CHAPTER 4

ECONOMIC SYSTEMS OF THE RESEARCH SITES AND SOCIO-ECONOMIC CHARACTERISTICS OF THE HOUSEHOLDS

4.1 INTRODUCTION

It is generally accepted that rural communities and rural households respond differently to the changing resource base and opportunities unless they are undifferentiated 'homogenous group'. In reality, households are usually differentiated in asset endowment, income and social status. Agro-climate (climate, soil type and slope) and access to the market may also vary from area to area with important implications for rural livelihoods. It is the differentiation that explains the usually reported diversity in livelihood strategies and differential impact of external interventions in many SSA countries and in areas within a country, a region, a district or a village in the empirical rural development literature.

For example, a very recent study in southern Ethiopia revealed that the pathways of environmental and livelihood changes are not only different across agro-ecological zones but also across households with different resource endowments (Konde *et al*.., 2001). Similarly, Murton (1999) reported sustainable intensification on richer farms and 'involution' on poorer farms, proceeding side by side within the same villages in the highly publicised case of the Machakos District of Kenya. We have also seen in the previous review of empirical studies in SSA that differential resource endowment at household level could lead to diverse livelihood strategies.

The study sites and the sample households were selected for this investigation in such a way that livelihood diversity both across research sites and among different households would be captured. The first section of this chapter describes the economic systems of the study sites. Description of the socio-economic characteristics of the sampled households follows the development of households' typology for the study area. Representatives of the respective sites had developed households' typology using local criteria through participatory Rural Appraisal (group wealth ranking exercise). Then, discriminant analysis technique was applied to test the statistical validity of the number of groups and to refine group membership of the

misclassified cases. The result shall be used for further analyses in the subsequent chapters.

4.2 ECONOMIC SYSTEMS OF THE RESEARCH SITES

4.2.1 ALEMAYA

Alemaya's farming economy is best characterised as chat-dominated, highly market-oriented and intensive. The altitude of the three PAs covered by the study ranges from 1800m to 1950m above sea level. The average annual rainfall for Alemaya is about 900mm. The majority of croplands are fairly flat and 75% of the farmers regarded their cropland fairly fertile. The average landholding for the sample households is 0.97 ha, and about 71% of the households cultivate cropland size of less than half a hectare. The cropland in Alemaya is relatively more fragmented with 71% of the cropland divided in to 2 to 3 plots. About 80% of the sample households have access to irrigation water. The Alemaya research site is situated close to the two big cities of Harar and Dire Dawa at a distance of, respectively, about 20 km and 40 km within a walking distance from the paved road, which means this site has relatively better access to the market, both domestic and export.

Chat is the major crop both in terms of area covered and revenue generated in two of the three PAs covered by the study as elsewhere in the district. In the third PA situated at the shore of the Alemaya Lake (Finkile PA), vegetables production prevails over chat production. Both chat and vegetables are primarily produced for export to Somalia and Djibouti from Dire Dawa that has an air link with the former and both air and rail links with the latter. In the area, chat and vegetables also enjoy substantial and growing domestic market.

Sorghum is the major food crop followed by maize in the study area as elsewhere in the HHs. However, maize is increasingly becoming the leading staple crop in Finkile PA. Finkile farmers prefer maize to sorghum for its short cycle that allows planting of potato in October. Maize yields are obviously higher than that of sorghum though the former is more sensitive to moisture stress and soil fertility. The fact that the soil at Finkile is deep and rich in clay content means moisture availability and higher soil water retention capacity reduces the risk of drought. Livestock income plays a supplementary income and saving opportunities.

Farming in Alemaya is the most intensive in the region by all accounts. Labour is scarce despite the average cropland holding of only 0.183 ha per adult equivalent (consumption unit) and there are 2.79 person equivalent (worker unit) per ha. For example, more than 43% of the sample households used hired labour in the 2000/2001 cropping season. Most of the labourers came from the other less developed neighboring districts. Almost all households used inorganic fertilisers (97.5%) in the same season. It was also only in this area that a substantial number of farmers reported that they had used purchased pesticides for crop protection. Tractor hire service is available partly as a response to the declining households' oxen ownership due to the increasing shortage of grazing land. The value of farm implements/ha, yield of the major staple crops and income per hectare are the highest in the HHs.

