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IMPROVING VILLAGE WATER SUPPLIES IN ETHIOPIA: A CASE STUDY OF SOCIO-ECONOMIC IMPLICATIONS

By

HANNA KEBEDE

CONSULTANT

AFRICAN TRAINING AND RESEARCH CENTRE FOR WOMEN

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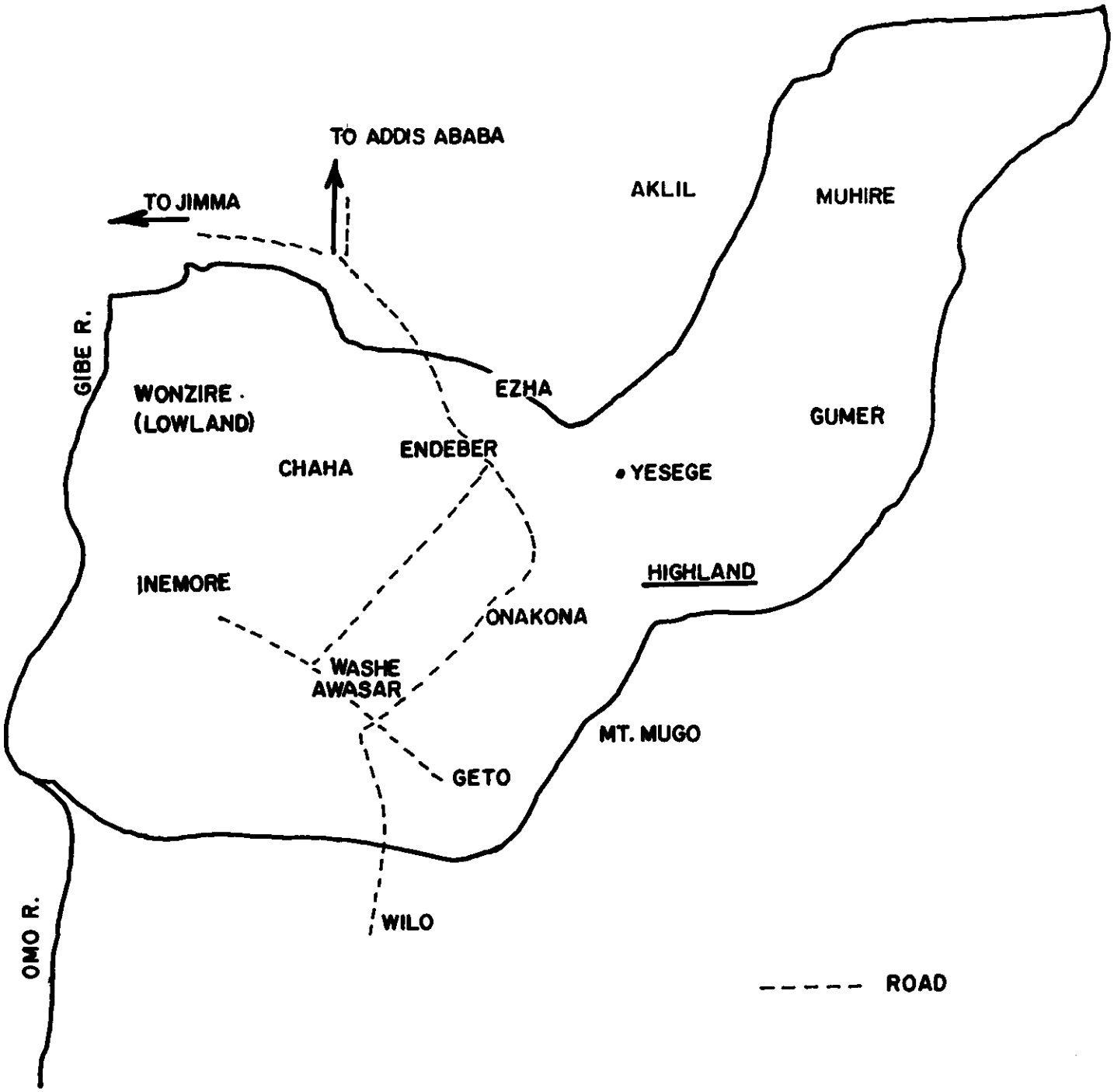

Women at a spring

I. INTRODUCTION

Preface

One of the most important needs of villagers in Africa is the provision of clean and conveniently placed water supplies. Over much of Africa, a disproportionate amount of time is spent by the rural household (usually by the women) on collection of water. This is time which could be used far more productively in other activities if a water supply was located closer to the village. In addition, many of the health problems of human and domestic animals are attributed to the polluted nature and short supply of water.

As a consequence, Governments, the United Nations, and other agencies have placed a great deal of emphasis on and effort into improving village water supplies. Unfortunately, water development projects have not always been an unqualified success. Very often this has been because little or no attention has been given to the socio-economic conditions existing in the project area and no thought has been given to complementary measures which might be necessary to the attainment of expected benefits. For example, if the time saved by women in water collection is to be successfully diverted into more productive uses, it may be necessary to estimate the relative productivity of time spent in alternative activities and to provide advice accordingly. It may also be necessary to provide training for women so that they can make productive use of time diverted from water collection. Similarly, if health is to be improved, it will be necessary to plan for increased public health education. A well with clean water will be of little impact if dirty buckets are used for lifting the water!

Of perhaps even greater importance is that usually no attempt is made to find out if the intended recipients of the improved water supplies really see this as a priority. Governments and development agencies usually feel that villagers see water projects as being of utmost importance. All too often, however, there may be something else, such as a road, a school or improved agricultural equipment which the villagers would have placed as being more important if they had been asked. It seriously affects the success of a project (especially if a substantial amount of self-help is involved) if the villagers are not fully committed and feel that something else would have been more worthwhile.

Bearing these factors in mind, the purpose of this study was to investigate the socio-economic aspects of selected villages involved in a water surface development scheme, during the early stages of the programme. The programme involved, known as the Surface Water Development Unit (SWDU), arose out of an ECA/VAB feasibility study undertaken in 1971, on the siting and costs of water development in drought-stricken areas of Ethiopia. A further study was undertaken in 1974 in the Gurage sub-district by a geophysicist, a hydrologist and an ECA/VAB representative. On the basis of this survey, exact areas in the highlands and lowlands were located and work on a self-help well digging and spring protection scheme commenced in November 1975, with funding from OXFAM Quebec.

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Purpose of the study

As the socio-economic research was conducted several months after commencement of the Surface Water Development Project, it cannot really be classified as a pre-measurement study. However, progress had been slower than anticipated and, at the time of the field work, no wells or spring protection schemes had been completed. The numerous socio-cutltural difficulties encountered in mobilizing self-help and co-ordinating development efforts was, in fact, one of the major reasons for carrying out the socio-economic research. At the same time, the African Training and Research Centre for Women was interested in supporting the research from the point of gathering information on the existing conditions of women and their families and making recommendations on how they could derive optimum benefit from the water development scheme. Interest focused particularly on how women could divert any time saved in collecting water into more productive uses.

The original terms of reference of the study had primarily considered the water development project exclusive of the economic status and agricultural production of the target population. However, after a brief preliminary survey was done on sampled villages, it was felt essential to include items on agriculture, methods of production, marketing activities, wage labour, migration and other related economic and social aspects of the farm households. The study has, therefore, been broadened in scope and objectives mainly because the water development scheme could not be treated in isolation from the general living conditions of the Gurage people.

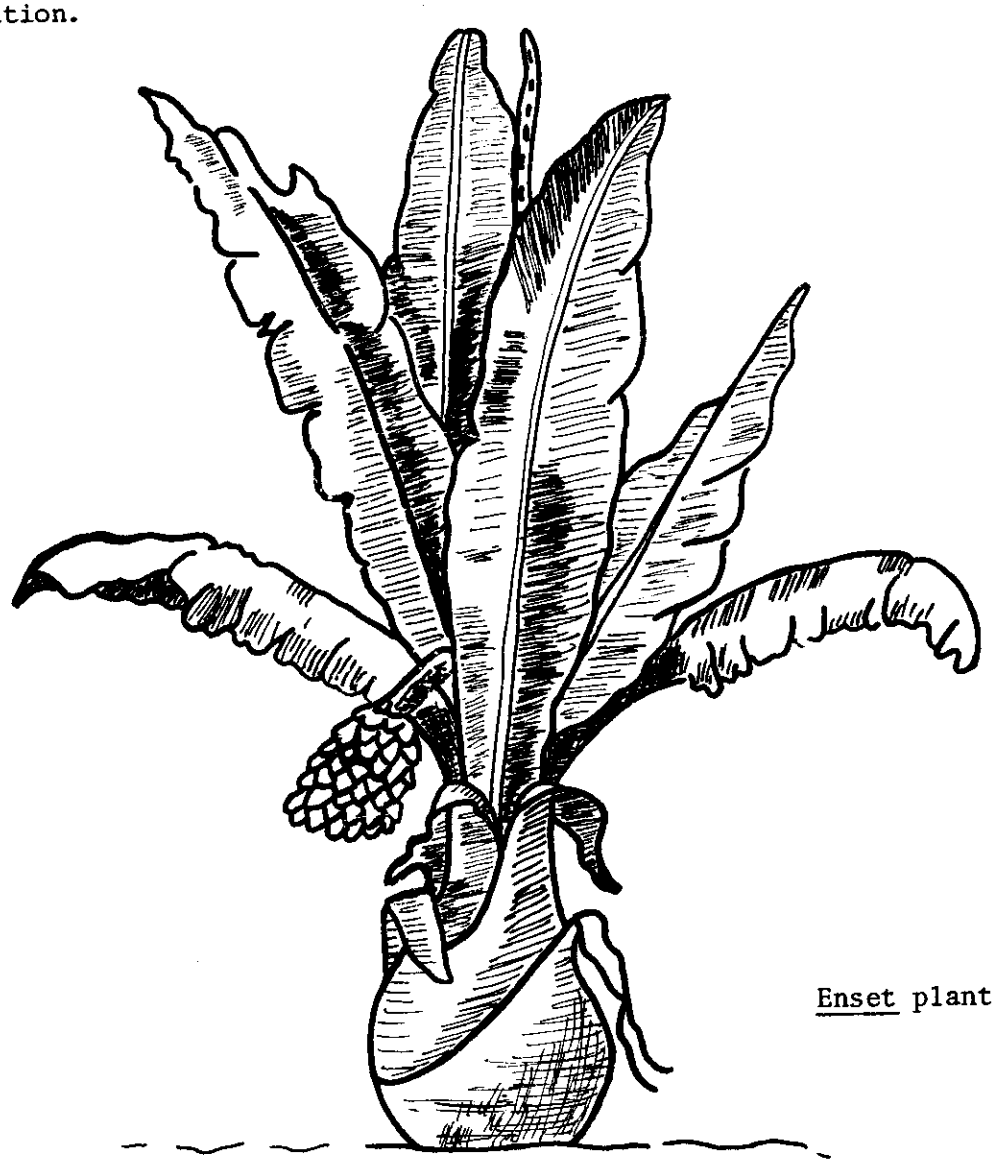
As a consequence of the expanded coverage of the study, its objectives have also been expanded with a view to eliciting concern and initiative from various development agencies for an integrated rural development effort based on the recommendations of the study. Otherwise, in an area which has been one of the least affected or planned for among the rural hinterlands of Ethiopia and which is in desperate need of development stimuli, it is felt that the water development project would have no tangible socio-economic impact on the target population.

Tables are based on field data which has been deposited with ATRCW, along with extensive statistical data which may be consulted there.

Profile of the Area

The rolling hills and deep gorges of Gurageland (see map p. v) provide a breath-taking scene which is often misleading to a newcomer to the region. The beauty of the area, particularly after crossing the Wabi River, is obvious to the observer, with the mountainsides and valleys covered in a perpetual green of enset, and grazing meadows. The houses, amidst the tall leaves of enset, are standing monuments depicting the old Gurage tradition and culture with a refined architecture and craftsmanship.

Chaha Woreda of Sabat Bet Gurage has a total population of 28,000 making it the smallest Woreda (district) in Ethiopia in size but in many ways the most interesting terms of social and economic characteristics.1/ Despite its high rate of literacy, migration to national urban centres and monetization Chaha leaves much to be desired by way of economic development, even by standards of a subsistence level economy. The villages surveyed (particularly in the lowlands) are still at a low stage of economic and social development. This is so because of the people's primitive mode of agricultural production, their restricted conceptual framework and their lack of aspirations due to their traditionalism and fatalism, which hinder their consciousness in their struggle towards development. Their lack of exposure to development phenomena (even though they are situated only about 20 km from the main road) perpetuates attitudes towards changing their economic plight. Although the highlanders are relatively better-off compared to the lowlanders, they are both equally fatalistic and traditional in orientation.



