likelihood, the figures we obtained by interviewing household heads are low, because farmers fear soldiers and tax collectors, who frequently make legitimate and sometimes illegitimate demands on their incomes. Table 9.9 gives a very rough estimate of sales in Gbansu and the surrounding hamlets. The only large item in the table represents the rubber sold by the one man who owns a producing rubber farm.

TABLE 9.9
INCOME FROM TREE CROP SALES

CROP	VILLAGE		HAMLETS	
	NUMBER OF FARMERS	AVERAGE INCOME	NUMBER OF FARMERS	AVERAGE INCOME
Kola nuts	29	$6.93	38	$3.98
Plantain	29	0.98	31	0.63
Banana	28	1.28	30	0.64
Cocoa	19	50.63	23	29.09
Sugar cane	15	66.13	15	34.60
Piassava	11	1.72	3	0.33
Orange	7	1.36	2	2.25
Coffee	4	12.25	7	20.42
Avocado	4	0.60	0	0.00
Mango	2	2.50	0	0.00
Coconut	2	0.90	0	0.00
Rubber	1	300.00	0	0.00

The farmers are clearly correct in perceiving sugar cane and cocoa as the big money earners, with coffee and kola nuts following behind. The one man who has a productive rubber farm has, of course, done much better than the others, but for most farmers rubber is not an option.

9.8 The market system.

Many of these crops are sold in the market, while others are sold directly to traders. The market is a fairly recent innovation in this part of Liberia. To the best of our knowledge, there were no markets in what is now Bong County before Mandingo Muslim traders introduced the first markets in about 1920 in the present Bong County capital of Gbarnga.

We spoke with some of the earliest Mandingo traders and they described how difficult the local people found it to trade in the markets at first. They were not accustomed to exchange of goods for money. The system which existed before 1920 was one of barter, wherein a group of persons, usually led by the village chief or elder, would travel to a neighboring village and exchange goods. There was a ceremonial form of money, made from iron in the form of miniature arrows, but this was primarily used for bridewealth and other formal exchanges. The old barter system still exists in some of the most remote villages and hamlets, but it has been replaced almost everywhere else.

At present there is no market as such in Gbansu, although Mandingo traders come to the village from time to time to sell their goods. There are periodic markets, usually once a week, in some nearby villages off the main road. However, the most important markets are on the main motor road, the nearest to Gbansu being about four hours walk away. The biggest market in Liberia is, of course, in Monrovia, but there is a strong competitor in Gbarnga, where a market building has been constructed, and where many women go to sell their crops and buy supplies.

We asked people to complete our set of 20 sentence introducers concerning the market. The responses are not surprising, and thus are not reported in detail. The most common responses are that people go to the market, where there are many things for sale which they need to buy. They take things to the market to sell, and they buy clothes and other necessities with the money they earn. Village residents emphasize buying things at the market, whereas the hamlet residents see it is a place where they can earn money by selling their crops. This difference doubtless arises from the fact that village people have other sources of income, while the hamlet residents are dependent on their crops.

The market system is clearly a fixture of life in Bong County. It may have been mediated through itinerant traders in the first place, and these traders may still dominate the system. But people in villages like Gbansu are very much part of the system. Village and hamlet people alike, males and females, schooled and unschooled, all participate in the system. It is the main agent that is bringing change into the farming system, since it allows production and sale of cash crops, and it is thus a way of integrating the modern world into the world of agriculture which is the domain of rural people. Only rice farming does not change, even though some persons sell a surplus of rice in the market. Rice may be a way of life, but the other crops allow entry to a new life for those who have no other access to the larger world.

CHAPTER 10. THE CHANGING WORLD

10.1 What is "modern"?

The idea of "modern", whether it is modern farming or modern housing or modern education or modern tool-making, is a purely relative concept. At one point in the history of the ancestors of today's Gbansu residents, even the idea of farming was "modern". Current archaeological findings support the view that rice cultivation developed independently in the savannas of west Africa, probably in the upper Senegal and Niger river basins.

This west African variety of rice, most likely grown in the wetlands along the rivers, spread south and west and was eventually adapted to the forest as a dryland crop, although no dates can be given for such a shift. It is believed that the people who now live in Liberia's Bong County, people who largely speak the Kpelle language, moved into the interior of what is now Liberia perhaps 500 years ago, and brought with them the production of dryland rice.

Soon thereafter a second wave of "modern" crops came to these people, as well as innovations in farming technique. The formerly savanna-dwelling Mande-speaking people came into contact with the forest-dwelling Kwa peoples to their south and west. The Kwa speakers had adapted to new crops, particularly maize and cassava which the Portuguese brought from the New World to the west African coast. The Kwa people also brought forest crops from farther east along the coast, including yam, eddo and plantain. Palm trees grew wild in the forest. The invading Kpelle speakers learned how to use all these crops.

The third wave of "modern" crops and "modern" agriculture came in the present century. Sugar cane, coffee and cocoa were adapted to the rural area, and have been sources of cash for rural Liberians since the 1930s. At present they are still considered modern, but they are rapidly becoming a standard part of life. These crops were adopted largely through the initiative of local people, probably in response to word-of-mouth reports and demonstrations. No one was consciously "developing" the people at that point, at least not in the way outsiders have been attempting to "develop" rural Liberians over the past 30 years. They showed no resistance to change in the third wave of modernization, just as there probably was little resistance to the first and second waves. Possibly the reason there was little resistance was that they were not being regimented by outsiders into accepting these changes.

The fourth wave is the present trend toward modern western-style life in the interior of Liberia. The term which is used for this new way of life is *kwii*. The word *kwii* stands for a whole variety of concepts, including modernization. It refers to the style of dress, speech, social relations, consumption, technology, morality and work which characterize the upwardly mobile elite of present-day Liberia. *Kwii* farming, for example, is the type of agriculture done by modern farmers, which many outside developers, for good or for ill, are trying to persuade rural farmers to adopt.

We asked Gbansu people to complete our set of 20 sentence introducers concerning the concept *kwii*. Table 10.1 gives the principal responses.

TABLE 10.1
PRINCIPAL RESPONSES TO *KWII*

RESPONSE	PERCENT
School helps us be *kwii*	12.7
Kwii is good	8.6
We will be *kwii*	5.1
Non-*kwii* don't go to school	4.6
Kwii help develop Liberia	4.1
Kwii are many now	3.5
Kwii are few up-country	3.3
Young people can be *kwii*	3.1
Country people don't know *kwii*	2.9
We can't be *kwii*	2.9
Kwii are up-country	2.9
Kwii was bad before now	2.9
Kwii people help us	2.9
Our family is not *kwii*	2.5
We try to be *kwii*	2.5
Kwii people hurt country people	2.4
Kwii have good possessions	2.4
It is hard to be *kwii*	2.4
Kwii life is easy	2.1
We must learn *kwii* business	2.0

Obviously being *kwii* and going to school are closely related. To be *kwii* is good and desirable, but it is open primarily to young people. The *kwii* help develop Liberia and are now moving up-country. The country people are not *kwii* and find it hard to be *kwii*. *Kwii* people hurt country people in order to benefit themselves. Clearly this is the life that the young, males, schooled and village residents are aiming for. And equally clearly, there is no mention of agriculture in the list of characteristics of *kwii*.