4.2.2 SABALE

The farming economy of Sabale could be characterised as chat-cereal and moderately intensive farming. The altitude of Sabale ranges from 1900m to 2500m above sea level. It is situated at a hillside and prone to serious soil erosion. The Sabale area receives annual average rainfall of just over 1000mm. The majority of the croplands are on steep slope. The average cropland holding for the sample households is about 0.6 ha, and only 46% of the farmers regarded their land as fairly fertile. The cropland in Sabale is highly fragmented and 94% of the households cultivate less than a hectare. Just over 30% of the households have access to intermittent surface irrigation water. Regarding access to market, Sabale is located at about 30kms from the third big town of the region, Chiro, and at about 230 to 250 kms from Harar and Dire Dawa, but it is 5 to 7kms from the district town of Badessa.

Coffee has been the traditional cash crop in this area. However, chat is replacing coffee as the major cash crop recently due to the coffee berry diseases, high cost of pesticide following the removal of subsidies and low and volatile world coffee prices. The third major chat collection and processing point of the region is Badessa where chat is purchased for selling at Addis Ababa market or for exporting to Somali and Djibouti via Dire Dawa. Teff, the favourite food grain in Ethiopia, is also grown on small scale as a source of cash.

Sorghum is the major food crop followed by maize. Small cereals including teff and millet are also grown mainly as secondary crops. Sweet potato is extensively cultivated especially during unfavourable season (season of low and/or abnormal rainfall) to cope with food insecurity. Livestock, particularly dairy, income plays a significant role in financing grain purchase during the season of scarcity.

Farming in Sabale is moderately intensive. Only 5% of the sample households reported that they had used hired labour. This should not be surprising given the smallest average per adult equivalent cropland holding (0.14 ha) and the highest person equivalent per hectare of 4.17. However, more than 36% of them used inorganic fertilisers and/or improved maize cultivars in the 2000/2001 cropping season. Yield of maize is reasonably high when inorganic fertilisers and improved cultivars are used. Purchased pesticides are rarely used unless provided by the MOA for free.

4.2.3 KUNI

Farming economy in Kuni area is extensive, combining cereals and livestock. The altitude of this site rages from about 1900 to 2200m above sea level. The rainfall situation is similar to the Sabale area. The majority of croplands have moderately steep slopes although some croplands are on steeper slopes. The average cropland size for the sample households is 0.97 ha Alemaya, when adjusted to per adult equivalent it is 0.22 ha better than 0.18ha for Alemaya. Sixty eight percent of the farmers judged their land as fairly fertile and only 68% of them cultivate croplands with size of less than a hectare. The cropland is also relatively less fragmented in Kuni. Less than 20% of the households have access to limited irrigation water. In terms of access to the market, Kuni is closer to Chiro than Sabale by about 10 kms, but the latter is closer to the district town of Badessa.

Crops grown in Kuni include sorghum, maize, barley, wheat, oats, onion and horse bean. This area is part of the cereal-dominated zone of the region where cash crops play relatively insignificant role. Onion is the most important cash crop, but not cultivated by all households. Chat plays a secondary role in terms of both the area covered and revenue generated. Rather, this is the area where livestock plays a very

significant role. Some communal grazing land is also available though under serious pressure from encroachment of cropland. Increasing grazing land shortage has already been manifested by the emergence of 'grass market'.

The level of intensification of farming in Kuni is rather low. Only 19% of the sample households reported that they used inorganic fertiliser in the 2000/2001 cropping season. Though use of hired labour was reported by 17% of the households, it was later learnt that the labour was used mainly for livestock keeping (shepherds). Nevertheless, multiple cropping is more common in Kuni area as compared to the Alemaya and Sabale areas. Barley is planted in April and harvest in July, and then replaced by horse bean. Maize is planted in May and harvested in October, and then replaced by onion where irrigation is available. Onion is, in turn, harvested in February and replaced by barley in April and so forth.

Table 4.1 presents a summary of the salient agro-climatic and socio-economic features of the three research sites. This will facilitate the examination of the interaction between rural livelihood strategies and, the agro-climatic and socio-economic environment in the subsequent analysis.

