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HOUSEHOLD LABOUR ORGANIZATION AND UTILIZATION PATTERNS ON SMALL FARMS IN WESTERN KENYA: IMPLICATIONS FOR AGRICULTURAL PRODUCTION

presented by Collette A. Suda

a candidate for the degree of Ph.D

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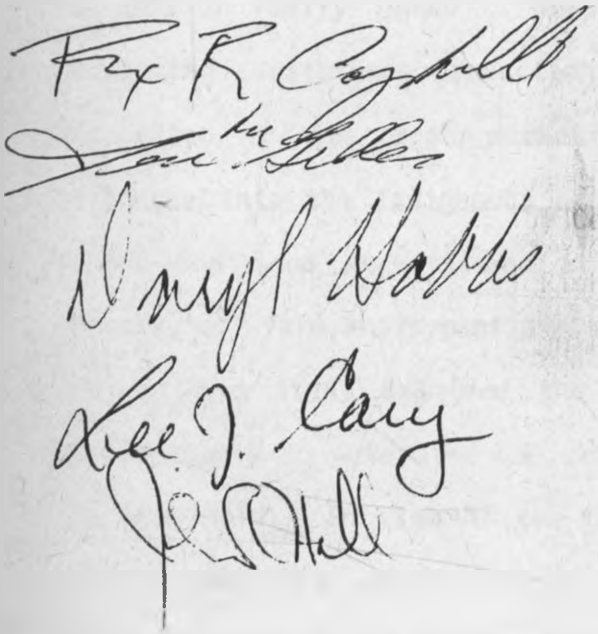

Dr. Collette A. Suda
Doctor of Philosophy
University of Missouri-Columbia
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HOUSEHOLD LABOUR ORGANIZATION AND UTILIZATION PATTERNS ON SMALL FARMS IN WESTERN KENYA: IMPLICATIONS FOR AGRICULTURAL PRODUCTION

Collette A. Suda

Professor Rex R. Campbell Dissertation Supervisor

ABSTRACT

A salient feature of smallholder production in Western Kenya is the use of family labour. Wage labour is the least dominant form of organizing subsistence production. The small farm households have been integrated into the larger market economy. The penetration of capitalist influence into the indigenous economy is reflected by the emergence of labour and land markets and a growing involvement in the migration process, off-farm employment and schooling.

This study examined the impact of these processes on family labour supply to determine the extent to which they withdraw labour from the household. In view of the differences between the two communities and the complexity of the factors at play, the determination of cause and effect is necessarily problematic. The issues that have been dealt with in this study are a product of a dialectical interplay between the internal processes at the household level and the external forces emanating from the larger market system.

The withdrawal of household labour through male labour migration, off-farm employment and school participation of children have led to major changes in the structure of the division of labour. One of the consequences of these processes is the expansion of women's roles in reproduction and production. The data showed that women in Western Kenya make a significant contribution to agricultural production. They are very heavily involved in crop production and household activities. Their involvement in livestock production is culturally defined and structurally circumscribed even though when the children and male heads of household are away, women combine livestock activities with their traditional responsibilities.

The study found that availability of family labour is vital to farm production especially in terms of the amount of land that can be brought under cultivation. But labour alone is not a sufficient factor. Equitable access to land and other productive resources is critical.

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CHAPTER 1

INTRODUCTION

The Structure of Agriculture and the Level of Economic Activity in Kenya: A Background

The current population in Kenya is estimated at 20.2 million (Population Reference Bureau, 1985). Kenya's population growth rate of 4.1 percent per annum is considered one of the highest in the world. More than 80 percent of the nation's population live and work in the rural areas and derive their primary livelihood from agriculture. The smallholder sector supports about 85 percent of the total rural population.

Agriculture is the mainstay of Kenya's economy. It employs a large proportion of the labour force. Despite its leading role in the national economy, only 20 percent of the nation's agricultural land is considered to be of high and medium potential for intensive crop and livestock production. The remaining 80 percent is marginal land in arid and semi-arid regions reserved for pastoral production and used as rangelands (Kenya, 1979).