Males are much more confident that they can be *kwii* than females, who realize that *kwii* are the ones who teach them in school. Females seem resigned to a lack of success in the struggle to be modern. Unschooled person especially know that they cannot be *kwii*, and they realize that their parents did not help them achieve the goal.

Young people hope that they can become *kwii*, and realize that school is the avenue to this status. Those who have grown to maturity without becoming *kwii* realize that their time is over, and all they can do is to help their children reach the goal. It is these adults in particular who see the harm that *kwii* people have done to country people.

Cluster analysis reveals the inner structure of Gbansu people's ideas concerning *kwii*. Table 10.2 lists the activities of *kwii* people as they appear to Gbansu residents.

TABLE 10.2
CLASSIFICATION OF RESPONSES CONCERNING *KWII* ACTIVITIES

I. Good

A. Traditional

1. *Kwii* are up-country
2. We are *kwii*
3. *Kwii* cure people
4. *Kwii* business is important and true
5. *Kwii* pray to God
6. *Kwii* will make roads

B. Modern

1. Helpful actions

a. *Kwii* is good
b. *Kwii* help develop Liberia
c. *Kwii* people help us
d. *Kwii* teach us and bring schools
e. *Kwii* make a good world

2. Becoming *kwii*

a. It is hard to be *kwii*
b. *Kwii* are many now
c. *Kwii* people are rich
d. *Kwii* resolve disputes
e. We should help relatives become *kwii*

II. Bad

A. Traditional

1. *Kwii* are few up-country
2. Country people don't know *kwii*
3. *Kwii* don't make farm

B. Modern

1. *Kwii* actions

a. *Kwii* don't help us
b. *Kwii* is bad
c. *Kwii* expenses are high
d. Parents don't help children be *kwii*
e. *Kwii* people collect money and things

2. *Kwii* and the country people

a. Our family is not *kwii*
b. Non-*kwii* don't go to school
c. *Kwii* people harm country people

Both good and bad aspects of being *kwii* are divided into traditional and modern subgroups. Good aspects of interaction with traditional people are curing, praying and road-building, all of which are adapted to the new way of doing things. On the bad side, the *kwii* inability to farm and the country person's corresponding inability to do *kwii* things form a striking contrast.

Kwii people's basic quality is to bring modern ways to a changing world. On the good side, they help develop the country through teaching and trying to make a good world. They become wealthy persons, who can arbitrate disputes and who help their families become wealthy. On the other hand, the bad side is that *kwii* matters are costly. Moreover, many *kwii* not only do not help country people, but take money and possessions from and in the end harm them. To be *kwii* is to have a very mixed impact on rural people.

Table 10.3 gives a different cluster of responses in the overall taxonomy of attributes of *kwii*. These show the qualities of life of the *kwii* person.

TABLE 10.3
CLASSIFICATION OF RESPONSES CONCERNING THE *KWII* LIFE

I. Becoming *kwii*
- **A. The difficulty of becoming *kwii***
  1. *Kwii* are from America
  2. *Kwii* is not for women
  3. We try to be *kwii*
- **B. The possibility of becoming *kwii***
  1. We must learn *kwii* business
  2. *Kwii* will be many
  3. Young people can be *kwii*
  4. We will be *kwii*
  5. *Kwii* help parents and relatives

II. The good life of the *kwii*
- **A. Power**
  1. *Kwii* get good jobs
  2. *Kwii* speak English
  3. Girls take *kwii* lovers and become pregnant
  4. Country people work for *kwii*
  5. School helps us be *kwii*
  6. *Kwii* was bad before now
  7. *Kwii* have good possessions
  8. *Kwii* help relatives be *kwii*
- **B. Respect**
  1. *Kwii* life is easy
  2. People respect the *kwii*
  3. *Kwii* have good homes
  4. *Kwii* know many things
  5. We can't be *kwii*
  6. *Kwii* business is a closed society
  7. *Kwii* are literate
  8. *Kwii* work with us and fix machines

People of Gbansu almost universally desire to become *kwii*, but it is difficult particularly for older people, unschooled people and women. It is possible for some to learn *kwii* matters, but such people are generally young, schooled and male. It is thought that once a person is *kwii*, he is

guaranteed to have a good job, speak English, have women at his disposal, have country people to work for him, have good possessions, and be able to place his relatives in jobs. He is respected, has wide knowledge, can handle machines, and manages his affairs within a society closed to those who are not *kwii*.

Multi-dimensional scaling displays three dimensions in the resulting configuration of responses. The most important dimension moves from *kwii* as a powerful, closed system, to *kwii* as openly providing help to rural people. The second dimension moves from the difficulty of being *kwii* to the ease with which certain groups may break into the charmed circle. The third dimension contrasts the reactions of poor people who can never be *kwii* to those of the wealthy who are already part of the *kwii* world.

Having power in the new and complex modern world is closely related to being *kwii*. It is perhaps not surprising that we found a declining interest in medicines, traditional spirits and witchcraft during the period we were in Gbansu. It is perhaps equally expected that a resurgence of these beliefs has been reported during the civil war, when the smooth and powerful world of the *kwii* has crumbled in the face of a brutal onslaught from dispossessed rural people.

In any event, having power and being *kwii* unite against being directly involved in farming. For the powerful, whether they are *kwii* or not, and the *kwii*, farm workers are subordinates, who support those they cannot hope to emulate. Their only hope is that their children may go to school and become part of the new society.

We put together a list of attributes of *kwii* farming suggested to us by the people of Gbansu. These may not be the features of modern farming which the outsiders have in mind, but they represent the perceptions of the people on the receiving end. We then asked people to rank them in order of preference, with 1 marking that which they would most prefer to have on their farm. Table 10.4 lists the aspects of *kwii* farming and the average ranking of each.

TABLE 10.4
PREFERRED ASPECTS OF MODERN FARMING

ASPECT	RANK
Machines do all the farm work	2.0
Machines cut and beat rice	3.5
Rice grows abundantly in a small area	4.7
Machines provide power	5.4
Rice is planted for sale	8.3
Workers take pay	8.8
Tractor driver is the main worker	9.6
Work is faster	9.9
Kwii rice is used	10.0
Fewer people are needed for same work	10.7
God provides *kwii* knowledge	11.0
Work is easier	11.0
Cars carry produce to market	12.0

People plant rice in the dry season	12.3
People farm in one place every year	13.5
Muscles don't hurt	14.7
People plant rice only in swamps	16.1
Kwii methods are learned in books	16.8
The *kuu* is not needed	17.8
Crops are fed to grow	17.8
Crops are planted in rows	17.8
Only men work and not women	18.4

Obviously machines are the most important issue in Table 10.4. Abundant and profitable rice crops, and fast, easy work with few laborers, are also important. Quite low on the list are technical questions such as dry season farming, continuous use of one field, planting in swamps, applying fertilizer and planting crops in rows. It would seem that books are a less important source of *kwii* knowledge than God. In general, the hard realities of farming are subordinated to hopes. This is reflected in answers of the men, who stress the cars that will carry their produce to market, and in the answers of women, who say that men will do all the farming in the future.