Enset plant

1/ Kidane, Gabre (1975) Drought Situation Report on Gurage, Ministry of Agriculture, Addis Ababa, page 4.

The main cultivation of Sabat Bet Gurage is Enset Edulis (false banana), of which there are numerous varieties which mature in seven to fifteen years from the date of nursery to the first harvest. The enset plant, apart from being extremely time-and labour-consuming, yields insufficient food for storage or continuous consumption throughout the year. Although enset is the centre of the socio-economic lifestyle of the Gurage people, it is not highly revered or held sacred, for the people well realize the hardships involved vis a vis the benefits accrued from its production. 2/ Enset Edulis remains the main crop of the Gurage people, not from social attachment to it, but mainly because with their meagre land holdings in infertile and depleted soil, their lack of knowledge of agricultural production methods and their traditionalism, their choices are very limited.

The average land holding per household is exceedingly small, making the cultivation of enset a less risky venture because the enset plantation does notrequire as much land as would other crop varieties. In addition the method of cultivation is so retarded that it is very labour-consuming and ineffective for adequately turning up the soil to bring minerals and nutrients to the surface. Animal husbandry is mainly for the production of an organic fertilizer (manure), which is indispensable to the growth and yield of enset. The production and consumption of dairy products has become secondary to this end.

Other measures of the stage of development of the Gurage people are that:

(a) Guinea-pigs roam uncontrolled,harming enset and other crops;

(b) The hand plough (maresha) is used for cultivation in the lowlands instead of the ox-drawn plough; it may be effective for enset, but is useless for other crop cultivation;

(c) The degree of environmental retardation among the rural population (particularly in the lowlands), and the frequency of disease as a result of chronic malnutrition are glaring to the observer. Child mortality is particularly high;

(d) The relative lack of knowledge of innovative farm techniques such as fertilizers, improved seeds, improved farm implements, cattle breeding, farm management techniques, budget allocation and planning, are measurements of the lack of exposure of the Gurage peasant compared to peasant farmers elsewhere in Ethiopia, particularly where MPP's 3/ and other development stimuli have been initiated.

2/ Many people in the area have expressed their desire to start diversifying crop production. Some have even proposed shifting into other crop production if that were their only alternative.

3/ Minimum Package Programmes.

Due to the low level of economic yield from farm and household production, the Gurage people have been forced into monetization and wage labour migration in order to subsidize their below subsistence economy. Many Gurage farm housewives go to the market almost daily for transactions amounting to less than 1 birr 4/.

The economic subsidy to the farm household, by means of frequent marketing and/or migrant wage labour, has resulted in creating extremely cheap labour and temporary dislocation of family life. Cheap labour results from the excessive time and labour input in marketing and related activities for a small profit, often just enough to break-even. Since the women do not calculate the time and labour input of their marketing activities, they consider the leftover amount as profit. Besides marketing most households have to subsidize their income with migratory wage labour for which the male head of household has to leave his farm and family life in search of additional income for a few months every year. Through daily marketing and/or cottage production the household subsists during his absence, or even in his presence. In the course of the interviews, many men as well as women openly admitted that a man is respected as the head of the household only if he manages to feed his family adequately. This may account for the loose parent-child and husband-wife relationships observed during field work in Gurage household. The male head of the household did not play an authoritarian role in daily interactions with his wife and children. Compared to parent-child or husband-wife relations in other traditional, partriarchal family structures, women and/or children are relatively free to openly disagree with, and take independent positions from, the male head of household.

The fact that Gurage people are so well monetized and adapted to a cash economy manifests itself in their wage labour activities, even to the extent of creating local wage labour opportunities within their traditional co-operative labour system of gez 5/. This phenomenon does not seem to exist among other peasant societies, except for perhaps the enset cultivating areas of Welayita, Kambatta and Hadiya, where land fragmentation and over-population pose a serious threat to subsistence. The gez system of co-operative production is a common, traditional system of sharing labour, particularly during the peak farm seasons. It ensures that every farmer keeps pace with the production season, which would be difficult to achieve without outside assistance. The

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4/ One birr - US $0.48.

5/ Gez is the Gurage word for wonfel, jiggi, debo and all other similar systems of co-operative labour in agriculture and other productive activities in Ethiopia. Although there might be differences in structure and the services they provide to the community, the main purpose of all these co-operatives systems of production is to share labour by providing manpower to alleviate the heavy burden of agricultural and related production activities.

system also provides labour and manpower for farm production, as well as other activities such as building and construction. The Gurage gez system operates as an income-generating, wage labour opportunity in the following ways:

(a) Standard wages are paid according to seasonal activities, i.e., weeding, mowing grass and fencing during the rainy season; and digging, planting, harvesting and construction of houses during the dry season. The division of labour in enset production is classified by sex, age and physical strength in gez co-operative labour. Similar wage labour opportunities are open to women in enset decortication, quancha (produced by enset decortication) and jipe (local mats) production.

(b) One can also "sell" other people's labour within the traditional system of gez. This is because co-operative labour is an exchange of manpower, and someone who has already contributed his labour can opt to acquire cash (instead of the labour exchange others owe him) by "selling" other people's labour for that particular day.

If it were not for such in-built safety valves in the economic structure, (e.g. wage for co-operative labour, chircharo (small-scale marketing; see p. 24) migratory labour and some cottage production) the Gurage household would find it impossible to reach a harvest season. Some reasons for this are:

(a) Land was originally settled by clans, which was parcelled per moeties and further fragmented to accommodate each member of the household inheritors;

(b) Over-population, due to high fertility and birth rates, has decreased land size per household;

(c) Enset is a time- and labour-consuming plant which has an extremely low yield because of depleted soil and the prevalence of wild animals, pests and insects which destroy both the roots and the stems of the plant;

(d) Other crop varieties are a relatively recent phenomena for which the Gurage peasant is neither technically nor mechanically equipped. This, coupled with factors related to land fragmentation, soil depletion and plant disease, curtails chances of harvesting good yields from other crop varieties.

Apart from all these factors that restrict alternatives in crop diversification or multi-production, enset is, in any case, the only farm product which could accommodate prevailing conditions. Thus, enset is the most utilized and precious agricultural product of the Gurage people. The various uses of the enset plant in food intake, for household utensils, or cottage products and as a source of raw material for various productions are elaborated later in the report. 6/

6/ For details of the enset cycle, the varieties of enset and their uses, see Glossary.

Due to the scarcity of their staple diet (kocho or wusa), 7/ which is low in nutritional value and difficult to digest, (particularly when consumed by itself); many cases of malnutrition were visible to the observer. Marasmus, kwashiorkor, physical deformities and mental retardation (whole or partial) are common in most villages. The prevalence of flies, particularly in the lowlands, also manifests itself in the high rate of eye disease. The cases of gastroenteritis and other internal diseases are numerous at Attat Hospital in the region. Chronic undernourishment of children causes even the fittest survivors to be intellectually dull and malfunctioning. Hence, the general socio-economic conditions of the Gurage region, and particularly of Chaha, have to be tackled with multi-faceted development strategies in order to save the coming generations, if not the present one.

Villages in the study

The ten villages included in the survey were selected from a list of villages considered by the Surface Water Development Unit. Five of the villages lies in the highlands and five in the lowlands.

The selection was made on the basis of:

(a) The geographic location of the villages in the highland and lowland areas, and the ensuing diversities in land size and use, cultivation, yield, water supply;

(b) The disparities in economic and social development between the villages in the two areas, as a result of exposure and/or isolation in the highlands and lowlands, respectively;

(c) The problems encountered by the SWDU in co-ordinating self-help and mobilizing labour for the water development project in the highlands, versus the zeal and enthusiasm displayed in the lowlands.

Highlands

In the highlands, the five villages are Dakuna, Seher, Areja, Yefore (Upper) Gib and Tach (Lower) Gib. All are situated within the five gasha area under the same Peasant Association (Gabere Mahber). Dakuna has a historical significance as the site of Gurage resistance against the expansioniist forces of Emeror Menelik II in the late nineteenth century.

7/ Kocho (Amharic) or Wusa (in Guragigna) is the main food intake of the Gurage people. See Glossary for description.

The highland area is composed of a rough landscape with steep hills and deep gorges. There are numerous seasonal springs and small streams surrounding the area, with the Gogeb River flowing by most of the village. The soil is red clay of a poor quality (mostly due to wind and water erosion), providing a low yield for enset as well as other crop varieties. 8/

Dakuna proper is only about 10 km from Endeber, the capital of Chaha Woreda. This village is situated along the main road connecting the urban towns of Chaha, with the Shoa and Kaffa Regions. The village is populated by indigenous Gurage people and Amhara settlers whose forefathers were soldiers during Menelik II's invasion.

Although the Amhara settlers have intermingled in the Gurage social lifestyle, ethnic distinctions and polarity between the two groups are still apparent. The Gurage regard the Amhara as intruders, and the Amhara display conceit and separatism. Dakuna is a unique village, with its historical background fermenting tension and intrigue which manifests itself in the structure of the Peasant Association. However, in everyday life and social interaction there is cohesion and integration to the point of inter-marriage and amicability between the two groups. Seher is situated along the main road about 2 1/2km from Dakuna.

The villages in the highland area are similar to other villages in the area, with poor soil, low yield, and economic stagnation, despite the fact that Endeber contains representatives of various development agencies (EPID, Institute of Agricultural Research, Ministry of Agriculture and Settlement).

Lowlands

In the lowlands, the five villages are Yetaretibe, Yetanaka, Yegebe, Yergusden and Yesege. This chain of villages within a five gasha area, are collectively known as Wonzire.

The Wonzire area is a flat land 22 km to the north east of Wolkite (capital of Wolkite Woreda) and 32 km from Endeber. The economic and social underdevelopment of the area is apparent to the observer. The Megecha and Wenker Rivers flow by the villages and are the only sources of water supply during the dry season. During the rainy season,the people utilize flood water and mud puddles which are even more contaminated than the rivers. The soil is black clay, with a water logging problem during the rainy season. However, the dry season chaps the soil (due to lack of moisture), which renders it highly infertile when coupled with the fact that it is depleted from the overuse of generations of enset production. On the other hand, the size of land holding in this area is relatively larger than in the highlands, and some communal grazing areas are available.

8/ Other crops grown in the highlands area include wheat, barley, beets, collard greens, pimentoes, hops, tobacco, chat and potatoes. The major supplementary crops in the lowlands are maize and teff.

The lowland population is a migrant settler population from the highlands of Dakuna. Village informants disclosed that the migrants came almost a hundred years ago in search of land for cultivations and a grazing area for cattle. The villages are named after the clans that settled the area first (Yetaretibe, Yetanale, Yergusden are all clans of the Mogemene tribe of Chaha), although different clan groups have inter-mingled in the villages since then.

The religious composition of the lowlands is largely Muslim, whereas the highlanders are predominantly Christian. The Christianity of the highland people may be explained by:

(a) The Amharization of the area, after the invasion of Menelik II, and

(b) The exposure to the teaching of missionaries, both Catholic and Protestant, who have had a substantial influence in the area.

Methodology

The methodology applied in the study is primarily the questionnaire technique. Prior to the construction of the questionnaire, a brief preliminary survey of the area was made in order to observe the objective conditions of villages. The preliminary survey consisted of a visit to all the village survey sites and of meetings and discussions with the peasant associations and the staff of Attat Mission Hospital, EPID and SWDU. A questionnaire was then drawn up and tested on a randomly selected number of 50 households from the ten villages to be surveyed. The final questionnaire was constructed with corrections and adjustments made on the basis of the findings from the pilot questionnaire.

The questionnaire was utilized on 205 randomly selected households, from the ten village survey sites. Both the husband and wife of each household were interviewed, except in those cases where one of the two was missing due to migration, divorce or death. In the cases of polygamous families, the wife residing with the household head was interviewed, using the questionnaire. Other wives were interviewed separately for supplementary data. Each interview normally took about one hour per household. However, the additional information particularly on enset cultivation, wage labour, marketing and co-operative labour extended the interviews over the normal time, frequently lasting up to two hours or more per household.

The questionnaire was constructed with open-ended questions, in order to allow the respondents to give spontaneous replies to unstructured questions (which do not lead to a particular response). Closed questions were included only for those items with a 'yes' or 'no' reply, and for deliberately structured responses that attempted to test attitudes and conceptual framework and/or to collect routine information.

Initially, separate interviews were held with the husband and wife of a household. After a trial joint interview with the household couple, however, the researchers found that more reliable data was obtained with the latter technique. The husband would substantiate the accuracy of the information

given by the wife and vice versa. Since the Gurage women (particularly those in the villages surveyed) do not shy away from open disagreement with their husbands, the dialogue between a household couple often revealed the true picture of their economic and social life 9/. Most of the interviews in both the highlands and lowlands were, therefore, conducted jointly with the husband and the wife, except on those items which did not directly concern either the man or the woman.