Table 4.1: Summary of the basic features of the study sites

	Alemaya	Sabale	Kuni
Crop land	Scare, moderately fertile	Highly scarce, less fertile	Less scarce, moderately fertile
Major soil type	Deep clay soil	Light shallow soil	Light shallow soil
Slope of cropland	Flat	Slopping	Slopping
Perception of soil erosion	Not serious	Very serious	Very serious
Access to irrigation	High	Moderate	Low
Access to market (proximity)	Very high	Moderate	Moderate
Role of cash crop	Very high	Moderate	Low
Major cash crop	Chat and vegetables	Chat	Onion
Role of livestock	Moderate	Moderate	High
Opportunities for expansion of cropland	None	Low opportunities	Moderate opportunities
Level of capital intensification	High	Moderate	Low

Source: Own survey and observation

4.3 TYPOLOGY OF HOUSEHOLDS

Rural socio-economic differentiation is more the rule than the exception in SSA, although the degree may vary from country to country. Ethiopia is not immune to this despite the conventional wisdom that the land reform and other measures of the past regime (between 1975 and 1990) have eliminated rural differentiation in the countryside (Amare, 1999; Haile Gebrial, 2000). *"Any conviction that the land reform and subsequent rounds of redistribution of agricultural land have succeeded in controlling tendencies of peasant differentiation should be discarded. Significant differences remain among strata of peasant households in terms of their capacity to access means of agricultural production including land." (Haile Gebrial, 2000:283)*

Asset endowment is at the heart of rural differentiation. Asset endowment determines 'bargaining power' of households in exchange relations (Haile Gebrial, 2000). In other words, transaction costs of participating in the factor and product markets are not the same across households. As a result, strategies pursued to ensure food and income security will differ (Barrett *et al.*, 2000). It follows then that any meaningful analysis of rural livelihood strategies should logically start from the appreciation of rural differentiation. This kind of analysis generates important information that assists in predicting responses and effects of policy and project interventions at micro level, and thereby leading to better targeting. *"Always it is important to take a socially differentiated view of livelihood strategies in order to focus support in the most appropriate area." DFID, 1999:fact sheet 2.5:2.*

A typology approach is used to conceptualise differentiation among different households. A typology is a procedure (qualitative and/or quantitative) for developing and describing relatively homogenous groups of households and/or communities who face more or less similar constraints and incentives, hence expected to be affected by external influence similarly (Perret, 1999).

Two approaches are commonly used to get a 'snapshot' of household differentiation in terms of stratification (Haile Gebrial, 2000). Conventional surveys can be used to collect data on key variables (from the researcher's perspective) by which socio-economic strata of households is determined objectively through statistical rigours

such as cluster analysis. Alternatively, PRA techniques such as group wealth ranking can be employed to define socio-economic categories based on local perception and local criteria. Nonetheless, both have drawbacks: the former does not capture 'non observable' aspects of differentiation, whereas in the latter case people's perception and emerged criteria could differ from locality to locality making comparison and generalization difficult (Haile Gebrial, 2000). Thus, this study employed both the subjective and objective techniques in a complementary way to exploit the strengths of both approaches for better result. Group PRA exercise had been used to elicit information on the existing socio-economic categories and local wealth ranking criteria. Discriminant analysis was then applied to validate the number of socio-economic groups and to refine classification of the cases further.

4.3.1 LOCAL PERCEPTION OF WEALTH CATEGORIES AND WEALTH INDICATORS

Identifying local terminology for the different socio-economic categories was the starting point of the PRA exercise for developing typology of households. Four such terms were identified and elaborated during group discussions at different sites (Table 4.2). However, the group discussions revealed that all the four socio-economic categories were not necessarily prevalent in all areas. Farmers in the West Hararghe believed that the higher socio-economic class locally called *Tujaara* no longer existed in their area, while farmers in the East Hararghe cash crop area believed that this socio-economic category existed or was in the making. Finally, it was decided to retain only three groups because the highest socio-economic class accounts for a very negligible proportion (not more than 5%) of the households where the group agreed it existed.