High potential land in Kenya is devoted to the production of export commodities. There are large farms, estates, plantations and ranches in the region which used to be known as the "White Highlands" during the colonial period because of the concentration of European settlers. The capitalist settler agriculture was based on land alienation and appropriation of labour. The colonial agricultural policy was geared toward export production and maximization of profit. It is

estimated that about 7.6 million acres of high potential land was appropriated for settler agriculture (Kaplan, 1976).

It is necessary at this point to present a brief synopsis of the colonial history of agricultural production in Kenya as a background against which the current structure of agriculture and the division of labour can be understood. Kenya was a settler colony. The colonial system was in effect from around 1890s until 1963. The establishment of settler agriculture in Kenya under colonialism created new economic structures and a direct completion for labour between the smallholder sector and the large-scale capitalist agriculture. Market-oriented commodity production largely depended on cheap labour drawn from the surrounding and distant regions to work on a casual basis in large estates and plantations (Cliffe, 1976). Samir Amin (1972:519; 1974; 1976) refers to these labour supplying regions in Africa as "Africa of the labour reserves" and points to the manner in which these regions were systematically exploited through various mechanisms of unequal exchange as a result of their incorporation into the capitalist world economy. As Gutkind and Wallerstein (1976: 11) have indicated:

> Africa's rural economy was transformed into a vast reservoir of labour to be shunted about according to the fortunes of the capitalist economies; and, as a result, there was set in motion the processes of proletarianization dependency, and internal centre-periphery relations, i.e., the dominance of towns over the rural areas, one region over another, or one (African) country over another.

In Kenya, the vast majority of migrant workers in settler estates and plantations comprised the landless poor who, as a result of the expropriation of land, were deprived of a major means of production and a primary source of subsistence. Livingstone (1981:5:4) has pointed out that in colonial Kenya, much of the labour on sugar and sisal plantations

at the coast was largely drawn from the Luo and Luhya ethnic groups in Western Kenya. The survey on which the present study is based was done in the same two communities.

The fluctuating patterns of labour demands in the commodity sector implies a seasonal labour supply. This means that the landless and those with limited access to land could participate in both the smallholder and commodity sectors. Consequently, a large group of the indigenous population was transformed into a class of semi-proletariats who generated part of their income from wage labour and the other part from subsistence production (Wallerstein, 1976: 47; Van Zwanenberg, 1975). This participation in both subsistence production and large-scale capitalist agriculture not only facilitated the transformation of a subsistence economy into a wage-labour structure but also helped to drive wage rates below subsistence levels. The cost of labour was kept low because some of the means of subsistence were provided by the family's own household subsistence production. For example, the family could raise its own food and provide other needs that are considered basic to the continuing reproduction of the unit. Thus capitalist agriculture was based on migrant wage labour and geared toward the maximization of profit through expropriation of surplus value. The wages were kept low enough to maximize capital accumulation and also to perpetuate dependency by maintaining a steady flow of labour supply.

The migrant wage labour system came into existence mainly as a result of three major forces, namely the expropriation of land, various forms of taxation, and colonial administrative coercion which encouraged forced labour recruitment (Stitcher, 1982:32-33). Capitalist agricultural production required a direct transfer of land and labour

resources from the smallholder sector to the commodity sector as a primary basis for capital accumulation. As a consequence, high potential agricultural land was alienated and brought under export agriculture and the indigenous population was pushed out of the White Highlands into what became known as the "native African reserves". Most farmers lost their traditional rights to land, and those in the reserves were prohibited from cash crop production because settler agriculture had a monopoly over land, labour, capital, technology, commodity production and the marketing system (Leys, 1975; Brett, 1973). One of the reasons for this kind of restriction was to avoid competition from indigenous producers. The white settlers also feared that the extension of commodity production in the smallholder sector would either reduce the supply of cheap labour or increase its price. Either outcome would preclude expropriation of surplus value as a measure of exploitation on which the settler economy was predicated.