We asked which aspects of *kwii* farming are within the control of the farmers themselves. Only planting crops in rows and planting rice for sale are considered to be features of *kwii* farming that the farmers can do for and by themselves. Otherwise the entire list of items is beyond the control of the farmers. The implication is that *kwii* people must take over the management of *kwii* farming. In particular, the mechanization that the Gbansu farmers find so attractive is at the bottom of the list.

Males, village residents and young people have slightly more confidence than the females, hamlet residents and older people in their ability to control and manage *kwii* farming. But even they basically consider the new methods to be beyond their abilities. Clearly there is a basic problem in bringing this fourth wave of modernization to the people of Gbansu. The first three waves were accepted because the people found they could incorporate them into the ways of life that they knew at the time. This new wave is not of that type.

10.2 Migrant labor.

One solution to the sense of impotence, the inability to bring the new mechanized world to Gbansu, is to leave the village and find wage employment in that same outside world. Those with enough strength, skill or education to benefit may choose to work along the main road, at the Firestone Rubber Plantation or in the capital city of Monrovia. We interviewed household heads and young adults in Gbansu, as well as Gbansu citizens now working in Monrovia and Firestone, to learn about their attitudes to and participation in the outside world, as well as about their knowledge of other migrants.

The first fact to emerge from these interviews is that, for the most part, they consider Gbansu to be a place for children and old people. To the question whether people want to stay in Gbansu or leave it and go to the outside world, the pattern of the answers is clear, as shown in Table 10.5.

TABLE 10.5
PERCENT PREFERENCE FOR PLACE TO LIVE

PLACE TO LIVE	HOUSEHOLD HEADS	YOUNG ADULTS	MIGRANTS
At home	87.5	7.5	81.2
Outside	12.5	92.5	18.8

The young people want to leave, and the old people want to remain at home. Moreover, almost all those who are presently working outside Gbansu eventually intend to return home. In fact, those who are working outside do not return until they feel they are ready. Over half of them say that they rarely or never return to Gbansu for visits. Their reason is that they have not yet earned enough money to do so. It was our impression upon interviewing some of these people that they had already been away for 10 years or more, and probably would settle permanently outside the village. They had married, perhaps built a house and made a farm elsewhere, and could see no reason yet to return. Yet, despite all this, the majority say that eventually they will come home.

This desire is supported by the fact that almost all the older members of the community have themselves travelled and worked outside Gbansu for extended periods as migrants. Of the household heads we interviewed, 95 percent acknowledge that they have worked as migrants before coming back to live as senior members of the community. They are presumably the ones who were sufficiently motivated to return home, and sufficiently well off not to be ashamed when they greeted their relatives.

These household heads do not know the precise number of years they spent outside Gbansu, but it is possible to make an estimate from the answers given by those still working as migrants. Altogether, two-thirds of this migrant group knew what year they left Gbansu, and of that group the average number of years spent away from home was 15 years. Because this figure includes persons who may never return, it likely overestimates the time away for those who have returned from migrancy. It is possible to estimate, therefore, that the average period outside the village for those who return home is about 10 years, most likely spread out over several periods.

We asked the three groups why people in fact leave Gbansu. The household heads did not tell us why they left, but rather told us why they think their own children might leave the village. Table 10.6 lists the reasons given by the young adults in the village and the migrants in Firestone and Monrovia, as well as the reasons given by the household heads for their children.

TABLE 10.6
PERCENT OF REASONS FOR LEAVING THE VILLAGE

REASON	CHILDREN	YOUNG ADULTS	MIGRANTS
Earn money	13.9	67.4	46.2
Attend school	72.5	18.6	31.0
Get married	0.0	6.5	7.8
Help family	0.0	4.3	15.5
Other	13.6	3.2	4.5

The reasons suggest the positive factors that pull people towards the road, the towns, the cash jobs and ultimately the city. School is most important for the new generation, at least as their parents see it, and is the second reason for the migrants now outside the village and, although to a lesser degree, for the young adults still in Gbansu. The chance to earn money is the big attraction for the young adults, whether still in Gbansu or already in the outside world.

There are also negative factors which push people away from Gbansu. There were so many diverse negative views of Gbansu that it is easier to summarize them than to tabulate them. Basically, people state that there is too much work in Gbansu, the work is too hard, and the rewards are too small, whether in money, schooling or excitement. Migrants leave Gbansu in order to find a place where there is more action, more money and more comfort.

Table 10.7 tells how migrants, potential migrants and household heads think Gbansu could be made a more attractive place to live.

TABLE 10.7
PERCENT OF IMPROVEMENTS DESIRED FOR GBANSU

IMPROVEMENT	HOUSEHOLD HEADS	YOUNG ADULTS	MIGRANTS
School	32.5	62.5	86.7
Road	30.0	57.4	84.7
Clinic	37.5	30.0	78.0
Better agriculture	37.5	5.0	0.0
Shops	17.5	37.5	4.3
Work opportunities	17.5	10.0	4.3
Modern life	12.5	32.5	13.1
More young people	2.5	10.0	2.2
Traditional life	10.0	0.0	0.0
Other	7.5	2.5	0.0

The percents in Table 10.7 add to more than 100 because people were encouraged to give as many answers as they wished. There is a broad consensus on the need for road, school and clinic, particularly among the migrants. The young adults put more stress than the other groups on shops and the pleasures of modern life. Some even urged that Gbansu needs bars, a movie theatre and a hotel! The older generation were more interested in agricultural improvements and maintenance of the tradition than either of the younger groups.

We asked how these improvements can be achieved. The answers for household heads and young adults in Gbansu are reported in Table 10.8. Unfortunately, we failed to ask this question of the migrants.

TABLE 10.8
PERCENT OF WAYS TO BRING IMPROVEMENT TO GBANSU

MEANS	HOUSEHOLD HEADS	YOUNG ADULTS
Farming	14.2	33.1
Work together	23.1	8.5
Contribute money	19.1	10.6
Government help	9.5	7.5
Help other people	15.9	0.0
Build road	0.8	14.9
Use experience	7.2	0.0
Build school	0.8	4.3
God's help	2.4	0.0
Send teacher	0.0	1.1
Build clinic	0.0	1.1
Build shops	0.0	2.1
Don't know	0.8	4.3
Other	2.9	2.9

The answers may differ between the two groups because they were asked the questions in slightly different ways. Specifically, it is likely that several of the answers concerning working together and helping others, as given by the household heads, refer to working on the farm, particularly when the answers involve the cooperative work group. It is striking that the young adults make so many references to farming. It would appear that they recognize the importance of farming, even though they themselves want to avoid it.

Table 10.9 gives the percent of migrants in each of three population groups, as reported by the household heads in Gbansu. They were asked where they had been, where their family members and their friends were, and where others from Gbansu were at the time of the interview.

TABLE 10.9
PERCENT OF WORK LOCATIONS OUTSIDE GBANSU

LOCATION	HOUSEHOLD HEADS	FAMILY & FRIENDS	YOUNG ADULTS
Firestone	65.0	45.0	34.8
Monrovia	12.5	25.0	13.9
Road towns	17.5	20.0	28.8
Other	5.0	10.0	22.3

Firestone is at the head of all three lists. Clearly the principal source of outside income is rubber tapping. Monrovia and the road towns have roughly the same numbers of migrants, but both are far behind Firestone.