Due to the fact that the study was allotted only three months, with a total number of 57 days of field work, there was inadequate time for conducting personal interviews or conducting opinion surveys. Most of the additional information was acquired by prolonging the actual questionnaire interviews with a selected number of households that presented extreme and interesting cases. Opinion surveys were similarly gathered from several households which were co-operative and willing to have a freely flowing discussion on related issues of income, culture, tradition and other matters. Personal interviews were conducted with the executive members of the Peasant Associations in both areas. The fact that the researchers stayed in the villages (Sisa/Seher) during the period of field work facilitated their exposure to and understanding of Gurage life. Their involvement in everyday village life enabled them to become participant observers of the general socio-economic conditions of the areas. This latter technique was helpful in acquiring information on norms, values, traditions and husband-wife/parent-child relationships within the Gurage social structure.

Additional sources on the Gurage region have also been utilized in order to substantiate some of the findings of the primary data 10/.

Sample size

The sample size was largely determined by the size of the sampling frame. A list of all household heads and the number of dependents in each village, acquired from the Peasant Association, served as the sampling frame. The samples for interview were randomly chosen by selecting every fifth name. Since ATRCW is particularly interested in women, women heads of households were exclusively selected from the sampling frame. The Gurage villages in general and the 10 villages considered for this survey in particular, are mostly small in size (i.e. considering the number of households/villages) hence the sampling frame originally consisted of a total of 462 households from the 10 villages. A total of 205 households were interviewed, 44.5 per cent of the households in the sampling frame. One hundred seven households in the highlands and 98 in the lowlands were randomly selected, with a total of 86 men and 99 women in the highlands and 86 men and 92 women in the lowlands being interviewed for the survey. These figures indicate a highly representative sample, which gives validity to the responses and narrows the margin of error by providing reliable and accurate data.

9/ For confirmation of the above, see Table 19, Decision-Making in the Household. During most of the interviews in both the highlands and lowlands, the household couple would criticize and argue about each other's information often revealing problems and clashes within the family.

10/ See bibliography.

The number of households, with male/female population interviewed from each village, are shown in Table 1.

Table 1: Total Sample Interviewed from each of the Villages in the Highland and Lowland Areas

Villages surveyed	Total No. of households	Total No. of households interviewed	Percentage of households interviewed	No.of males inter-viewed	No. of females interviewed
HIGHLANDS					
Dakuna	60	26	43.3	19	24
Seher	60	25	42.0	20	25
Areja	36	18	50.0	13	16
Yefore Gib	30	15	50.0	14	11
Tach Gib	52	23	44.2	20	23
LOWLAND					
Yetaretibe	64	27	42.0	26	27
Yetanaka	66	31	47.0	27	30
Yergusden	30	14	47.0	12	10
Yesege	24	10	42.0	9	10
Yegebe	40	16	40.0	12	15
TOTAL	462	205	44.5	172	191

Household composition

The Gurage household has the characteristics of an extended family structure. This is typical of a rural economy where the family is the unit of both production and the consumption. In both the highland and lowland areas, the household consists of the nuclear family, normally the father, the mother and their offspring, frequently supplemented by other kin dependents, such as in-laws, cousins and grandchildren. The various members of the household do not necessarily live in the same house. The houses are all built on the family land, which is parcelled among individual members of the family. In the case of old people, the eldest son manages the farm and provides for his parents who may have a separate household. Therefore, several households may be dependent on the same farm (the family land). This accounts for the clustered villages which are common in Gurage settlement patterns.

As Table 2 shows, the households interviewed were comprised mainly of married couples. There are, however, 13 households (12.2 per cent) and 6 (6.1 per cent) in the lowlands with widows. Households with divorces are only 3 (2.8 per cent) in the highlands and one (1.0 per cent) in the lowlands. There are also a few polygamous families. Furthermore, 24 households (22.5 per cent) from the highlands and 22 (22.5 per cent) from the lowlands have migrant workers, who migrate (from a period of two weeks up to over six months) to urban centres in search of wage labour. They migrate mostly to Addis Ababa and other major towns (primarily Jimma). The three main outlets for migratory labour are employment in government services, business and hired labour. The majority of migrants are found in the latter two areas.

Table 2: Marital Status of Women and Households Interviewed

	Married	Married to migrant worker	Divorced	widowed	Other*	Total	No. of Households.
Highland	60.7	22.4	2.8	12.1	0.4	100	(107)
Lowland	68.3	22.4	1.0	6.1	0.4	100	(98)

* Other includes polygamous households.

Table 3 gives details of migratory labour in the area. The movement of able bodied people to urban areas is common in Sabat Bet Gurage. Mobility is due to population pressure and lack of sufficient land and for farming. The migration in many instances is seasonal. People stay in urban areas for wage labour and return home during the time of farming. Drought Situation Report, p. 12). A total of 13 households (54.2 per cent) from the highlands had men who migrated to Addis Ababa as opposed to 9 (32 per cent) from the lowlands that did so. Six households (25 per cent) from the highlands and 6 (21.4 per cent) from the lowlands had labourers who migrated to secondary towns (Jimma, Nazareth, Debre Zeit and Wolisso). Only five households (20.8 per cent) from the highlands, as opposed to 13 (46.4 per cent) from the lowlands had 'local' migrants. Explanations for the highlanders' migration to Addis Ababa and the lowlanders' local migration may be found in the latter's lack of:

a) Skills for wage labour required in urban towns;

b) Capital for business ventures;

c) Ability to pay higher transportation and living costs.

Women collecting water from river (above); buckets are used to lift water from this unlined well (right).

Table 3: Place of Migration, Occupation, Income and Duration of Stay of Migrant Workers

Place of Migration	Highland	Lowland
	Percentages	
Addis Ababa	54.2	32.1
Secondary Towns*	25.0	21.4
Local	20.8	46.4
TOTAL	100.0	100.0
Occupation		
Government employee	8.3	3.5
Business	41.6	39.2
Hired Labour	50.0	60.7
TOTAL	100.0	100.0
Income		
/ Birr 15 per month	12.5	46.4
Br 15-50 per month	70.8	50.0
Br 50-100 per month	8.3	3.5
_/ Br 100 per month	8.3	0.0
TOTAL	100.0	100.0
Duration of stay		
/ 1 month	4.1	39.3
1-4 months	54.2	32.1
4-6 months	12.5	110.7
_/6 months	29.2	14.2
TOTAL	100.0	100.0
(Total number of migrants)	(24)	(18)

* in priority order: Jimma, Nazareth, Debre Zeit, Wolliso.

Since the lowlanders do mainly agricultural work (weeding, harvesting, mowing grass, fencing, building houses) for wage labour and being unable to finance the journey to major urban centres and their subsistence until the time of getting paid, they are restricted to local areas where they must sell their labour for very low wages.

In the highlands, 13 households (54.2 per cent) migrate for a period of 1 - 4 months and 7 (29.2 per cent) for more than six months. In the lowlands however, 11 households (39.3 per cent) from the lowlands migrate for less than 1 month and 9 (32.1 per cent) for a period of 1 - 4 months. The figures from the Drought Situation Report on migration in Chaha state that 166 heads of households (51 per cent) migrate in search of food as opposed to 514 (24 per cent) in search of wage labour. Seventy one per cent of highland migrant labourers were earning 15-50 birr monthly while only half of the lowland migrants were earning as much. However, 13 households (46.4 per cent) in the lowlands earn less than 15 birr as opposed to only 3 (12.5 per cent) in the highlands.

Migration rates are higher for two villages in the highlands. In Dakuna, 10 households (41.7 per cent) and Seher 8(33.3 per cent) have migrant labourers whereas there is no significant variation between the lowland villages. This may be explained by:

(a) The Amharization of the highlanders (particularly these two villages);

(b) The effects of the Italian invasion, which introduced wage labour on a wide scale and affected the highlands more directly; and

(c) The relatively better communications of the highlanders with urban centres like Endeber, Wolkite, and Addis Ababa.

The most interesting phenomenon with regard to migration in Gurageland is not only the high rate of migration but the high rate of child and youth migration which is common throughout the region. Most Gurage farmers are either part-time farmers who migrate for wage labour/business for more than half of the year, or migrant returnees who have inherited land. Most migrants visit their region once every year, usually at Maskal (late September), primarily to cultivate their enset and manage the farm and also to visit relatives. The following reasons may explain the very low rate of literacy among those aged seventeen or under in our field data:

(a) Child labour is so highly exploited that chances for schooling are correspondingly rare;

(b) Part-time students in urban centres have not been included in the survey.

Table 4: Percentage Literacy Rate of Dependents of Households Interviewed

	HIGHLAND				LOWLAND			
	Under 17		Over 17		Under 17		Over 17	
	Male	Female	Male	Female	Male	Female	Male	Female
Non-literate or no formal education	83.8	94.6	42.8	88.8	91.8	97.0	71.4	50.0
1st-4th Grade	11.0	2.6	14.2	-	5.4	3.9	14.2	16.6
5th-8th Grade	5.0	2.6	21.7	11.1	2.7	-	14.2	16.6
9th-12th Grade	-	-	14.2	-	-	-	-	16.6
Above 12th Grade	-	-	7.14	-	-	-	-	-
Total	100	100	100	100	100	100	100	100
(Total number of dependents)	118	113	14	9	110	100	7	6

As shown in Table 4, while the literacy rate was relatively low for those under 17 in both areas, it was higher in the highlands than in the lowlands. In the lowlands 97 per cent of the girls and 92 per cent of the boys were either completely illiterate or had less than a first grade education, while in the highlands the figures were 95 per cent of the girls and 84 per cent of the boys.

The data on migration, marital status and literacy rate of the villagers consistently show that the highlanders are relatively better off in the aspects of wage labour opportunities and rate of literacy than the lowlanders. Furthermore, child labour and migration exacerbate the situation because the adverse effects they have on literacy perpetuates economic and social underdevelopment.

Migration rates are higher for two villages in the highlands. In Dakuna, 10 households (41.7 per cent) and Seher 8(33.3 per cent) have migrant labourers whereas there is no significant variation between the lowland villages. This may be explained by:

(a) The Amharization of the highlanders (particularly these two villages);

(b) The effects of the Italian invasion, which introduced wage labour on a wide scale and affected the highlands more directly; and

(c) The relatively better communications of the highlanders with urban centres like Endeber, Wolkite, and Addis Ababa.

The most interesting phenomenon with regard to migration in Gurageland is not only the high rate of migration but the high rate of child and youth migration which is common throughout the region. Most Gurage farmers are either part-time farmers who migrate for wage labour/business for more than half of the year, or migrant returnees who have inherited land. Most migrants visit their region once every year, usually at Maskal (late September), primarily to cultivate their enset and manage the farm and also to visit relatives. The following reasons may explain the very low rate of literacy among those aged seventeen or under in our field data:

(a) Child labour is so highly exploited that chances for schooling are correspondingly rare;

(b) Part-time students in urban centres have not been included in the survey.

Table 4: Percentage Literacy Rate of Dependents of Households Interviewed

	HIGHLAND				LOWLAND			
	Under 17		Over 17		Under 17		Over 17	
	Male	Female	Male	Female	Male	Female	Male	Female
Non-literate or no formal education	83.8	94.6	42.8	88.8	91.8	97.0	71.4	50.0
1st-4th Grade	11.0	2.6	14.2	-	5.4	3.9	14.2	16.6
5th-8th Grade	5.0	2.6	21.7	11.1	2.7	-	14.2	16.6
9th-12th Grade	-	-	14.2	-	-	-	-	16.6
Above 12th Grade	-	-	7.14	-	-	-	-	-
Total	100	100	100	100	100	100	100	100
(Total number of dependents)	118	113	14	9	110	100	7	6

As shown in Table 4, while the literacy rate was relatively low for those under 17 in both areas, it was higher in the highlands than in the lowlands. In the lowlands 97 per cent of the girls and 92 per cent of the boys were either completely illiterate or had less than a first grade education, while in the highlands the figures were 95 per cent of the girls and 84 per cent of the boys.