Lack of opportunity to engage in commodity production, and the natives' inability to support and reproduce themselves adequately through household subsistence production accelerated the mobility of labour out of the smallholder areas into the commodity sector (Bernstein, 1979; Beltran, 1979). Through the migratory labour process, the settlers extracted huge financial profit through low wages and surplus appropriation. The wages were below the subsistence level but were nevertheless high enough to pay taxes to the colonial state. Drawing a parallel between the process of wage labour supply into the former Southern Rhodesia (present day Zimbabwe) and the system of labour recruitment for settler agriculture in colonial Kenya, I would argue along with Arrighi (1970) and Van Zwanenberg (1975) that taxation was one

of the most powerful political weapons used by the colonial state to create the demand for cash and to supply settler agriculture with cheap labour. It was a system that was set in place with the express purpose to benefit the settler economy (Brett, 1973).

Capitalist agricultural production was explicitly biased against the overall development of smallholder agriculture. In order to expand, the commodity sector had to have not only complete monopoly over the new political, economic and social infrastructure created by the colonial state, but also be in a position to undermine indigenous access to and control over the major productive resources such as land, labour and capital. Capitalist production also dominated the product markets and systematically edged out smallholders from any form of competition.

Colonialism did, in fact, leave an extraordinary legacy in Kenya. Many of the agricultural development policies, programmes and projects in post-colonial Kenya are still based on the same set of institutional framework established under colonialism. The basic structure of agriculture in Kenya has essentially remained the same since decolonization. Despite several land reform programmes such as the Million Acre Settlement Scheme intended to transfer land from the former White Highlands to the landless, the pattern of distribution basically remained unequal. Large farms taken from the European settlers have been privately appropriated and operated either by private, state or foreign capital, or a combination of all three:

> At the top, now, was a class of very large landowners, plugged into the ruling political party and to foreign capital; at the bottom, micro - enterprises lacking the capital to improve their farming practices (Worsley, 1984: 153).

Large farms in the high potential areas range in size from about fifty to more than fifteen thousand acres. Most of them are highly

specialized heavily capitalized commercial enterprises. Among the major cash crops produced here are coffee, tea, pyrethrum, wheat, sugarcane and sunflower. Livestock production for beef and dairy products is also a dominant enterprise oriented toward the market.

Because of the orientation of the colonial agricultural policy to produce for export, regions that had become the centres of cash crop production also had a disproportionate share of the institutional support system needed for agricultural development. The credit, extension research, and transportation system are examples of an institutional network set up to reinforce the dominance of cash crop production over subsistence production . This process represents the colonial roots of structural inequalities, regional imbalances and dependent development patterns manifest in post-colonial Kenya (Leys, 1975; Ascroft et al, 1972; Roling et al, 1976; Amey and Leonard, 1977; Amin, 1972).

The level of economic activity is generally higher in high potential areas than in marginal agricultural areas. When a farming industry becomes a business enterprise it tends to boost the economic potential of the area by attracting a variety of income - generating activities to absorb the growing labour force. The major types of economic activities in large farm areas include service occupations, retail and wholesale trade, processing, repairs, construction, and transportation, among others. Many of these are corporate ventures but some are individually owned and operated. Labour which cannot be absorbed here usually moves to the urban areas which are characterized by high rates of unemployment.

Most of the rural households are involved in small scale subsistence agriculture. Siaya and Kakamega districts, where data for

this study were obtained, are considered as areas of medium and high agricultural potential respectively (Kaplan, 1976: 297). Kakamega receives more rainfall, has better quality of soil and a higher density than Siaya. Small farms range in size from one-half to about ten acres. However, the average size of holding in the survey area is 2.5 acres. Subsistence farmers in the area engage in intensive crop and livestock production relying heavily on family labour resources. Production is primarily for home consumption although there is limited smallholder tea production in some parts of Kakamega district.