Most of those who have gone to work outside Gbansu have gone to the Firestone Rubber Plantation to tap rubber. Many of these live in a particular workers' camp, where they have sufficient numbers

to form a Gbansu farming *kuu*. They are able to farm on marginal land as well as on new land being opened up by the company, and they do their own work after they finish the day's tasks in mid-afternoon.

Salaries at Firestone are very low, only rising above $1.00 per day in the 1970s, and workers are forced to make subsistence farms in marginal areas in order to survive. Moreover, Firestone benefits from these farms by having land cleared cheaply for them to plant their next areas of trees. Workers at Firestone accumulate very little surplus, and as a result many are ashamed to come home.

In Monrovia, Gbansu citizens have taken a wide variety of jobs. Some are drivers, teachers, janitors, policemen, soldiers, street hawkers, market women and prostitutes. Their living conditions are generally even poorer than they might find at Firestone. However, a few have bought or built houses in Monrovia and live at a slightly higher standard than their more recently arrived fellow citizens of Gbansu.

Many of those in Monrovia belong to the Gbansu United Association, which exists both to help develop the village and to provide mutual support while in the city. They complain that the chief and the elder have mishandled money they sent back in order to help build a motor road to the village. They also complain that village leaders have sold much of the best Gbansu land to outsiders, thus depriving migrants of their heritage should they decide to return to reclaim family land.

The absolute number of Gbansu citizens outside the village is hard to determine. The household survey which is summarized in Table 3.1 states that there are a total of 100 household members now outside Gbansu. This is a conservative figure, however, since it fails to report those who have been outside so long that they are scarcely any longer considered to be real citizens.

The 46 persons we interviewed in Monrovia and Firestone say that an additional 68 persons from Gbansu live with them, for a total of 114 Gbansu people living in these households alone. It is likely that there are at least 200 and possibly many more persons altogether outside Gbansu who would claim Gbansu as their home. All those we interviewed claim to be true citizens of Gbansu, for the reasons that they were born there and that it was the home of their parents and grand-parents. Many still have houses and farmland and tree crops in Gbansu that they claim as their own, although in almost all cases they admit that these properties are under the care of relatives. Less than 20 percent say they have no relative or land or tree crops in Gbansu.

One of the hopes of migrants is that they can acquire useful skills in their period of outside employment. Table 10.10 reports the skills acquired by migrants, listing the skills acquired by the family and friends of the household heads, by the relatives of young adults, and by the migrants themselves.

TABLE 10.10
PERCENT OF SKILLS ACQUIRED BY MIGRANTS

SKILL	FAMILY & FRIENDS	RELATIVES	MIGRANTS
Tapping rubber	16.0	19.0	26.0
Farming	19.5	10.1	0.0
Headman	10.1	0.0	8.6
Laborer	6.4	1.1	6.5
Driving	2.7	4.5	4.3
Mechanic	0.0	1.1	6.5
Housework	1.8	1.1	4.3
Carpenter	1.4	0.0	4.3
Nurse	0.9	0.0	4.3
Teacher	3.2	0.0	2.2
Selling	3.2	1.1	0.0
Typing	2.3	0.0	2.2
Janitor	0.0	0.0	4.3
Policeman	0.5	0.0	2.2
Soldier	0.5	0.0	2.2
Tailor	1.4	0.0	0.0
Baker	0.0	1.1	0.0
Clerk	0.9	0.0	0.0
Mason	0.5	0.0	0.0

Rubber tapping is the main skill acquired by all groups, with farming in next position. It is likely that the farming skills mentioned are merely the routine skills of a farm laborer, and not the specialized skills which were discussed above in relation to modern farming. Some of the other skills could easily be useful in a new and more developed Gbansu.

We also asked what skills household heads and young adults in Gbansu would like to learn, if the opportunity were to arise. The answers are stated in Table 10.11.

TABLE 10.11
PERCENT OF SKILLS PEOPLE WISH TO LEARN

SKILL	HOUSEHOLD HEADS	YOUNG ADULTS
Farming	22.5	2.5
Driving	2.5	17.5
Mechanics	5.0	10.0
Selling	2.5	5.0
Typing	5.0	0.0
Blacksmithing	5.0	0.0
Teaching	0.0	5.0
Preaching	2.5	0.0
Watchman work	2.5	0.0

Earning money	2.5	0.0
Carpentry	0.0	2.5
Masonry	0.0	2.5
Cooking	0.0	2.5
Rubber tapping	0.0	2.5
Sewing	0.0	2.5
None	50.0	37.5

It is obvious that the outwardly mobile young people are not interested in farming as a career, whereas almost a quarter of the household heads, who in most cases are middle-aged or older and generally less well educated than their children, want to know more about farming. The young people want to know a wide variety of modern skills, from driving to mechanics to teaching. Roughly half of each group cannot name a skill they want to learn.

In summary, there is a generational shift that is affecting farming and indeed all the other occupations that the citizens of Gbansu undertake to do. The young adults, although not the children who are still working hard under the tutelage of their elders, want to learn skills which will take them out of farming. They may have to reconcile themselves with remaining in Gbansu or at least returning there later in life, but traditional farm work is at most a second best for the majority of the young adults. It is true that some young people are keen farmers, mostly in the hamlets, but their number will doubtless decrease over the years, unless there is a conscious effort to make subsistence farming more attractive economically.

On the other hand, a significant number of those who leave Gbansu will eventually return to make their rice farms and tend their tree crops. A return to Gbansu and to all the villages like Gbansu by migrants may well be a positive outcome of the peace settlement at the end of the present civil war. If so, it would be of great help to the country as it tries to rebuild and once again to feed itself.

The important question now is how people can be persuaded to leave Monrovia, where they have been receiving free rice, so that rural self-sufficiency is once again possible. The reconstruction of Liberia cannot begin with the reconstruction of a parasitic capital city, now vastly overcrowded with people who are not and cannot be gainfully employed. Yet it violates the human rights of these people to move them forcibly back to the rural areas.

Ultimately, it must be economic incentive which makes rural farming, whether of subsistence crops or cash crops, viable and attractive. This means turning around the policies of the past, where city people were fed inexpensive imported rice, and the market price for upland rice was too low to justify the effort of producing it for sale. It also means making sure that rural people can retain their land, without fear of a further generation of outside exploiters taking titles to land that never was theirs.

If the conditions are right for a revival of rural agriculture, both subsistence crops and cash crops, then those who guide this process must be sure of their proper target groups. Subsistence crops are the domain of the unschooled, the hamlet dwellers, the females and the older men. Cash crops are the domain of the educated, the village dwellers, and the young men. Messages must be tailored to these groups so that they can see how their own knowledge and attitudes fit into the total picture of rural development.

This book has stressed the importance of the community as an entity, as an integrated whole, as a society which divides its labor in meaningful ways among those who have the interests and skills for different activities. Presumably that integrated world has suffered greatly over the past years, both from exploitation by the central government and from abuse by warring factions in the civil war. But it is the hope and belief that lie behind this book, that the core of a viable way of life remains intact. The remainder of the book will address the questions of the uses of power, modern *kwii* ideas and wealth in remaking rural Liberia.