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CHAPTER II SOCIO-ECONOMIC CONDITIONS

Economic activities

Agriculture

Enset

As mentioned earlier, the main agricultural production in the Gurage region is enset, 11/ It was difficult to collect information on the exact number of enset plants at various stages of growth during the interviews because:

(a) Some people were reluctant to disclose the exact size of their plantation for fear of being taxed;

(b) Widows and divorcees did not know the extent of their enset plantations because hired labour and/or relatives usually do the farm management for them;

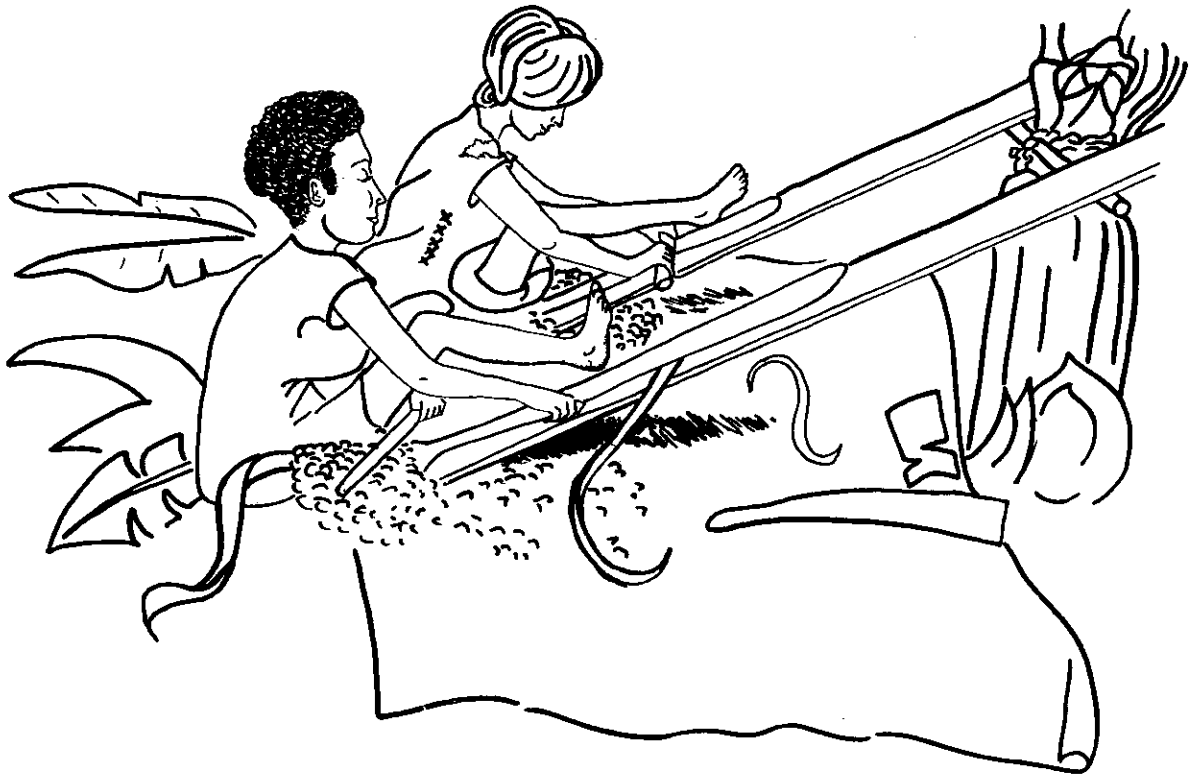
(c) Some people could not remember when they started enset cultivation and how many plants they started with or how long it took them to acquire their present yield; and

(d) Most people had inherited the land along with the enset plantation, and they have no accounts of the plantation at the time.

Consequently, it has been difficult to compute the exact number of plantings and to calculate the growth period of the various stages for each household.

As previously mentioned, the soil is poor in minerals, the land is inadequate and the method of cultivation is retarded in both areas. Both the highlands and lowlands are at mere subsistence level.

11/ The staple food in Gurage is mainly derived from enset which has contributed to food deficiency and in some cases to chronic malnutrition. Crop diversification in many areas hardly exists due to lack of adequate land and poor quality of soil. (Drought Situation Report, p. 1).



Women decorticating enset.

Dependence on enset is perpetuated due to the following:

(a) Over population has caused scarity of farm lands due to fragmentation of the land;

(b) The soil is so depleted from overuse over the generations that it would be difficult to produce adequate yield in crop varieties other than enset;

(c) The method of cultivation is too backward to be effective for other crop cultivation:apart from the lack of adequate land for other crop varieties;

(d) Soil erosion (particularly in the highlands) and the rugged terrain further lessen the possibilities of other crop cultivation; and

(e) Lack of moisture in the soil as well as lack of adequate and easily accessible water supply, render crop diversification a futile attempt.

As a result, the Gurage people are forced to resort to enset as their primary agricultural product because it accommodates the aforementioned handicaps. Since they lack the technical knowhow in respect of plough farming, terracing, irrigation tunneling and so on and the material means to adopt crop diversification the Gurage people are caught in a perpetual cycle of poverty.

Table 5: Enset Yield for 1976 and 1977 Harvests

Percentage of Households expecting	Highlands			Lowlands		
	1976	1977	Average	1976	1977	Average
None	6.5	5.6	6.0	17.3	14.3	15.8
0 - 5 plants	4.6	5.6	5.1	22.4	20.4	21.4
6 - 10 plants	13.0	14.9	14.0	40.8	34.6	37.2
11- 20 "	37.3	32.7	35.0	14.2	22.4	18.3
21- 40 "	24.3	25.2	24.7	1.0	5.1	3.0
_/ 40 "	4.6	4.6	4.6	1.0	-	0.5
Non respondant	9.3	11.2	10.2	3.0	3.0	3.0
TOTAL	100	100	100	100	100	100
(No. of Households)	(107)	(107)	(107)	(98)	(98)	(98)

The figures on enset yield for this and the coming harvest seasons are shown in Table 5. Seven households (6.5 per cent) in the highlands have no harvest for the year of the study and 6 (5.6 per cent) expect none for the following year. In the lowlands, 17 households (17.3 per cent) and 14 (14.3 per cent) had no harvest for the current and the next year respectively. There are a total of 158 households who own 6-40 enset plants for the current and the next year's harvest in the highlands. On the other hand, 152 households in the lowlands have 0.20 enset plants for the current and the next year's harvest.

Young woman chopping enset pulp before cooking.

Computation from the figures in Table 5 indicates a very low yield of enset in both areas, particularly in the lowlands. The "overall total harvest production of last year when compared to the normal harvest years, has fallen by 31.4 per cent 12/". This low yield of enset compels the farmers to supplement their income by:

(a) Crop diversification, rather unsuccessfully,

(b) Marketing through chircharo,

(c) Cottage production, and

(d) Wage labour through migration.

In the highlands, the average yield per harvest is 17 enset plants per household versus seven plants per household in the lowlands, less than half of the yield in the highlands. This is probably due to the fact that enset is better suited to the highlands. It is reasonable to assume that enset is affected more by climatic and soil conditions, rather than land area because size and land holding is relatively larger in the lowlands. The villagers expressed the following reasons for the low and declining level of their production.

(a) Shortage of rainfall and change in rainfall patterns,

(b) Unavailability of fertilizers,

(c) Continuous farming of the limited plots, which has eventually led to depletion of soil nutrients,

(d) Pests, which are common to enset farmers as well as other crop cultivators,

(e) Frost and hail, which have caused great damage particularly to barley, potatoes and enset, and

(f) Wild animals which are common in many of the villages surveyed. Animals such as monkeys, pigs and porcupines are reported to pose serious threats to enset and other crops.

Other agricultural crops

Table 6 shows the distribution of other crop varieties in both areas and the number of cultivating households per crop.

12/ Drought Situation Report, p. 9.

Table 6: Percentage of Households involved in Cultivation of Crops other than Enset

Percentage of households cultivating	Highlands	Lowlands
Non Cash Crops		
Wheat	68.2	35.7
Barley	78.5	-
Maize	-	84.7
Teff	-	59.1
Fodder Beets	7.4	41.8
Pimentoes	23.4	14.3
Tobacco	23.4	7.1
None	15.0	5.1
Non Respondent	8.4	5.1
Total	100	100
Cash Crops		
Coffee	18.6	61.2
Chat	14.0	50.0
Potatoes	85.0	62.2
Gesho	22.4	-
Sugar cane	-	16.3
Collard Greens	71.0	58.1
None	25.2	5.2
Non Respondent	8.4	5.2
Total	100	100
(Number of households)	(107)	(98)

The highlands have more households cultivating wheat and barley 73(63.2 per cent) and 84(78.5 per cent) respectively, than the lowlands with only 35 households (35.7 per cent) and no households respectively. On the other hand, there are 83 households (84.7 per cent) growing maize and 58(59.1 per cent) teff in the lowlands while none are cultivating these crops in the highlands. The production of pimentoes and tobacco shows similar contrasting figures. In the highlands, 25 households (23.4 per cent) grow the former and 25(23.4 per cent) the latter. In the lowlands only 14 households (14.3 per cent) and 7(7.1 per cent) grow pimentoes and tobacco respectively. However, the lowlands show better cultivation of cash crops (particularly, chat, coffee and sugar cane). In the lowlands, 49(50 per cent) grow chat, as opposed to only 15(14 per cent) in the highlands and

60 households (61.2 per cent) in the lowlands grow coffee as opposed to only 20 households (18.7 per cent) in the highlands. There are 16 households (16.3 per cent) growing sugar cane in the lowlands as opposed to none in the highlands.13/ This is due to ecological factors and climatic conditions which render the lowlands more suitable for the production of chat, coffee and sugar cane.

Even though average yield of enset per household is higher in the highlands, 16 households (15 per cent) and 27 (25.2 per cent) cultivate no other cash crops or non-cash crops respectively in the area; in the lowlands the figures are only 5 households (5.1 per cent) and 9(5.2 per cent) respectively.

The previous figures are indications of:

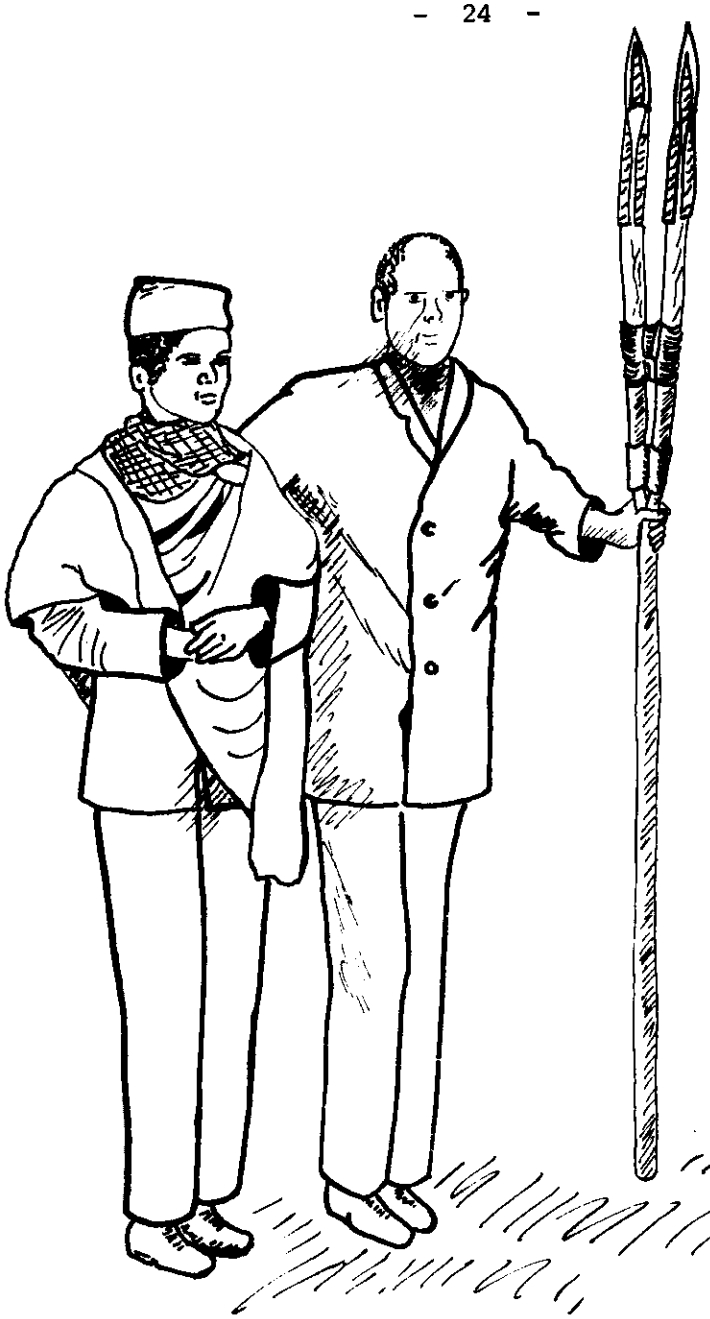
(a) The lag in economic development of the area (particularly the lowlands). Yield in other crop varieties is so low that it can hardly subsidize their lack of enset;

(b) Better enset cultivation in the highlands. As far as other crops, they have wheat and barley (73 per cent) as opposed to maize and teff (71.5 per cent) in the lowlands; and

(c) More cash crops in the lowlands as opposed to the highlands, where collard greens and potatoes are the major crops beyond enset 14/.

13/ Other crop varieties (both cash and non cash crops) provided insignificant yields for both highland and lowland areas. Coffee and chat have become insignificant in yield in the last 3-5 years because of coffee berry disease (in the case of the former) and drought and diseases (in the case of the latter). Production of wheat, barley, teff and maize has been insignificant due to soil depletion, scarcity of land, wild animals and pests. Potatoes, greens and legumes are also severely attacked by insects and wild animals. Lack of water during the dry season further restricts vegetable production. More importantly, the amount of land allocated for other crop varieties is extremely small.