Table 4.2: Local terminology for socio-economic categories

Local Term	English Equivalent
Tujaara	Well to do or rich
Foyya'a	Better-off
Ofdanda'a	Self-sufficient/less poor
Miskiina	Poor or impoverished

Source: own survey

Identification of local wealth ranking criteria was the second step once the socio-economic categories were identified. A number of such criteria, mostly related to

resource endowments, were suggested. Although the suggested proxy indicators fail to distinguish between causes and results of socio-economic differentiation, they can serve the purpose of developing households' typology. The suggested local proxy indicators of wealth are elaborated below.

- *Land and its attributes such as size, fertility, slope and irrigation*

Cropland was considered as a crucial asset in the livelihood of the rural households. The better-off farmers have relatively bigger, fertile, irrigated and flat land. Participation in the land market was also considered as a good proxy indicator of the different socio-economic categories. Cropland is most of the time rented-out, sold or given to sharecropper by the poor who has no access to other resources such as oxen, seed and labour. Yet, some farmers believe that, although very important, land is not always the most important determinant of wealth. According to these farmers, some people are less poor not because they have use rights over more than an average size and quality land, but because they worked harder and succeeded in non-farm activities such as grain and livestock trade. However, the income from the lucrative non-farm activities could also be used to rent-in land.

- *Ownership of oxen and other livestock*

Ownership of oxen and other livestock such as cows and donkeys were unequivocally considered as the crucial indicator of socio-economic status of a particular rural household. A pair of oxen is not only important in timely land preparation, but also for getting access to other factors of production. There is a local arrangement where those who do not own a pair of oxen exchange their labour service for oxen service, i.e., plough land of oxen owner for two to three days in exchange for one oxen-day service. It is oxen owners who usually rent-in and sharecrop land. Cows provide milk, replacement stock and are an important source of cash income in areas closer to town. Ownership of donkey is crucial as the most important means of transport for those engaged in trade, such as grain trade, and cash crop producers. Donkeys can also be rented to generate significant income particularly in cash crop areas. Above all, livestock is the most important means of accumulation and risk management strategy in the area, given the land tenure system.

- *Adult male labour*

Labour was considered a critical factor in rural differentiation, as particularly expressed by the female-headed households. The poor are most of the time the elderly, the sick or the female-headed household. Because of labour shortage, they usually rent-out their land or give to sharecropper or sell, though selling land is illegal.

- *Cash crop*

Ownership of irrigated chat or perishables was also identified as a good proxy of income and socio-economic status particularly in high and moderate commercialised areas of Alemaya and Sabale.

- *Type of house*

The type of house (tine-roofed versus thatched houses) owned was also suggested as a proxy indicator of socio-economic status of households. There is most visible difference across the sites with respect to the proportion of tine-roofed houses. For instance, the majority of the houses at Alemaya site are tine-roofed, bigger and some have even cemented wall, whereas the reverse holds true for the other sites.

- *Ability to send children to school (particularly secondary school)*

As reported by the farmers, children of the poor do not usually go to school. They have to either go to town for street vending to get some money and buy food or work on the better-off farm to get paid in kind (grain) or cash, or serve the better-off households as shepherds to get their daily bread and a calf after year.

- *Off-farm / Non-farm income and type of employment*

The type of non-farm/off-farm activities in which households members are engaged was also suggested as a proxy indicator of socio-economic strata. The rich or better-off households participate in lucrative and capital-intensive non-farm activities like rural shop, chat, and livestock and grain trade. In contrast, the poor usually resort to the less remunerative off-farm and non-farm activities like labour, petty-trade, food and drink sale, food-for-work, etc..

- *Technology use*

Those who used fertilisers and/or improved seeds were perceived as the less poor or the better-off. This is quite acceptable since the less poor have the necessary resource and risk bearing ability and also preferred by extension staff.

- *Food self-sufficiency and/or security status*

Households who are food self-sufficient throughout the year or are not seriously affected during unfavourable seasons were also identified as the better-off since it implies better access to the means of production and technology and better risk bearing ability.

4.3.2. VALIDITY TEST AND REFINEMENT OF GROUP MEMBERSHIP

As indicated earlier, the community representatives identified three socio-economic categories – the poor, the less poor and the better-off. Then, during the PRA exercise, the names of the sample households were called one by one and the representatives sorted out the households into the three socio-economic categories. This subjective analysis has been supplemented by discriminant analysis to test the validity of the number of socio-economic categories and to reclassify the misclassified cases.