CHAPTER 11. REMAKING SOCIETY

11.1 Who has the power?

One message of this book is that certain people have taken upon themselves the power to control nature and to control other people. This power structure is built into the social fabric of Gbansu, of Bong County and indeed of Liberia as a whole. The power structure has been severely torn apart in the course of the 1980s and now the 1990s. And yet, if there is to be renewal of the Liberian society and economy, the power structure must be deeply involved. Development which is apolitical is an impossible dream. The power structures and power elite must be enlisted in the effort of remaking society

It was hoped in April 1980 that the old hegemony of the so-called "Americo-Liberians", also called "Congo people", would come to an end, and a new equal opportunity society created. It did not take place as many people had hoped. Instead a new group of exploiters took power, and did so with much less finesse and sensitivity to the overall wealth of the nation than the old group of exploiters. Surely one of the first commandments for anyone who wishes to exploit another individual or society is to maintain that person or group's general health so that the exploitation can continue as long as possible. Samuel Doe and company failed to do so, but rather treated Liberia as what the economists call "a wasting asset".

Instead of either the ecological balance of pre-Liberian days or the slow and careful reaping of profits from a gradually diminishing resource base, as in the time of Tubman and Tolbert, the Doe regime simply mined the resources of the country and very nearly exhausted anything they could find. Instead of reinvesting domestic resources and foreign aid, the Doe government stole as much of both as they could, leaving the traditional sector of the country expropriated of what little they could provide and the modern sector of the country impoverished and totally dependent on foreign generosity for even the barest form of survival.

Communities like Gbansu, off the main track and isolated from the major currents of exploitation and mismanagement, survived the Doe era in a different way from the villages, towns and cities of the modern sector. Social amenities declined drastically under Doe. Primary school numbers declined by 27 percent between 1984 and 1987 while Doe was in power (Government of Liberia, 1988). Health services were impoverished. Roads deteriorated. Rhetoric about a supposed "green revolution" replaced the top-down agricultural development of an earlier generation with incompetence and exploitation.

But Gbansu and its like survived the Doe regime, even though they may not have survived the civil war which ensued. In fact, they probably suffered less than the major towns and villages, to a large extent because they did not have so far to fall. In an efficiently exploited country, like for example Ivory Coast, forest resources would have been stripped much faster than in the interior of Bong County. Fortunately, the great rain forest which borders Gbansu on the north is still largely intact. The rubber which has "broken the country" has remained largely unplanted in Gbansu, mostly because there was neither the political will nor the economic muscle to make it happen.

Yet Gbansu is nonetheless deeply affected by the power struggles going on around it. This book has tried to describe the power structure in Gbansu itself, and has shown how the *kwii* world

exercises its influence for good and for ill over Gbansu and its citizens. The young, the males, the schooled persons and the village residents have hopes of sharing power with the *kwii* people, while the old, the females, the unschooled persons and the hamlet residents are largely resigned to remain in the traditional way of life. Some strategies lie within the power of people to carry out for themselves, while other strategies are beyond their capabilities. In particular, adopting *kwii* ways, whether in agriculture or in the rest of life, is perhaps the most difficult of all tasks.

At this point, we asked how the Gbansu people understand the two main requirements for the good life, namely, power and wealth. Table 11.1 lists the most frequent sentence completions concerning power.

TABLE 11.1
MOST FREQUENT RESPONSES CONCERNING POWER

RESPONSE	PERCENT
We have little power	6.6
God has the most power	6.1
Power helps us to do things	5.4
Power is less now	4.6
Young people will have power	4.0
Schooled people have the most power	3.9
I have power	3.7
Some people have power	3.5
Government has most power	3.4
Big shots have power over us	3.2
Power is given to us	3.1
Power is strong and important	2.8
There is power on earth	2.8
Power is good	2.8
People fight each other	2.7
We can get power	2.3
People had more power before	2.2
People have unequal power	2.0
All people have power	2.0

The strongest impression from Table 11.1 is one of helplessness and resignation. However, there are some persons who may be able to use power, namely, the young, the schooled, and those who belong to government and the elite. Power is obviously unequally distributed, and this is a matter of real regret to Gbansu people. Some suffer under the power of others, while those who oppress them enjoy the exercise of power, and still others want to get power and expect to get it.

Females are in a generally weaker position than males in Gbansu society, as reflected in the fact that there are no response concerning power which females make more than males. Males, on the other hand, notice where power is located and believe that power is good. In this connection, it should be remembered that the leadership of Gbansu, as delineated in Table 3.3, is entirely male.

Clearly those who are closer to power have more definite opinions about it, and notice where it is most concentrated. For women, on the other hand, power is not a major concern.

Schooled persons are concerned about the power that education provides, while unschooled persons look rather to the traditional power that parents exercise over their children. Young adults likewise look for a change in the power structure, contrasting the old days with the reduction of arbitrary power at the present time. The older adults realize the extent of their suffering under the impositions of others, and hope for change.

Table 11.2 gives the group of responses in the cluster analysis which deals with the unequal distribution of power.

TABLE 11.2
CLASSIFICATION OF RESPONSES ABOUT UNEQUAL POWER

I. Beneficial
- **A. Traditional**
  1. Power can help the country
  2. The chief has power to rule
  3. We won't suffer from power
- **B. Modern**
  - **1. Uses of power**
    - a. Power is strong and important
    - b. Power helps us do things
    - c. People have unequal power
  - **2. Public power**
    - a. Government has most power
    - b. Parents have power over children
    - c. Modern people have power
    - d. Big shots have power over us

II. Harmful
- **A. Official power**
  1. Soldiers have power
  2. Power collects taxes
  3. Power can make machines
- **B. Powerless people**
  1. Government rules by power
  2. We don't know how to use power
  3. Few people had power before

There is a strongly inegalitarian tradition in Liberia, displayed by the power of the chief in traditional life, and the power of government, parents, modern people and other elements of the elite today. Power is, however, not necessarily bad in the view of our respondents, and can in fact be useful to people, such as the poor who can turn to powerful patrons for protection or favors. It is clear, of course, that the negative side also exists, exemplified by the impositions of soldiers, taxes and machines, and the inability of ordinary people to fight the system.

There are, on the other hand, aspects of power which suggest the possibility of greater equality, since there is also an egalitarian tradition which exists side-by-side with the authoritarian structures. Table 11.3 gives the subgroup of responses expressing hope for the improvement of the power structure.

TABLE 11.3
CLASSIFICATION OF RESPONSES SEEKING EQUAL POWER DISTRIBUTION

I. Improvements in power distribution
- A. We have power to make rice farm
- B. Power is less on our parents now
- C. Country people have power
- D. Power is better now
- E. Power is less now
- F. People should not force others

II. Hope for the future
- A. Schooled people have most power
- B. All people should have equal power
- C. We should help each other
- D. All people have power

These are the hopes of people who believe their future will bring them and other country people a more equal share of the power. It should be remembered, of course, that the power to make rice farms includes the power of the rich to be served by less privileged rural people.

Table 11.4 outlines another subgroup of responses as developed by cluster analysis. This subgroup shows the effects of having power.