14/ Collard greens and potatoes are consumed in quantity, particularly during the rainy season, when they are grown in the area. However, these vegetables have become cash products (for cash or barter) primarily because of their transaction value in the market for exchange of items (coffee, salt, corn flour or kocho) which are usually scarce during the rainy season.



Men with maresha

Farm Implements.

The most common farm implements found in both areas are the maresha (hand plough) and the sickle which are indispensable to Gurage farmers. The former is used for digging, planting and uprooting enset, while the latter is used for harvesting and mowing grass. 15/ Other implements are the doma (hoe), the checkie (a small wooden hand hoe), the tegera (a big axe), the woyise (a small axe) and the tebeche (a double edged big knife). The axes are used mainly for chopping wood, for planting and uprooting enset and in building and construction work. The tebeche is used primarily for enset decortication and preparation. Table 7 shows the percentage of households in both these areas which possess these implements.

15/ The sickle is also used for ploughing, weeding and harvesting during production of crop varieties other than enset.

Table 7 : Ownership of Farm Implements.

Percentage of households owning:	Highland	Lowland
Maresha	75.7	88.7
Sickle	77.5	90.8
Shovel	24.2	14.2
Doma	12.1	-
Checkie	4.6	-
Tegera	47.6	53.0
Woyise	34.5	47.9
Tebeche	25.2	19.3
All implements	7.4	-
(Number of households)	(107)	(98)

Hand hoes and sickles require a very high labour and energy input in production of enset and other crops, and they are poorly suited to the farming of large holdings of land. Many villagers (especially in the lowlands) have complained that they cannot farm their total holding of land because of the time and energy which would be involved with the implements available to them.

Table 8 shows that while the majority of farmers in both areas feel that existing implements are effective for enset production and the majority of farmers in the highlands feel they are effective for other crops, only 20 per cent of farmers in the lowlands feel that they are adequate for the production of other crop varieties.

Table 8: Effectiveness of Farm Implements for Cultivation of Enset and Other Crops.

Percentage of men who think that existing implements are:	Highland	Lowland
Effective for Enset Production	82.5	82.5
Ineffective for Enset Production	17.4	17.4
Too labour/time consuming	8.1	6.9
Too heavy	3.4	-
Can't dig deep enough	4.6	5.8
Give low production	-	4.6
Don t know	1.1	-
TOTAL	100.0	100.0

Effectiveness of Farm Implements for Cultivation of Enset and Other Crops.

	Highland	Lowland
Effective for other crops	80.2	20.9
Ineffective for other crops	19.7	79.0
Too labour/time consuming	11.6	25.5
Too heavy	-	-
Can t dig deep enough	-	4.6
Gives low production	4.6	46.5
Don t know	3.4	2.3
TOTAL	100.0	100.0
(Total number of respondents)	(86)	(86)

Only 28 per cent of men in the highlands would be willing to adopt a new and improved set of implements as opposed to 73.3 per cent of men in the lowlands. This can be explained by the dependence of the people in the highlands on enset which makes the maresha and other enset-related farm implements vital for cultivation. In the lowlands, however, there is a greater involvement in cultivation of crop varieties other than enset and an aspiration towards ox-drawn equipment which would help with more efficient cultivation.

Marketing

Marketing patterns in Gurage villages are essential to the economic survival of the household in particular, and the communities in general. The marketing activities in a Gurage household are as important as agricultural production if not more so, in an area where yields of both enset and other crop varieties are low. The chircharo system of marketing allows some income and daily meals for the households in the absence of crops grown on the farm, which is for most part of the year.

The chircharo system of marketing has the following characteristics:

a) It involves the sale of certain marketable items (coffee, salt, pimentoes, flour) for minimal profit, often for a break-even and a left-over portion (of the specific items on sale) for consumption by the household; and

b) The items for sale have seasonal variance depending on available items for sale at cheaper prices in certain markets and unavailable in others. The household woman, therefore,

transports the items from one market to another on crude speculations of supply and demand and feasibilities for profit. Further, one household does not necessarily always sell the same item in chircharo. This depends not only on seasonal variations of available items, but also on the fluctuation of prices and the economic capacity for the household to acquire wholesale items (at the time the items are available).

The chircharo system of marketing is thus simultaneously fluctuating and regular. It is highly fluid, with a low circulation of labour, cash and consumer items, while at the same time it is the only economic alternative for the survival of the people of the region. This is so because of the highly unreliable and low yield of enset and/or other crop varieties, particularly in the lowlands where demographic conditions are additional negative factors to the socio-economic retardation that prevails in both areas.

Chircharo essentially keeps the households going in an otherwise economically immobile system by providing a means of survival. The Gurage rural-urban migration rates could be explained by this sheer lack of means of survival where death rates due to lack of food are higher than death rates due to other causes.

As a result of the barter element, certain items such as coffee, salt and pimentoes have become the main items which are marketed. These three commodities are indispensable because :

a) Coffee is not only perpetually drunk for breakfast and evening shangos, (coffee gatherings) but it is also one of the main subsistutes in the absence of food in most households, particularly in the lowlands;

b) Salt has a similar importance because it is not only used in food but in coffee as well;

c) Pimentoes are also used as a major substitute for cheese, kitfo (ground spiced beef in butter) and/or different conjugal diets for kocho.

A household, therefore, consumes coffee, salt and pimentoes almost everyday, whereas other items can be used for other foods e.g. kocho (potatoes and corn cakes), cheese (pimentoes, chick peas and/or lentils) and collard greens (which are cheap and available during the rainy season). These are also popular market commodities, however, although items such as potatoes, cereals and collard greens are specific to the rainy season. Kerosene is occasionally bought by households inboth areas.

Frequency of Marketing

With men engaged in agriculture and cattle breeding (of which greater time is spent on mowing grass for cattle), this leaves much of the work of

marketing to women.16/ Most Gurage women are engaged in marketing for approximately half of the week. They attend both local and distant markets with the latter often taking almost a full day's labour, except for the time needed for water portage and preparation of the morning coffee before leaving for the market.

Table 9 shows how many times a week the women in the two areas go to market. As can be seen, the average household in both areas visits the market between 3 and 4 times per week. This high frequency of marketing, combined with the enormous time and labour input involved reflects the importance of marketing in subsidizing agricultural production.

Table 9: Frequency of Marketing

Percentage of Household in :	Number of times household visits market/week							
	1	2	3	4	5	6	7	Average
Highland	5.6	10.2	30.8	34.5	2.8	1.8	2.7	3.4
Lowland	-	11.2	36.7	28.5	7.1	3.0	9.1	3.6

Income from Marketing

The income derived from marketing is indicated in TAble 10. There are 38 households (35.5 per cent) in the highlands and 49 households (50.0 per cent) in the lowlands which are perpetually involved in 'chircharo'. In the highlands, the most frequently marketed commodities are coffee, potatoes, butter and cheese. In the lowlands, coffee is an even more popular commodity and many households are also engaged in the marketing of cereal and corn flour.

16/ There is a sexual division of labour in marketing, though. Sales of kocho, salt, coffee, butter, cheese and spices are generally the province of women. Men deal in sales of cattle, sheep, goats, large amounts of coffee, barley and oil seeds.

Table 10: Income from Marketing

Market Item	Invested	Highland: Households Engaged	Highland: Profit	Highland: Profit/Investment	Lowlands: Households Engaged	Lowlands: Profit	Lowlands: Profit/Investment
Coffee	1 birr	10.5	.05-.10	7.5	10.8	.05	5.0
	2 birr	21.0	.10-.20	7.5	18.9	.15-.20	8.8
	3 birr	52.6	.20-.30	8.3	29.7	.25-.40	10.8
	5 birr						
	10 birr	5.3	1.90-1.50	12.0	13.5	1.25-1.50	13.8
	15 birr	-	-	-	2.7	2.00	15.4
Cereals	1 birr	20.0	.10-.15	12.5	8.3	.10-.15	12.5
	2 birr	20.0	.15-.20	8.7	16.7	.15-.20	8.8
	3 birr	30.0	.25-.40	10.8	0	.25-.40	--
	55 birr	30.0	.50-.60	11.0	58.3	.50-.60	11.0
	10 birr	-	1.00-1.25	11.3	16.7	1.00-1.25	11.3
Flour	1 birr				14.3	.10-.15	12.5
	2 birr	-	-	-	28.6	.20-.25	11.3
	3 birr				33.3	.30-.35	10.8
	4 birr				4.8	.40-.50	11.3
	5 birr				19.1	.60-.75	13.5
Salt	.50 birr	14.3	.05	10.0	22.2	.05	10.0
	1 birr	42.9	.10-.15	12.5	55.6	.10-.15	12.5
	2 birr	14.3	.15-.25	10.0	11.1	.15-.25	10.0
	3 birr	28.6	.25-.40	10.8	11.1	.25-.40	10.8
Potatoes	1 birr	50.0	.10-.15	12.5			
	2 birr	35.0	.20-.35	13.8			
	3 birr	10.0	.40-.50	15.0			
	5 birr	5.0	.80-1.00	18.0			
Butter/ Cheese	.20-.30	30.0					
	.30-.50	3.3					
	.50-.70	36.7					
	.70-1.00	20.0					
	1 birr	10.0					

The investments needed for coffee and cereals range from 1 to 15 birr; those for flour and potatoes range from 1 to 5 birr; and those for salt from 0.50 to 3 birr. Butter and cheese, however do not need immediate investments but are included in the 'chircharo list of items because consideration must be given to the labour input in the conversion of milk into its by-products and to the time and labour involved in travelling to and from the market and staying there all day.

Household Expenditure

The highlanders, as might be expected on the basis of their higher economic standing, spend more on consumption items than the lowlanders. Consumption of potatoes is greater in the highlands which are better suited to the production of this crop, while consumption of cereals (wheat, chickpeas, sunflower seeds) are greater in the lowlands.

Cottage Production

In both areas, weaving, twining, arake and tella brewing and injera making for sale were found to be the most prevalent cottage production activities. Incidences of production of products such as earthenware and baskets were infrequent. It is possible that the lack of variety and creativity in cottage production could have been caused by the Gurage condecending view of handicrafts and by the caste system which has created a group of 'untouchables' (the Nefura, Fuga and Buda). 17/ In addition, women have little spare time to acquire new skills or to participate in the production of different handicraft items.

In most cases, handicrafts are adopted by the landless or those who are not expecting an enset yield for the next 7 years or whose yield is so low that an additional source of income is imperative. It is probable that many more people know handicrafts skills than are actually involved in production. This may be due to the high cost of raw materials.

Table 11 shows the extent to which the more popular cottage industries are practiced.

Table 11: Cottage Production

Percentage of households engaged in :	Highland	Lowland
Weaving	48.5	10.2
Twining	55.1	61.2
Arake brewing	30.8	34.6
Injera making	00.0	19.3
(Number of households)	(107)	(98)

17/ These groups engage in smithing, carpentry and tanning which are activities disdained by others.

Weaving

Weaving is a much more popular activity in the highlands than in the lowlands. Since cotton is an expensive item which requires a relatively high investment, it is therefore better suited to the higher income levels in the highlands. Another explanation is Amharization of the highlanders which has exposed the women to the weaving activity which has been in Amhara culture for centuries.

Twining (Jipe and Selen)

Jipe is a straw mat made from the outer bark and fibres of enset. 18/ Selen is also a similar cottage product twined from dried palm leaves. 19/ The former is more popular in the highlands, with 55 per cent of households engaged in production as opposed to only 4 per cent in the lowlands. The latter product is more prevalent in the lowlands with 52 per cent of households engaged in production as opposed to only 1 per cent in the highlands.

The jipe and selen cottage production is of great importance to households in both areas because :

a) the cost of rew materials is negligible being an enset derivative;

b) the profit is considerable (particularly for jipe) relative to the economic status of the households;

c) the possibilities of acquiring loans from neighbours are higher if they are to be used for jipe or selen production;

d) householders usually use income from jipe as a starting point for investment in chircharo;

An interesting difference between the two products is that jipe is produced with co-operative labour, whereas selen is individually made. In addition, the time and labour input for jipe is considerable, with one mat taking from two weeks to two months to produce depending on size and quality. Selen, on the other hand can be made in a relatively short period of time, and, because it is cheaper, it is more readily marketed. This compensates for the lower profit made from each individual mat.

18/ The varieties of jipe range from beddings and mattresses to small serving plates. The size and quality determines the price of jipe which varies from 1 to 2 birr for the smallest and from 20 to 30 birr for the largest.

19/ The size of selen can vary, although the only size encountered in this study was the standard size which costs between 0.75 and 1 birr.