Farm labour is differentiated by gender, age and type of commodity produced. Men are mainly responsible for cash crop and livestock production and women are primarily involved in food crop production. The major food crops produced in both communities are maize, beans, sorghum, sweet potatoes, cassava and millet. Subsistence production has received less attention from state agricultural policies and programmes.

The imbalances inherited from colonialism and exacerbated by development policies which emphasize aggregate economic growth rather than distribution have depleted the smallholder agriculture of its needed resources and left it lagging behind. The level of economic activity in the small farm areas is generally low and alternative sources of off-farm employment are few. One of the major consequences of such imbalances is the increased withdrawal of labour from smallholder agriculture mainly to the urban areas or to regions of cash crop production.

The Concept of Labour Within the Context of Subsistence Production:

Conceptions of labour vary with modes of production. In an industrial capitalist mode of production, labour is transformed into a commodity to be bought and sold in the marketplace. Labour is conceptualized in terms of specific quantifiable units of measurement such as the number of hours per day or per year worked by each unit of labour. These computations serve as a basis for remuneration of labour and as measures of labour utilization, underutilization and productivity.

Under the market system, time is money and maximization of profit is the primary objective in the production process. Wage labour contracts take the form of exchange relationships that are usually disembedded from other social relationships (Polanyi, 1944). Typically, the employer and employee engage in an instrumental relationship characterized by differential power and interests. The employer wants the job done at the minimum cost possible while the employee is interested in wages. Endemic to this kind of exchange relationship is the appropriation of surplus value which is a measure of exploitation.

The supply of labour to the industrial capitalist sector is relatively constant because the contractual relationship between a willing buyer and a willing seller presupposes the notion of interchangeable parts. This means that when there is real demand for labour, it will virtually be drawn from anywhere and, from the point of view of the employer, who supplies it is of secondary importance. If you don't sell your labour, some one else will; there is always an alternative source of supply.

Under subsistence production, labour time is not conceptualized in terms of eight hours a day. Such a conception of time is outside the

frame of reference of most subsistence farmers. This industrial conceptualization of labour is relatively meaningless in the context of subsistence agriculture where production is organized largely outside the market and where family relationships and other social considerations take precedence over the profit motive:

> One does not pay one's children or one's husband for the labour they put in, and the hours worked are not checked by the clock and rewarded accordingly. The cash nexus of capitalism - so many hours of labour in return for a given wage rate - does not obtain (Worsley, 1984: 74).

In the subsistence farms in Western Kenya, the family is the unit of production. This means that the production process is organized according to the specific needs of the family based on its own resources. The family relies heavily on its own labour pool and serves as a reservoir of labour that can be mobilized and utilized for specific subsistence activities.

Traditionally, labour under subsistence production is differentiated by age and sex which suggests that all units of labour are not equivalent.[1] Child labour is distinguished from adult labour and the roles of adult males are different from those of adult females. The level of labour contribution and pattern of utilization depend on how labour is conceptualized and differentiated. A fairly broad notion of labour in a subsistence sense includes fulfillment of one's obligations to one's family and the larger kinship group.

Given the structure of the division of labour within the family and the fact that the various units of labour are not equivalent, the absence of one full unit of adult labour, for instance the male head of

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[1] Daryl Hobbs called my attention to this point.

household, could have deleterious effects on the productivity of certain enterprises. In a system where men are responsible for livestock production and the women are heavily involved in the production of food crops, as they are in Western Kenya, the withdrawal of male labour from agriculture into the labour market elsewhere could change the entire pattern of production in terms of what is produced. More specifically, if women do not raise livestock and the men are absent and there is no hired labour, then the livestock enterprise is likely to suffer. On the other hand, the loss of child labour through school participation can only have an adverse effect on how much rather than what is produced. Basically, child labour relieves adults of certain responsibilities which makes it possible for them (adults) to engage in other activities which might be considered to be relatively more important.