TABLE 11.4
CLASSIFICATION OF RESPONSES SHOWING THE EFFECTS OF POWER

I. Egalitarian
- **A. Subjective**
  - **1. Ordinary people**
    - a. People want and enjoy power
    - b. We can get power
    - c. God has the most power
    - d. Some people have power
    - e. Power is given to us
    - f. I have power
    - g. Parents have power
  - **2. Upper-class people**
    - a. Rich people have power
    - b. It is hard to gain power
- **B. Objective**
  - 1. Power brings respect
  - 2. Spirits give power

3. Power is good
4. Power is in Liberia

II. Aggressive

A. Active

1. There is power on earth
2. People fight each other
3. People harm each other by power
4. People hate those with power
5. Young people will have power
6. Power takes one from trouble
7. We will have power to rule
8. We learn about power

B. Passive

1. Our parents don't have power
2. We have little power
3. Power opposes sickness

It may be that the second sub-category of responses, which have been labelled as aggressive uses of power, is what motivated both the coup which shook Liberia in April 1980, and the civil war which began in December 1989. This category shows the desire to take power away from the elite who have dominated the rural people for so long, and replace their power by a new system. The contrast with the egalitarian first sub-group is striking. The first sub-group does not seek vengeance in order to wrest control. Rather it accepts power as part of the ordinary business of life, which can be obtained by God or family or good fortune.

The pattern which emerges from multi-dimensional analysis of the sentence responses shows two principal dimensions. The first of these, accounting for almost half the variance, contrasts the traditional system with the changes that are now taking place. The second dimension contrasts the hoped-for equality in society with the oppression that has been exercised by the rich and powerful over the poor and weak.

These responses concerning power, and the ways in which they are knit together into a system, show that the people of Gbansu are not at all naive about the ways in which development can take place. It is rather the outsider developer who may be naive, thinking that a community can be mobilized economically and socially to produce what the whole society needs from it without attending to the underlying political factors. There is no way in which the people of Gbansu are going to work on their fields to produce a surplus of rice if the political relations are not sorted out to their advantage. They have suffered for too many years under an exploitative political structure for them to accept a new system merely on the basis of good will and economic rationality.

11.2 What is wealth?

Power is intimately tied to wealth, which in turn is one mark of a successful and powerful person in every culture of the world. What differs between cultures is the measure or definition of wealth. In many pre-western or non-western societies wealth is measured by size of family or ownership of livestock or ability to give things away with impunity. We explored the meaning of wealth in

the context of Gbansu by asking our informants to complete the usual set of twenty sentence introducers concerning the topic. Table 11.5 gives the principal responses.

TABLE 11.5
PRINCIPAL RESPONSES CONCERNING WEALTH

RESPONSE	PERCENT
Money makes people wealthy	13.9
I know a wealthy man	8.4
Working makes people wealthy	8.1
I will be wealthy	7.2
School makes people wealthy	5.1
It is hard to be wealthy	4.0
Wealthy people help others	3.3
Farming makes people wealthy	3.1
I am not wealthy	3.0
Women want wealthy husbands	3.0
My father is wealthy	2.8
I will have money	2.5
There are wealthy people here	2.4
Wealthy people disrespect poor people	2.1
Wealthy people are happy	2.1
Wealthy people have many things	2.1
My father is not wealthy	2.0
It is easy to get wealthy	1.7
We will be wealthy	1.7
One must be big to be wealthy	1.6
There are many wealthy people	1.5

Clearly the principal concern of the people we spoke to is money and how to get it. The main ways to get money are cash employment, school attendance and farming, but farming is far down the list. There is very little evidence in this list of any of the supposed African traditional views of wealth. A large and happy family does not appear on the list. Ownership of villages, houses or livestock does not appear. In effect, wealth is what the *kwii* people say it is, namely, money and things and the ability to control the poor people around one.

Wealth is clearly not all good, as the multi-dimensional analysis of these responses shows. The principal dimension contrasts the problems of wealth and poverty with the good things owned by the rich. At the far left of the two-dimensional representation are such responses as "Women can't be wealthy", "My father is not wealthy", "I am not wealthy", "Wealthy people suffer", "Wealthy people lose their wealth", and "Wealthy people disrespect the poor". At the far right are such responses as "Wealthy people have cars", "*Kwii* people are wealthy", "Wealthy people have power", "Wealthy people have good clothes", "I will have money", "It is easy to be wealthy", "Store-keeping makes people wealthy", and surprisingly "Animals make people wealthy". This last response is one of the few which express traditional views about wealth, and is a significant exception.

The two-dimensional representation of the responses makes clear, in particular, that power, wealth and modernity are closely related in the view of the people of Gbansu. Significantly, very few people think that wealth can come from farming or other traditional rural activities. The pattern is the same as in the responses to migration, namely, that the way to ensure the future is to leave the village and get money.

Wealth, therefore, is a primary consideration along with power, and it too is identified with the outside world. People's dominant perception is that the way to wealth is to leave the village for the bright lights and opportunities on the motor road or in the capital city. It is naive to expect people to return to Gbansu to grow rice for the nation if they know that they will almost automatically become poor by making such a move. Just as was shown in the case of power and political ambition, the desire for wealth and economic well-being must be satisfied if there is to be a genuine reconstruction of the national economy.

11.3 Rural self-sufficiency.

It is asking the impossible to expect people to return to a way of life which denies the deep and powerful urges to become *kwii*, to achieve power and to acquire wealth. To ask Gbansu citizens to return to their village and their hamlets and produce food for the benefit of Liberia as a whole under the circumstances to which the past several decades have accustomed them is to ask them to give up hope for a place in the new world. It is true, however, that the new world has been severely compromised, and the bright lights have been severely dimmed over the past 15 years of misrule, corruption and civil war. But the goal of full access to wealth and power remains very much alive.

It is therefore necessary to find a radically new approach to rural self-sufficiency, an approach which makes rural farming worthwhile for rural farmers. This moment of history is perhaps one of the key moments in the history of Liberia, because for the time being the modern sector has to all intents and purposes ceased functioning.

The interim government in Monrovia is able to maintain its writ within the very circumscribed greater Monrovia environment only with the help of armed forces from other west African countries and foreign aid from friendly nations. The rebel government in Gbarnga in turn can only maintain itself with arms apparently still coming in from Ivory Coast. These arms are probably paid for out of cash reserves from earlier sales at discount prices of iron, rubber and timber, as well as diamonds which have been stolen from the mining areas of southeastern Sierra Leone, to buyers who are willing to ignore the political context. In short, neither the interim government in Monrovia nor the rebel government of Charles Taylor, nor any of the other warring factions, is at present viable, and the country is in economic chaos.

If political unit and stability can be achieved on a national level, this is the one moment when rural agriculture can perhaps again be made the cornerstone of a renewed economy. Communities like Gbansu can assist in that effort, if returning to rural agriculture can be made attractive to those who seek power, those with urban ambitions, those who wish to be *kwii*, and those who want money. It must make rational political and economic sense to the sons and daughters of Gbansu for them to choose consciously to return home and grow a surplus of Liberia's basic food crops. If it does not make sense, then they will not do it. Goran Hyden (1980) pointed out, in the context of rural

development in Tanzania under the "African Socialism" of the times, that the peasantry prefer to sit on their hands rather than produce goods for little economic or political reward. The same thing has obviously been true in Liberia, albeit under a very different but equally stultifying system.