Arake and Injera

Both of these industries have a relatively high investment on raw materials and a low profit. In both cases, if the labour input was fully considered, the profit margin would become negligible.

Table 12. Level of Production, Production Costs and Profit Margins in Cottage Production.

Activity	--- HIGHLAND			LOWLAND		
	% of households Involved	Cost of Raw Materials	Profit	% of household Involved	Cost of Raw Materials	Profit
Weaving- 1 piece	23.4	0.50	0.10-0.15	1	0.50	0.10-0.15
2 pieces	26.1	1.0	0.20-0.30	5	1.00	0.20-0.30
3 pieces	16.7	2.00-3.00	0.50-0.75	2	2.0-3.0	0.50-0.75
4 pieces	4.8	4.00-5.00	1.00-1.40	-	4.0-5.0	1.00-1.40
Jipe - Size A						
1 per year	5.1	10 - 12	10 - 13	2		
2 per year	1.7					
Size B						
1 per year	28.8	4 - 6	4 - 6	2		
2 per year	32.2					
Size C						
1 per year	6.8	1 - 2	2 - 3			
2 per year	1.7					
Selen - 1 per month		-*	0.75-1.00	37.5	-	0.75-1.00
2 per month				25.0	-	"
3 per month				17.9	-	"
4 per month				8.9	-	"
Arake - 0-2 bottles/ week		1.0-1.75	0.2-0.4	8.8	1.0-1.25	0.20-0.30
3-4		2-3.5	0.4-0.75	38.2	1.5-2.25	0.40-0.60
5-6		3.5-4.0	0.75-1.5	23.5	3.5-4.0	0.60-0.80
7-8		5.0-6.0	1.5-2.0	5.9	4.0-5.0	0.80-1.25
Injera - 20 pieces/ week				2	1.00	0.10-0.15
30				2	1.0-1.5	0.20-0.25
40				6	2.0-2.5	0.35-0.40
80				5	3.0-4.5	0.50-0.70
120				3	4.5-5.0	1.00-1.25

* Selen is made from palm leaves and thus requires no material investment.

It is obvious from Table 12 that women work long hours to produce a very small supplementary income and given that the cost of their labour is not included, cottage production has a very low productivity. When the cost of their labour is included, it further lowers the productivity of these home endeavors.

Woman making injera

HEALTH AND NUTRITION

Mortality Rates

The mortality rates (particularly for children) are observably high for both the highlands and lowlands. For the whole of Sabat Bet Gurage, the birthrate per 1000 persons was 42.5, while deaths per thousand were 22.8. The infant mortality rate is 177/1000 persons and as can be seen from Table 13 a high number of infant deaths were due to starvation.

Table 13. Mortality Rates for Sabat Bet Gurage, January 1974 to January 1975.

Age Group	Mortality due to starvation (Number)	Mortality due to other causes (Number)
Children	4644	4376
Old people	1571	6837
All others	1075	1396

Source. Drought Situation Report p. 13.

Illness and Nutritional Standards

Malnutrition and diseases associated with unbalanced food intake are common in all the villages. LThe most prevalent, disorders are diarrhea, vomiting and malnutrition for children; marasmus and kwashiorkur are widespread, as well as complicated pregnancies for women (an adverse effect of the method of water portage on physical posture of women); and gastro-enteritis (which is a consequence of the excessive intake of kocho in absence of other nutrients).

The Ethiopian Nutrition Institute survey of Gurage region gives the nutritional status of the households. In the lowlands, 48.1 per cent of the population was found to be below the borderline indicating malnutrition on the weight for height measure. The corresponding figure for the highlands was 3.9 per cent. The height for age measure indicated that of the child population, 53.2 per cent in the lowlands and 33.9 per cent in the highlands were suffering from chronic malnutrition. It was also found that 38.1 per cent of the population in the lowlands and 3.9 per cent in the highlands were suffering from long standing malnutrition.20/

The main sources of energy and protein in the villagers' diet are by-products of enset, potatoes and maize. The importance of the latter two foods in the diet has increased recently with the decrease in enset production.

Health Facilities

The Attat Mission Hospital is the only available medical organization (except for drug venders and Health Centres in towns such as Endeber) which provides medical assistance to people in either the highlands or lowlands. There are some clinics of Attat Mission Hospital located in a few of the villages. However, among the villages surveyed, there is only one village (Seher) with a clinic, which caters for all surrounding villagers. The lowlanders utilize the Hospital services whenever they can afford to go to the Hospital.21/ In general, the medical services provided by the Attat Hospital can only benefit the people residing within close range.

20/ Ethiopian Nutrition Institute. (1974) Gurage Survey p.10
ENI has used the weight for height measure as an indicator of current acute malnutrition and the height for age measure as an indicator of chronic past malnutrition. Children with both low weight for height and low height for age are considered as having suffered from current long duration malnutrition.

21/ Health fees charged by the private clinics are felt to be high by the local people when compared with their standard of living. G. Kidane, Drought Situation Report, p. 20.

The Public Health Section of the Hospital was initiated in the early 1970's. It is sparsely staffed, has a low budget and depends mainly on grants and subsidies from outside organizations. It is presently involved in a feeding programme (powder milk and fafa for infants and children), and some public health education is given, with emphasis on mother and child care. The services, however, only cover villages within a radius of about nine kilometers of the Hospital. A fee of one birr per child is charged for the additional food requirements for children through the public feeding programme. It would be too expensive, therefore, for most households to provide additional food for every child in the family.

Malnourished child

WATER SUPPLY

Sources of Water

The availability of water supply varies considerably between the highlands and the lowlands. As can be seen in Table 14 villagers in the highlands have several sources of water in both seasons. In the lowlands, however, only one source of water is available to villagers. During the dry season this is water from the Megecha and Wenker Rivers. During the rainy season use is made of flood water.

Table 14 Sources of Water Supply

Percentage of Households using :	Highlands		Lowlands	
	Rainy Season	Dry Season	Rainy Season	Dry Season
River	2	14	0	98
Springs	83	63	0	0
Streams	12	23	0	0
Flood water	0	0	97	0
Other	3	0	6	2
TOTAL	100	100	100	100
(Number of households)	(107)	(107)	(98)	(98)

Time Spent on Water Collection

The households' input of time for water portage is higher for the lowlands than for the highlands. As indicated in Table 15, 66 households (61.7 per cent) in the highlands spend less than 30 minutes for a single water portage during the dry season and 75 households (70.1 per cent) spend less than 30 minutes during the rainy season. In the lowlands, however, only 2 households (2.04 per cent) and 20 households (20.4 per cent) spend less than thirty minutes in the dry and rainy season respectively. No household in the highlands has to spend more than 1½1/2 hours on water portage in either season. In the lowlands, however, 45 households (45.9 per cent) spend 3 to 3 1/2 hours on water portage during the dry season and 21 households (21.4 per cent) spend over 4 hours.

Table 15. Time Spent on a Single Journey to Collect Water

Percentage of households spending :	Highlands		Lowlands	
	Rainy Season	Dry Season	Rainy Season	Dry Season
Less than 30 minutes	70.0	61.7	20.4	2.0
30-60 minutes	27.1	33.6	63.4	0.0
1 hour-1 1/2 hours	2.8	4.7	10.2	2.0
1 1/2 hours-2 hours	-	-	2.0	1.0
2 hours-2 1/2 hours	-	-	1.0	9.2
2 1/2 hours-3 hours	-	-	-	8.2
3 hours-3 1/2 hours	-	-	-	45.9
3 1/2 hours-4 hours	-	-	-	7.1
More than 4 hours	-	-	-	21.4
TOTAL	100.0	100.0	100.0	100.0
(Number of households)	(107)	(107)	(98)	(98)

Frequency of Water Collection

The distance to the water source and the number of sources available to villagers in the two areas are reflected in the number of times water is collected each day. As might be expected, villages in the highlands are more likely to collect water several times daily. In the highlands, 26 households (24.3 per cent) collect water daily as opposed to no households in the lowlands.

Purity of Water Supply

As can be seen in Table 16, the villagers in the highlands are much more likely to take water for domestic consumption from a source other than the one which is used for cattle consumption, laundry, or bathing. In the rainy season, 84 households (78.5 per cent) in the highlands take water from a separate source from domestic consumption while 44 households (41.2 per cent) do so in the dry season. This compares with only 2 households (2.0 per cent) in the lowlands using a separate source in either season. The villages in the lowlands suffer, therefore, from relatively severe water pollution.

Woman with water jug

Table 16. Selectivity of Water Sources for Different Uses

Percentage of households using:	Highlands Rainy Season	Highlands Dry Season	Lowlands Rainy Season	Lowlands Dry Season
One water source for all purposes	22.5	58.8	98.0	98.0
Separate water source for domestic consumption	78.5	41.2	2.0	2.0
TOTAL	100.0	100.0	100.0	100.0
(Number of households)	(107)	(107)	(98)	(98)

Inspite of obvious water pollution, none of the households in the lowlands was found to take any measures to treat water prior to human consumption. Only one household in the highlands was found to do so. The method being used was to put salt in the water pot (ensera) to clear the water by allowing sediment to settle at the bottom.

SOCIO-CULTURAL VARIABLES

Division of Labour

The division of labour within the household is defined by age and sex both for adulzs and children. However, the division is not so rigidly defined as to prevent some interlap in production activities. In the areas surveyed (particularly the lowlands), women take part in most farm production activities except for digging with the hand plough (maresha). Therefore women directly participate in all the farm production of enset (collecting dung and depositing compost around enset plants, mowing grass (lowlands), weeding, harvesting as well as decorticating and preparing enset for consumption.)

Boys are involved in production activities from an early age (about seven years). They mow grass, herd cattle, collect water, chop wood, deposit compost, weed, harvest, and cultivate enset. The production activities of young girls are primarily centered in the home, including cooking preparing enset, decorticating, collecting water, cleaning, cattle herding and looking after younger siblings.

Women's most important labour is marketing activities, into which young girls are recruited at an early age. Gurage women in general, and those surveyed in particular, are involved in frequent marketing activities. The chircharo system of marketing which is most common in Gurage makes women

equal (in some cases major) bread winners in the household. Without chircharo and the exchange (barter) of goods in the village markets, the Gurage households particularly in the lowlands would have had to starve for 2/3 of the year, as their yield usually lasts about four months only.

With the exception of selen, on the basis of age and sex, cottage production is apparent, particularly in the lowlands. Selen is a cottage product in which both age and sex groups are involved without any social stigmatization. The crafts of pottery, weaving, twining and brewing are left to women alone, with girls' involvement starting at the age of puberty.

In the traditional co-operative method of production (debo or gez), the age and sex classification of labour is also prevalent. Men and older boys are usually involved with building and construction, digging, harvesting and planting of enset, ploughing and fencing. The primary pastime of young boys is herding cattle. The older physically weaker men are usually disqualified from co-operative labour, particularly for wages. Women's co-operative labour activities are twining jipe, enset decorticating and cooking for debo or gez. Young girls are participants in all three activities, including decorticating for wage labour in which their speed is an advantage.

The extent to which different members of the household are involved in various activities is shown in Table 17.

Table 17: Division of Labour by Sex and Age

Percentage of respondents engaged in :	Highland				Lowland			
	Men	Women	Children	Debo	Men	Women	Child.	Debo
Water Collection	5.8	93.9	24.2	-	39.5	88.0	12.2	-
Firewood Collection	93.2	24.2	25.2	-	98.8	63.0	27.5	-
Dung Collection	74.4	88.8	32.7	-	87.2	98.9	22.4	-
Mowing Grass	96.5	25.2	25.2	-	91.8	48.9	22.4	-
Tending Cattle	25.5	-	37.3	30.8	2.3	-	15.3	78.5
Fencing	66.2	-	4.6	29.9	60.4	-	5.1	40.8
Total number of respondents	(86)	(99)	(107)*		(66)	(92)	(98)*	

*Represents number of households using child labour

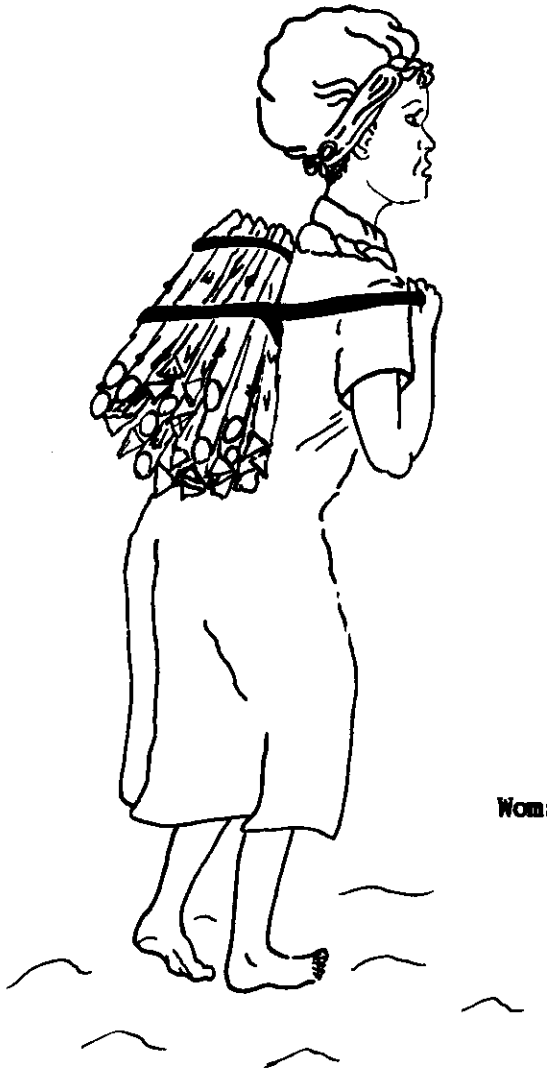
Men are much more involved in water collection in the lowlands than in the highlands. In the lowlands, 34 men (39.5 per cent) are involved in collecting water as opposed to only 5 men (5.8 per cent) in the highlands. This is due to the greater distances which must be travelled to the water source in the former area.