Because the family is the reservoir of potential labour for subsistence activities, labour supply is not always unlimited. Within the context of the extended family system and the community social structure where everyone knows everyone else, family labour is often pooled, shared and exchanged as part of the requirement for the fulfillment of kinship obligations and strengthening of social ties. The reciprocal exchange of labour between neighbours, friends and kin, particularly during peak seasons and other times of need is a manifestation of the social conception of labour in the context of subsistence agriculture. No price tag could be meaningfully attached to the social ramifications of such labour utilization patterns.

The Effect of Labour on Smallholder Production

The availability of labour for farm work is frequently pointed to as a basic productive resource and a key factor in agricultural production in small farms. One of the most distinctive features of smallholder agriculture is its reliance on family labour as a major input into the production process. Several studies (Eicher and Baker, 1982; Heyer, 1981; Ruddle and Chesterfield, 1978) have examined the labour profiles in small holdings in underdeveloped countries and have shown that family labour plays a major role in farm production.

Although it is well documented (Cleave, 1974; Kongstad and Monsted, 1980) that the supply and intensification of labour are the key to increased production, such an argument does not, however, discount the importance of other resources such as land and capital which are also crucial in determining the level of farm production. The problems confronting subsistence producers in Western Kenya, as in most other underdevelopment regions, are so vast and varied that no single explanation is really adequate. It has been shown (Hunt, 1975; Eicher and Baker, 1982; Alila, 1977; Meyers, 1982; Anker and Knowles, 1983), for example, that there are a variety of structural barriers such as inequalities in the distribution of land and credits, which are responsible for much of the development problems in smallholder agriculture. The full range of factors that have shaped the overall pattern of agricultural development in Kenya should be viewed as an interaction between, and a product of, historical forces such as colonial policies and internal attributes such as the socio-cultural constraints and resource allocation at the household level. It is clear that some of

these issues have not received much attention in the development literature.

Despite the high emphasis on the role of family labour on small farms, few studies (Kongstad and Monsted, 1980; Cleave, 1974; Rukandema, 1978) have examined the relationship between labour supply and farm production. Also, very little is known about the exact nature of the labour situation on these farms. Most analyses of labour utilization patterns, particularly those coming out of the traditional approaches to the study of labour, typically assume an abundance of agricultural labour in rural areas and usually indicate that higher production could be achieved through intensive and more efficient use of labour. What is often not considered, however, is the manner in which labour is allocated between farm and off-farm activities, and the complexity of the elements that influence patterns and levels of labour use in a given context. Such trends as the development of competitive rural labour markets, increased male out-migration, growing enrollment of children in schools, the changing seasonality of labour demands, and access to off- or non-farm employment opportunities all represent competing priorities and are also likely to create conflicting demands on farm labour supply for some enterprises.

Some studies (Livingstone, 1981; Ruddle and Chesterfield, 1978) have described the existence of agricultural labour shortage in Kenya as something of a paradox in view of the nation's high population growth rate, rising unemployment, and severe land pressure. This apparent contradiction is partly explicable in terms of the way in which labour is allocated between on- and off-farm enterprises and partly in terms of the level of technology. Labour shortages can also be accounted for in terms

of seasonal demands in peak periods and the culturally defined male - female division of labour, among other things. We have already seen that, traditionally, household labour is allocated on the basis of age and sex and that not all units of labour are equivalent. This implies that increased male labour migration out of the household is likely to create seasonal labour shortages and subsequent decline in farm production, especially in the absence of outside hired labour.