The procedure began by the selection of predictor variables for the analysis. This was necessary because all the variables identified by the farmers, although relevant, could not be used for discriminant analysis due to the need to control serious violation of the basic assumptions of the model. Some variables were excluded due to multicollinearity problems and others could not be used because they are not metric or not normally distributed. Accordingly, four predictor variables were chosen (Table 4.3), the necessary adjustment to outliers was made and the analysis was done using SPSS version 11 discriminant analysis software.

Table 4.3: Tests of equality of group means (pooled)

Variables	Wilks' Lambda	F	Sig.
Consumption unit (adult equivalent)	.794	24.954	.000
Tropical livestock unit	.292	232.380	.000
Years of food shortage in the past five years	.801	23.809	.000
Total cash income	.685	44.175	.000

First, separate discriminant analyses were run for each research site. The model for Alemaya and Kuni sites suggested three groups owing to two significant canonical functions (not reported), whereas the model for Sabale suggested two groups since only one function was significant (also not reported). The discriminant analysis using pooled sample gave two significant functions (Table 4.4) indicating three groups. The previous three groups have been retained to facilitate comparison across sites. The confusion matrix, the measure of overall fit of the model, showed that 78.4 % of original grouped cases were correctly classified (not reported) which is indeed a good result since prior group membership probability was taken into account. Structural matrix, which shows contribution of each discriminating variables, is given in Table 4.5.

Table 4.4: Test of significance of group of functions (pooled)

Test of Function(s)	Wilks' Lambda	Chi-square	Sig.
1 through 2	.240	271.824	.000
2	.920	15.858	.001

Source: own analysis

Finally, the limited misclassified cases were identified and reclassified on the basis of Mahalanobis squared distance and posterior group member probability discussed under Section 1.8.1. The model predicts a case belongs to a group with the largest posterior probability, based on discriminant scores. The confusion matrix indicated that predictive power of the model improved significantly after the misclassified cases were reclassified (87% of the originally grouped cases are correctly classified taking into account priory membership probability).

Table 4.5: Structure matrix (pooled sample)

	Functions	
	1	2
Tropical Livestock Unit	.915*	.051
Total cash income	.461*	.399
Consumption unit	.340*	-.020
Years of food shortage in the past five years	-.302	.748 *

* Largest absolute correlation between each variable and any discriminant function

Source: own analysis

Table 4.6 shows the final classification results. As expected, Alemaya site is relatively richer with 70% of its population categorised as less poor or better-off as opposed to Sabale site where the majority (54%) is poor. In fact, only 15.4% of households in Sabale are categorised as the better-off households. This also explains why earlier separate discriminant analysis for Sabale provided only one significant function suggesting two groups instead of three.

Table 4.6: The summary of household typology, by site

Household typology	Research sites			Total
	Alemaya	Kuni	Sabale	
Poor	24 (30.4%)	25 (47.2%)	35 (53.8%)	84 (42.6%)
Less poor	32 (40.5%)	17 (32.1%)	20 (30.8%)	69 (35%)
Better-off	23 (29.1%)	11 (20.8%)	10 (15.4%)	44 (22.3%)
	79 (100%)	53 (100%)	65 (100%)	197 (100%)

Source: own analysis

Having developed a typology of the households as rigorously as possible, the next section describes in detail the socio-economic characteristics of the sample households capitalising on the result of this section. The aim of this exercise is to see if the socio-economic differentiation provides any distinct livelihood strategies households and communities pursue, as discussed at the outset, in the subsequent chapters.

4.4 SOCIO-ECONOMIC CHARACTERISTICS OF THE HOUSEHOLDS

4.4.1 FAMILY SIZE AND STRUCTURE

The size and age structure of rural households give crucial information in livelihood analysis since they are directly related to endowment of labour force, consumption and fertility behaviour. Family size in the HHs is higher than the national average of 5 persons per household and shows a significant variation across the sites. Mean values of variables related to family size and structure by site are given in Table 4.7a with the test of significance of difference between the means.