There are two quite different groups of people in Gbansu. The dominant elite are the males, the schooled persons and the village residents. They are intelligent, aware people, and they know how to do well what they find worth doing. They are interested in managing the power structure and in growing cash crops. They must have motivation which is more than empty rhetoric for engaging in these activities in their rural home. Their views and preferences must carry weight outside the largely meaningless exercise of village meetings and rigged national "elections". And they must have enough monetary reward from their crops to justify their labor.

The women, the unschooled and the hamlet residents are, in their turn, the basis for improving rural subsistence agriculture. They also are by no means a forlorn hope. They know their world well, they deal intelligently with it, and they know they have no alternative but to remain in that world. Their skills and their understanding of a way of life which might seem to be passing out of existence need not disappear.

But it is important at the same time not to perpetuate discrimination and exploitation of the rural poor by the rural wealthy. Such exploitation was not an irrevocable feature of the Gbansu we saw when we lived there for eight months. It was growing, but at least at that time in the mid-1970s it had not overtaken the coherent system which we knew in the village and its hamlets.

At the present moment in history in 1995, such exploitation is much less possible than it was under Tolbert or Doe. Put very simply, the material base has been so diminished everywhere in Liberia that the social and economic distance between rich and poor has greatly narrowed. It is true that the managerial and entrepreneurial skills of the Gbansu power elite must be used in reconstruction, but this is nothing new. Moreover, if care is taken to prevent exploitation, then there is every reason to encourage these people to take over managing the system. Certainly, they are more qualified to do so than the elite from the county headquarters and national capital, who have shown themselves in the past to be capable mainly of gross national exploitation.

CHAPTER 12. RECOMMENDATIONS AND CONCLUSION

It is possible for villages like Gbansu to recover their central role in feeding the nation, provided the nation gives economic, social and political respect to these villages and their people. In order for this to take place, however, there must be several conditions met, which can be outlined as follows. There can be no guarantee that such conditions can be met, granted the horrors of the civil war and the disintegration of the nation-state that has been Liberia.

These recommendations are not definitive, and in particular people such as those with whom we lived in Gbansu must have the chance to discuss and debate them among themselves. It is entirely consistent with our belief in the wisdom and proficiency of these people that they, not outsiders or the national bureaucrats in Monrovia, should have the last word. It may be that some or all of these suggestions would be found seriously lacking, in which case it is necessary to accede to the people who have to live with the consequences of whatever happens. It is to them that these ideas are offered, humbly and without assurance that outsiders know the answers.

The first recommendation, therefore, is that **the political system must be reshaped from the bottom up**. By this we mean that representative multi-party politics should be implemented in Liberia, so that Gbansu people have the right, the responsibility and the opportunity to vote for government officials of their own choice.

There should be elected officials at the local village level, where a form of elective democracy has been practised over the years; at the regional level, when in the past officials were merely appointed by central government; and at the national level, where at least the facade of democratic government has been in place since Liberia was founded. The only way in which the people of Gbansu will have the chance to realize themselves politically, socially and economically, is for them to be able to vote people into power who truly represent their interests and to vote out those who ignore or exploit them.

The second recommendation is that **reconstruction of Liberia begin in the interior rather than in Monrovia**. Monrovia has become over the past decades a swollen and parasitic encumbrance upon the rest of Liberia. It has essentially no productive industry, and it provides a home to those who, as this book has shown, wish to escape the hard work of the rural area to become civil servants or simply recipients of foreign largesse in the form of food assistance. This situation has been exacerbated during the civil war, to the point where 30-40 percent of the population of Liberia is crammed within the tiny confines of the city. Furthermore, Monrovia has been very badly devastated by the fighting, so that what little productive capacity it may once have had is almost lost.

If the Liberian economy is ever to recover, it cannot be made to happen by spending the few resources the nation has and the many resources which foreigners are willing to pour into the country to rebuild a capital city. Rather the infrastructure by which agriculture, mining, logging, fishing and other primary activities are to be redeveloped must be rebuilt, and this can only be done in the rural areas. In particular, rural roads, shops, markets, health centers and training centers must be rebuilt and strengthened.

This leads to the third recommendation, which is that **an inventory of resources in rural areas should be conducted as soon as possible**. Such an inventory should look closely at what infrastructure, facilities and personnel have survived the civil war. Many roads, schools, markets, clinics have been badly damaged if not totally destroyed. Many trained persons in key areas of the economy and society have either fled the country or even killed.

It is vital that the areas which are relatively untouched be strengthened for the immediate push toward revival of the economy and that the areas which are badly damaged be rehabilitated as soon as possible. Without functioning rural institutions, reconstruction of the nation will not be possible.

The fourth recommendation is that **food aid be stopped just as soon as humanly possible**. It is true that there is a desperate and heart-numbing lack of food and other basic supplies in Liberia at the moment, as a result of the civil war. This aid must continue as long as there are malnourished homeless people who have no alternative but to beg.

But it is important not lose sight of the fact that this shortage of food was first created, not by civil war, but by a short-sighted policy of maintaining supplies of cheap, indeed free, food in the capital city and along the main roads. This policy has its roots in the days of Tubman, and was made worse under Tolbert. The Rice Riots in 1979 were the result of Tolbert trying, in a heavy-handed way, to redress the balance and provide better prices to rural producers. However, his actions were probably correctly seen as examples of his own greed, since he was one of the main producers of rice in the rural area, and stood to benefit greatly from an increase in price.

Whatever the politics and economics of food aid might have been over the years, they have contributed greatly to the present difficulty which Liberia faces. As long as food is available cheaply and freely in Monrovia and in the county capital cities, rural people will have no incentive to produce for themselves, and in the end the country will continue to starve.

The fifth recommendation, closely related to the fourth, is that **foreign aid be concentrated instead on providing subsidies to rural food producers**. It would not be possible, as Tolbert tried to do, to raise the price of rice and other staples overnight. It would create not only deep resentment but social chaos. It is obvious that the price of rice must eventually rise. But it cannot happen in the way Tolbert did it.

Rather the price of rice should be raised over a period of several years to the extent that the market can bear it, while correspondingly reducing the subsidy to farmers. The producer price of rice must be high enough to make it attractive for rural farmers to produce a surplus. In no other way will the country be able to be self-sufficient in food. Rather than wasting money on donated food, let foreign countries provide a temporary incentive to rural producers by subsidizing a guaranteed base price for rural rice and other primary foodstuffs.

The sixth recommendation is that **marketing and transport of agricultural supplies and production be done through the private sector**. Parastatals in Liberia have been no more successful than elsewhere in Africa. The people of Gbansu far prefer to sell their produce through private traders. They do not trust government, and will not take their crops to government agents if there is any other alternative. Likewise, they prefer to buy their supplies from private shops or

traders, since they know they will get what they want in sufficient quantity and quality, and at the time they want it.

The seventh recommendation is that **rural families be enabled to get full legal, but not freely transferable, deed to their family land**. Many Gbansu people fear that wealthy persons from outside the village would find ways to steal land and take it for their own. They remember all too well the depredations of former President Tolbert, who took good lands from Gbansu's neighbors and added them to his rapidly expanding farm.

This would require laws to be passed making it easy and inexpensive to survey land and take legal possession in perpetuity. On the other hand, these laws should not be so constructed that land could be sold out from under the village and its people. Otherwise people will be tempted, as in so many countries, to sell their land in a moment of weakness, and then find themselves swelling the urban proletariat or at best being rehired as laborers on what was their own land. Legal title should thus be vested in the family, but as a village possession.