For many households, off-farm employment opportunities in the rural or urban labour markets represent an alternative source of income. Since a large proportion of off-farm activities are taken up by men, there is a tendency for some farm families to become increasingly dependent on off-farm sources of income for their livelihood. When the male head of household is away, the females are left behind to look after the family and the farm. In most cases the women take on extra responsibilities in addition to their routine domestic duties though usually they are not expected to make major farm management decisions because this is perceived as culturally inappropriate. If the women are left with the responsibility but no decision making power, it raises a legitimate question of whether they may be able and willing to contribute their labour or make adjustments in their labour use as a result of the introduction of new farm enterprises. In view of their limited access to resources and inadequate integration into the development process, this is "a sticky" question for which there are no easy answers.

One of the most important recent trends in the development of smallholder agriculture seems to have been men's off-farm labour market participation and the changing and/or expanding role of women. Since subsistence production is characterized by household labour, the

withdrawal of labour from agriculture can be seen as a resource drain into other sectors. The crucial fact is that most small farmers have limited access to resources. No one argues about that. The question to be raised is how much labour is available for farm work and, more importantly whether labour has an overriding effect on farm production.

Statement of the Problem

Although it is widely recognized that significant farm production can be achieved by increasing and intensifying labour inputs, there is very little existing information and/or knowledge about the relationship between labour supply and levels of farm output. There has been little empirical work aimed at determining the nature of the labour situation in small farm households in underdeveloped countries. Analyses based on traditional approaches to the study of labour have been designed to examine labour utilization patterns by focusing on the number of hours worked by each member of the household as an index of utilization or underutilization (Chayanov, 1966; Ruddle and Chesterfield, 1978; Eicher and Baker, 1982; Gwyer, 1972).

Such concepts as eight-hours a day or the exact amount of time invested in farming activities as measures of labour use are not particularly appropriate for analyzing and understanding the labour situation in a village setting where there are no systematic accounting records of who performs which tasks for how long. Usually, no accounts exist of how much is produced either. In many small farm households, time spent on farm work, off-farm activities, and leisure occasionally overlap because there are a number of socio-cultural elements influencing

the way labour is allocated and used. Sometimes there is very little distinction between what is considered as work or leisure in terms of the amount of time devoted to each. Such labour use patterns could impose certain limits on the extent to which family labour can be shifted around from one set of activities to another as those who posit a substantial pool of surplus labour in rural areas are apt to suggest.

An analysis of labour supply and utilization patterns at the household level should identify the various patterns of labour use, the key elements influencing such patterns, the interaction between them, and their overall impact on production. This is the concern of this dissertation. It seeks to determine the exact nature of the labour situation in small farm households by establishing the stock of labour force available for household production, particularly in peak seasons. It examines how labour is utilized by identifying the various patterns of labour use and its allocation between farm and off-farm activities. A further concern of this study is to identify the factors that might influence labour supply and levels of use, and also to provide some understanding of how this situation has evolved and the capacity of some of these factors to change. The study also seeks to determine the use of hired labour, and the role of women in smallholder agriculture as well as the effects of migration, off-farm employment, farm size and availability of family labour on farm production.

As with other farm inputs, the allocation of labour into the production process is often affected by a wide range of factors including the fact that in most households, specific farm activities are traditionally allocated on the basis of age and gender (Mbithi, 1974; Buttel and Gillespie, 1984; Heyer, et al, 1981). Potential labour supply

for the family farm is likely to be affected by a rigid, well-defined age and gender specific roles. In general, men tend to be assigned heavier tasks like the care of livestock, clearing and ploughing the field, and in some cases, the production of cash crops. Women, on the other hand, are usually responsible for food production, processing and preparation which involve time-consuming operations such as planting, weeding, harvesting and cooking. When they are not in school, children perform light tasks on the farm and within the household. Their labour contribution often makes it possible for the adult members of the household to allocate their own labour to farm and non-farm activities (Friedmann, 1980; Kayongo-male and Walji, 1978). But increased school attendance is likely to withdraw child labour and make it rather difficult for some households to cope with high demands in peak seasons.