Table 4.7a: Mean value of family structure, by site

	Alemaya	Kuni	Sabale	Average	Significance level
Family size	7.27	5.66	5.32	6.2	0.000
Children < 5 years	1.57	0.96	0.85	1.07	0.001
Children 5 to15 years	2.87	1.7	1.91	2.2	0.000
Worker unit (person equivalent)	2.8	2.9	2.5	2.7	not sign
Consumption unit (adult equivalent)	5.3	4.5	4.2	4.7	0.000
Dependency ratio	2	1.6	1.7	1.8	0.000

Source: computed from own survey

Similar analysis was further carried out by household type (Table 4.7b). The additional interesting information that has come out from this analysis is that the mean value of 'adult male' number in a household is highly significantly different across household types confirming farmers' suggestion to include this variable in the wealth ranking criteria.

Table 4.7b: Mean value of family structure, by types of household

	Poor	Less poor	Better off	Average	Significance level
Family size	4.9	6.57	8.05	6.2	0.000
Children < 5 years	1.01	1.23	1.36	0.97	Not sign
Children 5–15 years	1.56	2.49	3.14	2.2	0.000
Adult male	1.3	1.5	2.1	1.5	0.000
Adult female	1.2	1.4	1.6	1.4	0.036
Worker unit	2.3	2.7	3.5	2.7	0.000
Consumption unit	3.8	5.0	6.0	4.7	0.000
Dependency ratio	1.7	1.9	1.9	1.8	0.010

Source: computed from own survey data

4.4.2 EDUCATION

The high rate of illiteracy has been one of the major bottlenecks in rural development in Ethiopia as elsewhere in SSA. The education levels of households' heads in particular and the education levels of households members in general affect households' livelihood in various ways. Among others, decisions related to livelihood activities, investment and reproductive choice are all influenced by households' level of education hence education deserves due attention.

The illiteracy rate is very high in Sabale about 72% and relatively low in Alemaya nearly 46%, while the figure for Kuni is 64%. This figure is comparable to illiteracy rate in the country estimated at 55% and 75% for men and women respectively (World Bank, 1997 cited in Emana, 2000). A similar pattern was also observed bys household type with the highest illiteracy rate among the poor households and the lowest among the better-off households. Furthermore, variance analysis showed significant difference (at 0% probability) of mean number of children attending school among different household types pointing to the fact that the better-off household, followed by the less poor, tend to send more children to school. This again confirms the farmers' suggestion to include the ability to send children to school as one of the socio-economic grouping criteria.

4.4.3 NON-HUMAN ASSETS

The central role of livelihood assets other than human resources in livelihoods of the rural household is apparent. Indeed, assets such as land, water, farm implements and livestock are more constraining than human resource in the context of population pressure. The simple descriptive statistics (Table 4.8) shows mean distribution of non-human assets by household type. As expected, the better-off households have access to relatively bigger, fertile, irrigated and flat land and own more livestock.

The box-plots (Figure 4.1) show the distribution of the crucial livestock asset in the area by household type and by sites. Boxplots show the median, interquartile range, outliers, and extreme cases of individual variables. Livestock is more unequally distributed than cultivated land as expected since the periodic land redistribution based on family size has reduced the role of cultivated land size as a source of

household differentiation. If land has indeed any role in rural households' differentiation, the quality rather than the sheer size matters.

Table 4.8: Mean distribution of cultivated land, livestock and farm implements, by types of household

	Poor	Less poor	Better - off
Landholding size (ha)	0.58	0.75	1.15
Holding size per adult equivalent (ha)	0.173	0.170	0.204
Irrigated land (ha)	0.04	0.10	0.22
Percent of farmers regarding their land infertile	58.3%	23.2%	18.2 %
Oxen/bull owned	0.20	0.68	1.39
Cow/heifer owned	0.71	1.49	2.58
Goats /sheep owned	0.69	1.01	1.89
Donkey/horse owned	0.12	0.35	0.80
Chicken owned	1.32	1.91	5.61
Total tropical livestock unit owned	1.02	2.62	4.51
Value of farm implement (birr)	176	424	1994