Women are more involved in collecting firewood and chopping wood in the lowlands. Of women in the lowlands, 58 (63 per cent) are engaged in these activities as opposed to only 24 women (24 per cent) in the highlands. The

activity is considered to be men,s work, but women in the lowlands have contributed to the task because of the help they receive from the men in collecting water. This probably also explains the greater involvement of women in the lowlands in tasks such as mowing grass.

There is a major difference between the two areas with respect to the use of child labour for tending cattle. In the highlands, 40 children (37.4 per cent) are engaged in this activity as opposed to only 15 children (15.3 per cent)in the lowlands. This is a consequence of the different pattern of land holding. In the highlands, the fragmented nature of the grazing lands makes the use of child labour for herding important. In the lowlands, however, there are communal grazing lands and so the cattle can be herded on debo.

The pattern of cooperative and wage labour also varies significantly between the two areas, with a higher percentage of men and women in the lowlands participating in both types of labour. As can be seen in Table 18 men in both areas are more likely to be involved in cooperative labour than are women, while the opposite holds true for wage labour. Children are also involved in wage and cooperative labour. Their labour is customarily sold in exchange for cash in cattle herding and domestic work.



Woman carrying wood

Table 18. Cooperative and Wage Labour

Percentage of people involved in :	Highland		Lowland	
	Men	Women	Men	Women
Cooperative Labour	84.8	77.7	91.8	88.0
Wage Labour	46.5	49.4	61.6	73.9
(Number of respondents)	(36)	(86)	(99)	(92)

The major points about the division of labour in the two areas are that :

a) there is a strong overlap of activities in the lowlands, with men participating in what is usually thought of as women's and children's work (e.g. water collection) and with women and children participating in what is normally thought of as men's work (e.g. collection of firewood and dung),

b) women's labour for wages is higher than men's in both areas probably due to their participation in enset decortication and jipe twining. This is especially true of the lowlands where there is a scarcity of wage labour opportunities for men.

Decision Making in the Household

Since women are involved in farm production (particularly in the lowlands) and in marketing, wage labour and cottage production (through which they subsidize household income), they have a certain degree of economic independence from their husbands which gives them an elevated status and has increased their powers of decision making within the household.

As can be seen in Table 19, women in both areas decide primarily on household expenditures and selling of products. Men are usually responsible for deciding on investment in enset and the house, on gifts, fees and contributions and on schooling and marriage of children. There are many incidences, however, of households where decisions are made by either the man or the woman or by both.

The number of households in which the woman is involved in decision making either independently of her husband or jointly with him, is over 40 per cent in both areas.

Table 19. Decision Making in the Household

Percentage Respondents deciding on :	Man	Woman	Either	Both	Other*
			Highland		
Investment on enset	73.8	14.9	0.9	5.6	0.9
Investment on House	66.4	15.8	3.7	9.3	0.9
Household Expenditure	5.6	75.5	5.6	8.4	0.9
Children;s Clothing	17.8	14.0	5.8	18.8	1.8
Selling of Products	5.6	72.8	8.4	1.8	0.9
Gifts, fees and contributions	43.9	14.9	2.8	30.8	1.3
Marriage/Schooling	76.6	13.0	0.9	3.7	1.3
			Lowland		
Investment on enset	80.8	6.1	1.0	6.1	3.0
Investment on House	76.5	7.1	1.0	10.2	3.0
Household Expenditure	2.0	51.0	37.7	3.0	3.0
Children's Clothing	59.1	9.1	12.2	10.2	4.0
Selling of Products	7.1	48.9	28.5	7.1	3.0
Gifts, fees and contributions	47.3	9.1	8.1	28.5	2.0
Marriage/Schooling	82.6	8.1	-	3.0	4.0

* In other are included households who ahave their decisions made for them by relatives, friends, etc.

Thus, women in the Gurage Region have acquired a better social status relative to Amhara or other rural women whose economic and production roles are strictly defined within the home with little or no income-generating potential. Women participate in almost all social activities jointly with men in Gurage lifestyle and this further elevates their status and decision making role in the family. Similarly, children actively participate in social activities such as coffee shangos and moyats (open to animist girls).

III. DATA ANALYSIS

The study was initially intended to focus on the villagers' problems of water supply and was aimed at assessing the time and labour input which could be saved from women's water portage. This was in view of the feasibilities of involving women in intermediate technology and production, with the intention of generating income for the households. It is within this general background that the data collected from the field work is analysed. The various social and economic factors the researchers came across during their 57 days of field work raised their perception for understanding the communities. It is, therefore, the researchers' inclination in this study to utilize the participant observation technique for analysis.

Existing difficulties with water supply

It has already been mentioned that the lowlands have a greater felt need for improvement in water supply than the highlands. The figures so far presented in the report have shown that both economic and social development in the region are at low levels and that the people are at or below the subsistence level. This renders water supply problems of minor importance to them. Thus although there are numerous problems of water supply (e.g. pollution of water, excessive time spent on collection of water) the impact of SWDU on the lives of the people can hardly be expected to create economic growth or produce dramatic changes in the socio-economic status of the women within the households unless improvement in the water supply is complemented by various multifaceted development efforts to solve the numerous other problems. However, the improvement in the water supply can be utilized as a means of:

a) Creating concern and initiative in the various organizations working in the area; and

b) Providing a stimulus for the people to become less fatalistic and to raise their aspirations for further development efforts.

The figures in Table 20 clearly show that numerous acute problems of water supply confront the villagers in both areas, especially in the lowlands. The biggest contrast between the two areas with regard to water supply is that 92 households (93.9 per cent) in the lowlands reported their problem to be distance to the water source as opposed to only 15 households (14 per cent) in the highlands. In addition, 38 households (35.5 per cent) in the highlands reported no problem whatsoever with regard to water supply as opposed to only 2 households (2.0 per cent) in the lowlands. 22/

22/ In both cases, the households have a private water well in the backyard which alleviates the immediate problems of water supply.

Table 20. Difficulties with Water Supply

Percentage of households mentioning :	Highlands	Lowlands
Polluted Water	48.5	72.4
Shortage of Water	19.6	18.3
Distance of Source	14.0	93.8
Difficult Location	16.8	13.2
No Difficulty	35.5	2.0
(Total number of households)	(107)	(98)

In both areas a large percentage of households mentioned spoilage of water as a problem. This was cited as a difficulty by 52 households (48.5 per cent) in the highlands and 71 households (72.4 per cent) in the lowlands. On the other hand, reports of shortage of water were relatively low in both areas. This was mentioned as a difficulty by only 21 households (19.6 per cent) in the highlands and 18 households (18.3 per cent) in the lowlands. The figures on shortage of water are low because :

a) in the highlands there is access to the Gogeb River and numerous springs and streams;

b) in the lowlands there is access to the Wenker and Megecha Rivers.

Although women must walk great distances for water in the lowlands and although the volume of water from springs and streams decreases in the dry season in the highlands, most households feel that there is no shortage of water since they can collect the amount they require if they spend enough time walking to collect it.

Some of the consequences of the problems mentioned, as cited by the people, are :

a) human and animal health is affected by water pollution. The problem of leeches in the Gogeb River is a serious threat to cattle health in the highlands;

b) distance to water source results in excessive time and labour input, physical weakness and complicated pregnancies;

c) shortage of nearby water results in lack of adequate consumption of water by cattle.

Villagers Attitudes towards Improving Water Supply

Relative Needs

Table 21 shows that the villagers in the lowlands have a much more positive attitude towards improving water supply than those in the highlands. In the lowlands, 82 men (95.3 per cent) and 88 women (95.6 per cent) said they gave priority to water over development projects. This compares with only 29 men (33.7 per cent) and 38 women (38.3 per cent) giving priority to water projects in the highlands. 23/

Table 21 Priorities for Development Projects

Percentage of householders giving priority to :	Highland		Lowland	
	Men	Women	Men	Women
Water improvement	44.1	59.5	95.3	96.6
Other development project	53.4	38.3	4.6	4.3
Non-respondents	2.3	2.0	-	-
TOTAL	100.0	100.0	100.0	100.0
(Number of respondents)	(36)	(99)	(36)	(92)

Those householders who responded that they had priorities for development projects other than water were asked what these priorities were. Responses are shown in Table 22. As can be seen, both men and women in the highlands were very interested in having better yields on enset. Other priorities were for schools and/or clinics, food and clothing, cottage production and income generating activities, agricultural improvement, ox-drawn ploughing and other crop priorities. The figures for the lowlands are insignificant.

23/ It is felt that the figures for the highlands may be inflated since the respondents were (a) afraid to seem unco-operative towards development efforts, and (b) anxious to give responses they thought the researchers wanted to hear.

Table 22. Projects preferred over Water Development

Percentage of respondents preferring :	Highlands		Lowlands	
	Men	Women	Men	Women
Road building	-	10.5	25.0	25.0
Better enset yield	19.5	13.1	[illegible]	-
School and/or clinic	6.5	10.5	25.0	25.0
Other*	73.9	76.3	50.0	50.0
Total	100.0	100.0	100.0	100.0
(Number of respondents)	(46)	(38)	(4)	(4)

* Includes - food and clothing, cottage production and income generating activities, oxen and dairy cattle, agricultural improvement collective farm, ox-drawn ploughs, crop diversification, credit facilities for acquiring seeds and fertilizers.

Degree of involvement in development projects

Villagers were asked whether they would be willing to co-operate with people in neighbouring villages on :

(a) development projects generally,

b) water projects in particular.

In the latter case, they were also asked what kind of contribution they would be willing to make.

Table 23 shows that a high percentage of households in both areas, but especially in the lowlands, would be willing to co-operate on development programmes in general. In the lowlands, 84 households (85.7 per cent) responded positively towards co-operation with nearby villages as opposed to 80 households (74.7 per cent) in the highlands. These figures show a high positivity towards co-operation. This may possibly be traced back to the original settlement of Gurage villages by clans which has created solidarity and integration among villagers.

Table 23. Co-operation on Development Projects

Percentage of households which would	Highland	Lowland
Co-operate	74.7	85.7
Not co-operate	23.3	13.2
Total	100.0	100.0
(Number of Households)	(107)	(98)

This can be seen as a positive factor for development through inter village co-operation and regional self reliance. The higher positivity in the lowlands is probably due to the greater urgency of the villagers' needs in this area. It may also be a result of the positive impact made by SWDU on the people following the near completion of the first well in Yetaretibe.

Despite a high willingness to cooperate on development projects in general, villagers in the highlands were less willing to cooperate on development projects limited to water, However, lowlanders showed themselves highly willing to participate in water-related development projects (Table 24). In the highlands, only 56 men (65.1 per cent) and 59 women (59.5 per cent) said that they would make any contribution towards a water development project. This compares with 84 men (97.6 per cent) and 89 women (96.7 per cent) in the lowlands who would be willing to make a contribution. In both areas, the majority of people responding positively said that they would be willing to contribute labour free of charge.

Table 24. Contributions towards Water Development Projects.

Percentage of respondents who would :	Highlands		Lowlands	
	Men	Women	Men	Women
Contribute -	65.1	59.5	97.6	96.7
money	1.1	-	2.3	-
free labour	59.3	55.5	94.1	96.7
labour for food	4.6	4.0	1.1	-
Not contribute -	33.7	38.3	2.3	3.2
Non-respondents	1.1	2.0	-	-
Total	100.0	100.0	100.0	100.0
(Number of respondents)	(86)	(99)	(86)	(92)

Expected Benefits from Improved Water Supply

The aspirations of the villagers with regard to the water development project were felt to be relevant to the study. This is particularly so if mobilization of labour through self help is required for initiating development infrastructure in the area.

Table 25 shows the benefits which villagers are expecting to derive from an improved system of water supply.