Farm labour supply is also likely to be influenced by the size of the family, on- and off-farm labour allocations, the use of hired labour, seasonality of labour demands (or timing of operations), the type of commodities produced, and migration patterns. The effects of these and other factors on labour supply will be assessed to determine whether the availability of labour can be considered to have an overriding effect on farm production or simply as having an important but not a decisive impact.

The focus of this dissertation is on household labour and its use patterns. The structure of the division of labour within the household and the effect of labour on farm production are examined. Emphasis is placed on the amount of time invested in farming activities by each member of the household and changes in labour organization processes. There is increasing evidence that some farmers engage in, and devote a

great deal of their time to, off-farm activities, some of which are intended to meet specific cultural and social obligations. Depending upon the social value attached to off-farm pursuits, if the introduction of new farm technology denies the farmer the opportunity to participate in other activities, then it may be difficult for family members to make adjustments in their labour time in terms of re-allocations. In an environment where there is limited or no use of hired labour, migration and participation in off-farm activities can be linked to seasonal labour shortages.

The allocation and organization of household labour for agricultural production are issues that are considered internal to the household unit. Usually, they are based on decisions made at the household level, and reflect the nature and amount of other resources available to the farmer. Although its organization is based on the internal structure of the household, small farm production is integrated into the capitalist world system characterized by competitive commodity markets and the motive to maximize profit. Forces external to the household but which influence the internal processes such as the allocation of family resources include the existence of land and labour markets. Small farmers participate in the market economy through the sale of their labour, surplus produce, and land to meet the rising cost of reproduction. The emergence of off-farm labour markets has thus tended to increase labour mobility away from home, and for those who are unable to sell their labour the experience might spell disaster or persistent hardship for the entire household.

Significance of the Study

Interest in the household labour process has generated research efforts to examine the issues relating to the productive efficiency of labour within the context of limited labour supply. What is usually not considered in this call for greater efficiency is the fact that small farmers are frequently more concerned about social than economic costs when dealing with technological changes in their farming systems. The small farm unit is a highly efficient, complex, diversified and well adjusted system that has evolved over the years through fine-tuning to cope with different resource conditions. Subsistence farming in Western Kenya is primarily viewed as a way of life rather than a way of making a living, something to pass on to the next generation. Although surplus products are often sold, the main concern for most farmers is to produce for subsistence. The profit motive is secondary to other considerations.

In these small farm units, all the operations are labour-intensive, and a significant proportion of the labour force is supplied by the family. If the argument is made that family labour is perhaps the most important input in smallholder production, then what is essential in studying the problem that has been identified is the recognition that the incorporation of a new enterprise into the existing farming system may make certain demands on labour and other resources which will require adjustments in the overall production system. For example, the introduction of a dual purpose goat in a setting where crop production is the predominant system and sex roles are culturally well-defined may require several changes in the socio-cultural system of the communities concerned and adjustments in the allocation of resources.

The recommendation of such a complex innovation raises the question of whether the small farmer has the ability, if not the inclination, to incorporate such changes into the present system of production.

Since small farm production relies almost entirely on family labour, close attention must be paid to the consequences of change programmes and the adjustments that farmers will have to make in order to cope or deal with such changes. Before the level of production capacity in smallholder agriculture can be determined, it is important to know the amount of labour available for farming activities and to identify patterns of participation by each member of the household on specific activities. What also needs to be known is what the farmers do when they are not working on the farms, for how long, and why. Such information, if it is area, issue and culturally-specific, could serve as an important basis for the design and implementation of development programmes. It can also be used to provide rich insights into the circumstances under which a small farmer in Western Kenya operates, and for that reason adds to the existing stock of knowledge about the smallholder production system.