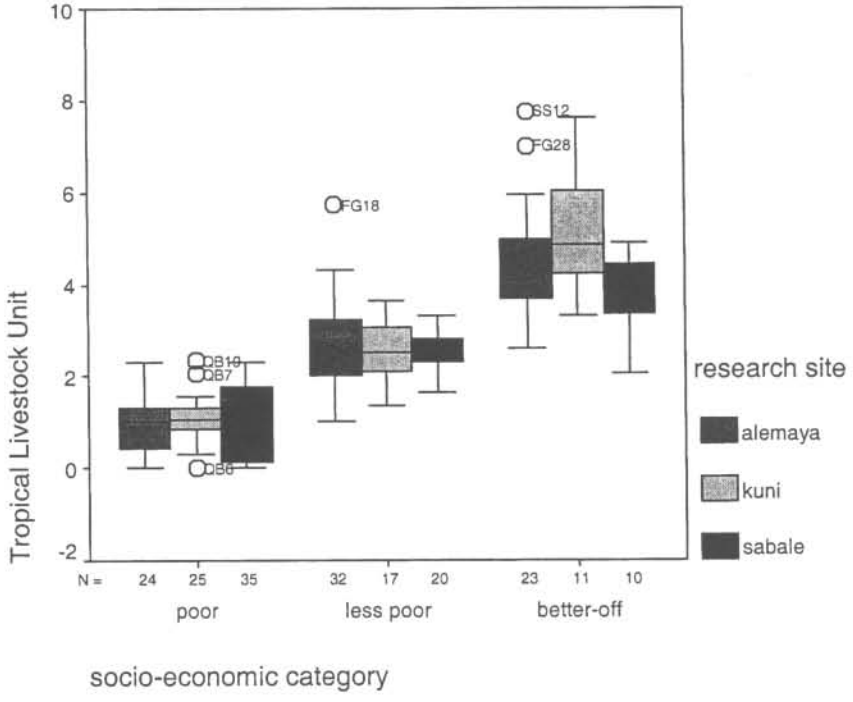

Figure 4.1: Box-plot distribution of livestock in tropical livestock unit

Source: developed from own field survey data

4.4.4 SAVINGS AND ACCESS TO CREDIT

Financial capital, i.e., cash and convertible assets, is a very important asset in rural livelihoods not only to finance agricultural inputs and non-farm activities, but also to protect loss of crucial livelihood assets such as cattle due to seasonal food shortage,

illness or death. Where livestock, rather than cash, is a preferred form of saving, access to credit, particularly from formal financial institution, can make a difference to rural life.

The three categories of households are differentiated in ability to save, ability to access formal credit and the purpose for which credit is needed. As Table 4.9 indicates not only the majority of the poor households couldn't save cash and access formal credit but also use the small amount they borrow from informal sources at exorbitant interest rate for consumption purpose. The table also shows that NGOs have been successful in reaching the poor as far as credit is concerned through their targeted programs for which they have to be commended.

Table 4.9: Ability to save cash and access credit, by types of household

	Poor	Less poor	Better off
Saved cash	16%	32%	40%
Borrowed from bank	15%	30%	41%
Borrowed from NGO	23%	17%	14%
Borrowed for consumption	22%	13%	18%

Source: own field survey

The poor and the better-off households have differential credit needs too. For instance, the better-off households such as in Alemaya cash crop zone need credit to acquire irrigation facilities such as pump and wells and to open rural shops, and the like, whereas the poor households or in the relatively poorer site credit is needed for non-farm activities such as trade activities, dairying, fattening, and so on. The MoA extends loan only for the purchase of fertilisers and improved seeds. Ironically, very few number of the respondents expressed need for input loan. This indicates a mismatch between smallholder farmers' need for credit and the available credit services in addition to the accessibility problem.

4.5 GENDER DIMENSION OF DIFFERENTIATION

Finally, the data set was disaggregated by gender of heads of the households to scrutinise whether the observed economic differentiation follows gender line, that is, if there is any association between socio-economic class and being female-headed or male-headed household. From the 48 female-headed households in the sample 60.4%, 31.3% and 8.3% were, respectively, categorized as poor, less-poor and

better-off households. In contrast, 36.9%, 36.2% and 26.8% of male-headed households were categorised as poor, less-poor and better-off households respectively. Female-headed households are surely over represented in the lowest socio-economic stratum in terms of endowment of crucial human and non-human resources (Figure 4.2).