Table 25. Expected Benefits from Improved Water Supply

Percentage of householders expecting .	Highland		Lowland	
	Men	Women	Men	Women
Clean drinking water	55.8	44.4	43.0	30.4
Plenty of water for farm	3.4	1.0	8.1	1.0
Cattle health improvement	5.8	5.0	26.7	5.4
Human health improvement	3.4	1.0	12.7	11.9
Time-saving	10.4	14.1	95.8	90.2
Other	5.8	9.0	3.4	21.7
No Benefit	23.2	28.2	1.1	1.0
(Total number of respondents)	(86)	(99)	(86)	(92)

The figures indicate that 20 men (23.3 per cent) and 20 women (28.3 per cent) in the highlands are expecting no benefit to be acquired from a new or improved source of water supply. This compares with only 1 man (1.2 per cent) and 1 woman (1.1 per cent) in the lowlands. The greater consciousness on the part of the villagers in the lowlands of the benefits to be derived from improved water supplies is probably due to their more acute difficulties. This would also explain their greater interest in participating in self-help water projects.

In the highlands, 48 men (55.8 per cent) and 43 women (43.4 per cent) expect to benefit from clean water for home consumption. However, only 5 men (5.8 per cent) and 5 women (5.0 per cent) specifically mentioned that they expected an improvement in the health of their cattle, even though the presence of leeches in the present water supply is a major threat to their livestock.

In the lowlands, 82 men (95.8 per cent) and 83 women (90.2 per cent) expect to benefit by a saving in time for water collection. This strongly contrasts with the small percentage of respondents in the highlands expecting such a benefit and reflects the greater problem of water collection in the lowlands.

Expected Use of Time Saved in Water Portage

Given the interest of ATRCW in the use of time saved in water portage by improved water supplies, respondents were asked about alternative activities which they would engage in if water supplies were improved.

As can be seen in Table 26, villagers in the lowlands showed a higher positivity in this respect than those in the highlands. Only 2 women (2.1 per cent) in the lowlands replied that no time would be saved as a result of the water development project as opposed to 56 men (65.1 per cent) and 71 women (71.7 per cent) in the highlands.

Table 26. Expected Diversion of Time Saved from Water Portage

Percentage of respondents who expect time will be used on:	Highland		Lowland	
	Men	Women	Men	Women
More housework by woman	20.9	12.1	65.1	47.8
More Cottage production by woman	6.9	9.0	29.0	52.1
More work by woman to assist with husband's work	1.1	3.0	12.7	9.7
More marketing by woman	3.4	7.0	8.1	8.1
Other	3.4	0.0	0.0	2.1
No time saved	65.1	71.7	0.0	2.1
Non-respondent	5.8	4.0	1.1	0.0
(Number of respondents)	(86)	(99)	(86)	(92)

In the lowlands, 56 men (65.1 per cent) and 44 women (47.8 per cent) anticipate that women will do more housework during the time saved from water portage as opposed to only 18 men (20.9 per cent) and 12 women (12.1 per cent) in the highlands. However, more men than women anticipate more housework will be done inbboth areas.

With respect to cottage production, 25 men (29 per cent) and 48 women (52.1 per cent) in the lowlands anticipate greater participation of women as a consequence of time saved in water portage. Only 6 men (6.9 per cent) and 9 women (9 per cent) in the highlands anticipate that time saved in water portage will be diverted to increased cottage production. In both areas, more women than men anticipated that more cottage production would be undertaken.

The figures indicate that villagers in the lowlands are more likely to anticipate that time saved in water portage will be diverted to productive labour than are villagers in the highlands. Thirty men (34.8 per cent) and 56 women (60.8 per cent) in the lowlands expect that the time saved will be diverted for productive labour as opposed to only 8 men (9.3 per cent) and 14 women (14.1 per cent) in the highlands. The implication is that the lowlands, especially the women, are willing and ready to be engaged in productive work during the time saved from water portage. Relatively little time can be expected to be diverted to productive activities in the highlands.

IV CONCLUSIONS AND RECOMMENDATIONS

Conclusions

The figures and analysis throughout the study have consistently shown that :

a) the development of an improved or new source of water supply is not a major priority for the villagers in the highlands when compared with the acute problems of water supply in the lowlands.

b) the economic conditions of the area in general, and the lowlands in particular, call for an integrated rural development effort which could simultaneously tackle the problem of scarcity of land, soil infertility, chronic malnutrition, plant diseases and so on. Otherwise the development of surface water supplies would not be sufficient to result in a dramatic impact on the lifestyle of the people. Hence, the outcome of the water development programme, in isolation from supportive economic measures, can be expected to be regarded as a development input which would be of minor consequence to the basic structure of the lives of the people.

The lowlands have a greater need for a nearby source of water supply, whereas spring protection and artificial reservoirs might suffice for the highlands. However, the matter of pollution is one that deserves serious consideration in both areas. The water wells will save plenty of time and labour in the lowlands and some time in the highlands, provided that water supply is adequate during the dry season. Since the topography largely determines the labour input for water portage in the highlands, the spring protection scheme could hardly be expected to alleviate this problem. However, the provision of better methods of water portage (e.g. donkey carts) might help to facilitate water portage.

A crop diversification system would seem to be vital to the economic growth of the Gurage people. In order to make crop diversification possible, however, the following would be essential :

a) resettlement and/or land redistribution in the highlands;

b) ox-drawn ploughs in the lowlands for the cultivation of crops other than enset;

c) soil conservation and reforestation, particularly in the highlands;

d) agricultural extension education for disseminating innovative farm techniques.

The economic level of the households can be increased by diverting excessive time and labour input (for marketing, water portage and other time-intensive activities) into cottage industrial ventures to generate income for the households. This could initially be done by strengthening farmer production potential using local raw materials and available skills.

A health education programme is essential to improve the situation of high mortality rates, malnutrition and disease in both areas. The impact of the water development project can hardly be expected to upgrade the poor health status of the people without attempts to change dietary habits, food intake, economic status and general knowledge of hygiene and sanitation. All this cannot be accomplished unless an intensive public health education programme is simultaneously launched for the target population.

The initiation of collective action for the installation of development infrastructure (e.g. feeder roads, clinics, coop stores) and the promotion of adult education, agricultural extension and health education are essential to the economic and social development of the region. Such supportive measures are essential for :

a) mobilizing self help and sparking people's initiative for development work through cooperatives and associations;

b) organizing cooperatives for the production and consumption of agricultural inputs and outputs;

c) organizing labour for consolidating cottage industries for generating income for the households.

Coordination of activities of SIDU, MERID, Ethiopian Hospital, Ministry of Agriculture and Settlement (Training Department, Cooperative Department, Land Allocation Department), the Regional Development Committees and the Peasant Associations is vital in order to create interest and concern for the development of the region in an integrated rural development approach.

Recommendations

The development of the region should be considered with short and long term objectives. The strategies to be applied in establishing an integrated rural development programme should thus aim at initiating pilot projects that can :

a) Gradually develop into larger organizations incorporating multi-faceted economic and social development programmes;

b) Be repeated in other regions, or areas within a region;

c) Be initially built on the needs of the people with the aim of creating self reliance from the beginning;

d) Provide optimum benefit to the target population by providing

clear and closer water supplies (provided geographic conditions allow) along with inter-related development measures in the fields of agriculture, health, adult education, cottage production, and literacy.

Short-term objectives

Short term objectives to be recommended are as follows :

a) In the lowlands water wells should be dug where the greatest number of households can save the most time and labour, and a water purification scheme should be planned to control water pollution. In the highlands, the spring protection scheme should also consider pollution and water yields during the dry season. Provisions should be made for handling maintenance on a communal basis or by a locally trained team;

b) Temporary solutions should be provided to the most acute problems of the area e.g. traps of catching pests in the highlands; donkey carts for helping with transportation of water in the highlands; ox-drawn ploughs to help with cultivation of crops other than enset in the lowlands; and facilities for provision of oxen on credit to Peasant Associations in the lowlands. Insecticides and pesticides should also be provided on credit, particularly in the lowlands;

c) Various agencies in the region such as EPID, SMDU, Attat Hospital, Ministry of Agriculture, ENI, State Forest Development Agency (SFODA), IAR, and the Peasant Associations should make every effort to coordinate their activities. This would facilitate the development of the region by eliciting concern to launch programmes and to give assistance and conduct research on the areas;

d) A survey on resettlement possibilities should be conducted in order that resettlement schemes can be planned for the most over-populated areas where scarcity of land exists as a result of fragmentation. The survey should investigate the feasibilities of resettlement, the positive and adverse effects of resettlement on the Gurage social structure and the effects on cropping patterns and agricultural production;

e) Efforts in soil conservation and reafforestation of the areas should be increased. Primary investigations and necessary research should be done by the respective agencies prior to launching the programmes;

f) Surveys should be conducted on :

   (i) marketing structure, cottage production, wage labour and cooperative labour;

   (ii) market feasibilities for local products;

(iii) feasibilities for mobilizing labour and income for installing development infrastructure in the areas.

The results of such surveys will be important in ensuring that maximum benefit is derived from the water development programme and inter-related development efforts.

Long-term objectives

The long-term objectives to be recommended are as follows :-

a) Cooperatives should be established in both areas with the aim of serving the surrounding villagers in each area. The cooperatives should include the following components :

(i) sale of agricultural products and other consumption items common in the local markets. This would lessen the time spent on traditional marketing;

(ii) provision of agricultural inputs on credit. This would help with increasing yields of enset and other crop variations;

(iii) storage facilities for products;

(iv) credit facilities for the acquisition of capital inputs for farms;

(v) a training and community centre for the dissemination of adult education, health, education, agricultural extension, for assemblies and for farmer's and women's seminars for initiating group-orientated programmes;

(vi) production workshops for the training of local artisans and for housing cottage production by women.

b) The aim of the co-operative would be to :

(i) mobilize savings in order to make the cooperative self-reliant;

(ii) organize production and find market outlets for products to generate income for the households;

(iii) train local artisans for the production and maintenance of farm implements and household utensils;

(iv) act as an information dissemination centre for the promotion of public health, adult education, literacy and agricultural extension;

(v) renders services to farmers and assist in the economic management (credit and savings) of the farm households.

c) The strategy involved should be an integrated rural development approach utilising:

(i) group approach to farmers' and women's organizations;

(ii) approach to the family as a unit without compartmentalization of development effort in order to secure integration in family economic and social activities;

(iii) ideas and expressed needs of the people to be surveyed and incorporated in plans;

(iv) adult education and other programmes through assemblies, seminars and discussions with Peasants Associations and group organizations;

(v) built-in evaluation system to assess the progress of the co-operative with brief quarterly or bi-annual surveys.

Glossary

Amochi — The edible portion of the upper layer of the enset root at its early age. It is mostly extracted from the Hyeba and Asat stages of plant growth which totally kills the plant, thus decreasing the yield at harvest considerably. It is boiled and consumed during the rainy season when food supply is at its lowest.

Enset Cycle — The rotation of plants in this cycle is similar to the rotation of social groups in age grading systems.... The enset (Asat) cycle is set in motion when suma (young sprouts) are transplanted. Each suma is transplanted to a manured pit from which a fwanfwa (having grown there for two years), has now been rotated to the second stage, takyat; is called metkya (transplanted it becomes hyeba). In the second year after transplanting, hyeba normally bears the 'false banana', the symbol that it is fully matured... On most Gurage plants a new Asat (Enset) cycle is set in motion each planting season, with two overlapping, cycles obtaining at any given time... Shack, The Gurage.

Variouss Uses of Enset

a) The root, the inner bark and leaf stems are edible portions of the enset- plant. The various forms in which enset is consumed are kocho (pancakes), genfo (solid state) and atmit (liquid state of porridge), and kinche (shredded flakes).

b) The bark is used for 1) making padded mattresses for bedding, 2) insulating material between layers of thatching, 3) padding in straw mats for the floor, bed mats and place mats for serving food, 4) making ropes used in construction of houses as a substitute for nails on walls and roofs; binding bundles of chat, hay and loads, 5) burning as fuel and 6) making lids for coffee pots and other containers.

c) The leaves are used to 1) form the inner linings for the pits in which kocho is buried for fermenting, 2) make sefat, a round piece which serves as base stand for pots and serves as a seat, as well as to carry heavy loads on the head, 3) serve kitfo and other food as serving plates and 4) collect material used in enset decortication.

d) The stem of the enset leaves, after scraping to extract the edible substance, produces long course fibres (quancha) which are dried and twined to be marketed as ropes.

e) Apart from the above, enset also has medicinal values in Gurage traditional pharmacology. It is used for healing wounds, broken bones, venereal diseases and other physical health problems. Although this aspect has not been previously investigated, the Gurage people are well convinced of the medicinal value of certain enset varieties such as 1) astara, for pus wounds, 2) Guarie and Deri for wounds and broken bones, and 3) Kimnaar for venereal disease and coughs.

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