The eighth recommendation is that **development agents, whether government or foreign, learn from and supplement local experts**. In the past, all too often experts from outside have brought pre-packaged wisdom to rural farmers, and have failed in their attempts to change local practices.

This book, as indeed the research and teaching in Liberia cited in the book, has stressed the understanding and expertise of local people. It strongly supports the advice given in another African country by a development expert, who said that first the developer should spend a year trying to farm under local conditions and then only begin to give advice. The book has attempted to make clear the extent and depth of the knowledge of the total system that is Gbansu in creating a way of life that is viable and meaningful. Outsiders who plan to assist any community in Liberia, indeed anywhere in the developing world, should learn from and respect the wisdom and understanding and skill of the people who live there.

The ninth and final recommendation is that **all these plans and recommendations should be subject to review and modification by the rural people themselves**. This book is offered to such people, and assures them of full support as they make their own future, and in so doing make Liberia once again a good place to live. It is possible for rural people to achieve these goals without having to succumb to the oppression and indifference of the powerful, the modern and the rich. No one in Liberia wants to replay the tragedies of the 1970s, 1980s and 1990s. That is both unthinkable and unnecessary. But if advice like that which is offered here is ignored and neglected, the social dynamite which exploded in 1979, 1980 and again in the present civil war will once again be ignited, and the consequences will be to destroy Liberia.

In short, it is in the interest of all Liberians to make a system like that which we knew in Gbansu once again work, and work to the benefit of all. The experiences and the recommendations given here are offered so that goal may be achieved. This book is dedicated to the belief that such a course of action is possible now, and particularly now, provided rural people are respected for who they are and what they know.

ANNEX 1. CLUSTER ANALYSIS AND MULTI-DIMENSIONAL SCALING

We interviewed people to determine how they view the world in which they live. One technique we used was sentence completion, a technique which proved useful in describing many different aspects of the collective world-view of the people of Gbansu. We analyzed the answers given in these sentence completions according to two techniques which we describe briefly here.

We used several types of question in order to obtain maps of knowledge and belief in the community. One approach was to use sentence completions. In this case we set up 20 sentence introducers, as listed below.

TABLE A.1
SENTENCE INTRODUCERS

I believe	I have heard
It is true	I am happy
I take it as true	They have told me
I know	I am angry
Some day	I have seen
God willing	It seems like
I am thinking	I am satisfied
In the old time	It is in my sense
It is a serious matter	I am worried
I want	It is on my mind

These sentence introducers cover the range of intellectual and emotional positions, from positive to negative, from past to future, from certain to uncertain. In this way we learn more about the person's understanding of the topic than we would by simply asking what he or she knows or has to say about it.

The way in which we used these sentence introducers was very simple. We told the person being interviewed the topic on which his or her answers should focus, and then asked that the sentences be completed. The people we interviewed were chosen from carefully selected population groups, so that we could get as nearly representative a sample as possible. We interviewed 8-11 year-old children, 18-21 year-old young adults, and 40-50 year-old mature adults. We balanced male and female respondents, persons who have been to school and those who have not, and in most cases also respondents from the central village and the outlying hamlets. Within each category, the respondents were chosen as nearly at random as possible, although true randomness was not possible.

We recorded the answers for each person being interviewed, and then later grouped the answers into those which were similar. For example, the answers "There are wild animals in the forest" and "Leopards and monkeys and antelope live in the forest" would be grouped together. In this way the total number of different answers to be analyzed for any of the topics was never more than about 65.

A cross-tabulation matrix was then set up indicating the number of times each response category was given to each sentence introducer. This matrix was the basis for rather complex mathematical manipulations, performed by computer. A measure of similarity between each pair of responses was calculated, depending on how closely corresponding are the distribution of the two responses across the 20 sentence introducers. Responses which appeared in the most nearly similar ways across the sentence introducers were classified together, so that the farther apart were two responses in the diagram, the less similar they were.

The two statistical techniques we used are cluster analysis and multi-dimensional scaling. Both techniques depend on obtaining answers to a range of questions within a framework that allows the answers to be presented in a two or more dimensional form, where spatial relationships correspond to cognitive or attitudinal connections. In contrast, normal statistical analysis only reports discrete facts or discrete relations between specific sets of facts.

This is exactly the same mathematical technique which is used in making computer-based taxonomies of biological species and varieties within species. In that case, the traits are matched with the species, the computer analysis is performed, and a taxonomy generated in which similar species find their place close to each other.

The advantage of this technique for understanding the "mind" of a community is that it allows all the statements of all the respondents concerning a particular topic to be organized into a cognitive system. No one individual would or even could make all these statements, but all the statements are included in the community's collective understanding. By interviewing as wide a spectrum of community members as possible, the entire universe of statements is elicited and organized into an overall framework which displays the intellectual system underlying the village and its activities.

We also used similar methods to elicit matrices of question and response in other ways than the sentence introducers. We asked for free responses to sets of terms. We associated answers to questions. We identified geographical areas with social facts. But in each case, we had a set of initial stimuli, for each of which we obtained a set of responses, and we counted the number of times each response was given to each stimulus, and put these numbers into a matrix of stimulus against response.

In using cluster analysis and multi-dimensional scaling, each response is initially considered as a point in space, whose dimensions are the sentence introducers or terms or questions which are used to elicit the responses. The point is located in this multi-dimensional space according to the number of times that item appears in response to the item which corresponds to each dimension.

Thus if an item appears twice in response to the first sentence introducer, four times in response to the second, and not at all to the other sentence introducers, the point in space corresponding to that item would be written as the vector whose first two coordinates are 2 and 4, and whose last 18 coordinates are all 0. Each such point is then connected by a line vector with the origin point, where all coordinates are zero. A hypersphere of radius 1 is then drawn in the multi-dimensional space, and the point where each response vector crosses that sphere is the point on which the analysis is based.

In cluster analysis the first two responses to be connected with each other are those which are closest on the unit sphere. These two are collapsed into one point which lies between them. Then the same process is repeated, until finally all responses are connected with each other. The result is the cluster diagram which we use so often in this book. Details of the process are contained in Sneath and Sokal (1973).

In multi-dimensional scaling, the same technique of representing all the points by vectors from the origin to the unit hypersphere is the start of the process. However, in this case, an attempt is made to retain the entire structure of the response vectors instead of relating them to each other one at a time. This is done by projecting each point onto a two-dimensional plane passing through the origin but at the best angle to each of the original dimensions, so that the resulting configuration of points in the two-dimensional plane most nearly represents the relation between the points in the multi-dimensional space. The technique is described in detail in Shepard, Romney and Nerlove (1972).

Obviously, such a collapsing of a complex 20-dimensional space (in the case of the sentence introducers) onto a two-dimensional plane will destroy much of the detail and will force responses into a relation with each other that is not representative of their relation in the higher-dimensional space. However, if there is a real cognitive or social or psychological relation between the responses, the expectation is that the two-dimensional representation will not be at all bad. The measure of the extent to which relations are distorted in the two-dimensional picture is called the stress. In most of our studies, the stress was quite low, showing that there were real underlying relations which were reflected in the data.

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