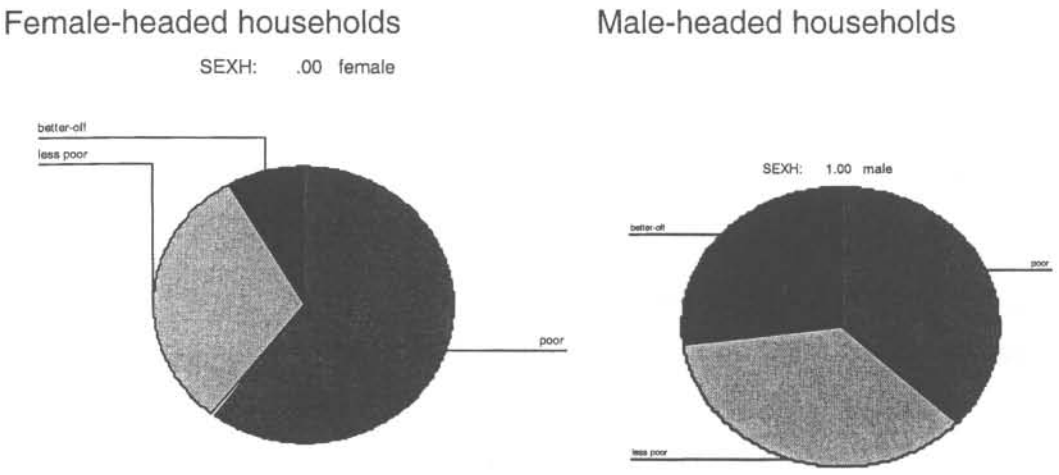

Figure 4.2 Socioeconomic categories by gender of household head

Most of the female-headed households are labour constrained, less educated, have access to small, infertile and non-irrigated land, own relatively small number of livestock, less farm implement; and they save less and their access to institutional credit is relatively limited as apparent from Table 4.10.

Table 4.10: Socio-economic differentiation by gender of heads of households

Socio-economic indicators	Female-headed	Male-headed
Attended formal education	16.7%	48.3%
Mean family size	5.02	6.57
Mean number of adult male	1.02	1.68
Mean TLU owned	1.8	2.54
Mean Cultivated land size (ha)	0.61	0.82
Cropland regarded as infertile	52.1%	33.2%
Mean irrigate land area (ha)	.05	.12
Mean value of farm implement	185 birr	825 birr
Saved cash	20.8%	28.8%
Borrowed from the banks	14.8%	27.4%

Source: own survey data

4.6 SUMMARY AND CONCLUSION

The type of support the resource-poor households and the better-off households need in their quest for food security may differ and one may target specifically the food insecure, the female-headed or the elderly households. Besides, the extent to which households depend on exploitation of the renewable natural resource to get their immediate needs met may be different across households. Better targeting can be achieved only through thorough understanding of the existing socio-economic categories and locally specific key indicators of group membership.

This chapter has conceptualised and described the key physical and socio-economic differentiations across the research sites and among the households. The results of the analysis indicate that the 1975 land reform and subsequent measures of the socialist government between 1975 and 1990 in Ethiopia had indeed weakened rural differentiation, particularly that based on cropland area over which households have use right. However, differentiation still exists to some degree or is in the making, though not at all comparable to the type of differentiation in other countries such as South Africa or Brazil. The livestock and human resource endowments with the quality of cultivated land, though not size, are the main sources of differentiation. The disaggregated data by gender of heads of the households further highlights that female-headed households are disproportionately represented in the poorest socio-economic stratum. The study showed a 'snapshot' of rural differentiation. Nonetheless, rural differentiation is a dynamic process whereby households may shift from one type to the other.

The overall implication of the analysis is that households have differential access to livelihood assets, face heterogeneous constraints and incentives and, therefore, may pursue different food and income security strategies. An appreciation of rural socio-economic differentiation at the outset would enable policy analysts not to consider rural community as an 'undifferentiated homogenous group' and recommend untargeted intervention that may result in differential impact on the different socio-economic categories.