In some households, land shortage and low rural incomes have driven some people, mostly males, to seek off-farm employment elsewhere. It is absolutely necessary to examine the effect of male labour migration on the family farm structure and the decision-making process as the women left behind become heads of households and assume the responsibilities that this entails. As more and more labour resources are drained out of agriculture, farm families could become dependent upon off-farm sources of income thereby making their livelihood vulnerable to the fluctuations in rural and urban labour markets. While it is possible that men, women,

and children in these rural communities may consider their work off the farm as part of a responsibility to meet the family's basic needs, the concern here are with those instances where the absence of a male head of household creates an actual shortage in the labour required for particular farm activities. The withdrawal of male labour out of subsistence agriculture due to migration could reduce labour on livestock enterprises which are traditionally undertaken by men. Similarly, the loss of child labour due to school participation takes away help with domestic chores. Generally, labour requirements depend, among other things, on the types of commodities produced, the nature of operations involved and the timing of such operations. Inadequate labour supply could induce farmers to rely on the market not only for their means of production but also for their means of subsistence (Heyer et al, 1981). How this situation has developed and its potential impact on household production are issues considered worthy of study.

Organizational Outline of the Dissertation

The text of this dissertation is organized into seven chapters. Chapter two contains a selective review of the pertinent literature on small farm labour, its use patterns and organizational features. It focuses on the traditional structure and organization of the division of labour within small farm households and examines the interaction between farm and off-farm activities.

Chapter three presents three competing theoretical orientations that have informed previous research on subsistence production and labour migration within the context of a changing household economy. It also

lays out a conceptual framework considered most appropriate for understanding the subject of the present study. Chapter four examines the interrelationship between theory and method and describes the methodological procedures used in the collection and analysis of data.

Chapter five examines the current labour and land situation in the surveyed farms, the use of hired labour, and the extent of migration and off-farm employment in the area. The impact of each of these factors on availability of family labour is assessed. Chapter six is concerned with the structure of the division of labour within the surveyed households and the role of women in smallholder agriculture. The effects of labour, land, migration and off-farm employment on farm production are also examined. Also examined here is the role of livestock, particularly goats, on the social and economic life of the two communities. Chapter seven summarizes the key findings of this study, examines the theoretical implications of the data, offers conclusions and makes suggestions for further research.

CHAPTER 2

REVIEW OF THE LITERATURE

Household Organization of the Labour Process

In general, the small farm production system is characterized by its reliance on family labour which is primarily allocated on the basis of age and sex. Although some responsibilities are shared among members of the household, the general pattern in the household allocation of roles is for females to be engaged in food production, processing, preparation, storage, and other procurement activities which are considered to be their exclusive domain. Eicher and Baker (1982:103) have summarized the traditional structure of the division of labour in sub-Saharan Africa thus:

> The supply of labour for family activities is, however, affected by the fact that many agricltural tasks are traditionally considered to be age- and sex-specific. In East Africa, women are heavily involved in food production, while in West Africa women play an important role in crop production and processing, trading, weaving and other non-farm activities. While children from 10 to 15 years of age are an important source of farm labour in many parts of Africa, they generally work fewer hours than adults and tend to specialize in tasks such as tending livestock, wood gathering and bird scaring.

Under subsistence production, men are primarily responsible for such intermittent tasks as land preparation and the care of livestock which often involves tending cattle in distant pastures. Women, on the other hand, are typically more directly involved in such tedious, onerous, continuous and sustained activities as cultivation, child care, food preparation and other domestic chores. In their study of family

labour relations in Western Kenya, Kongstad and Monsted (1980:26) showed that women:

> were thus the cultivators, once the new land was cleared and dug. They did the planting, weeding, and harvesting, and they had the main responsibility for supporting the family with food from their cultivation. Women were also responsible for fetching firewood, cooking, washing and taking care of the house, the children, and training the daughters.

Boserup (1970:15) argues that the traditional division of labour within the household is "natural" in the sense that it is based upon biological criteria. The central theme of Boserup's thesis is the contention that rural women in Africa, particularly in those areas which she calls "regions of female farming", play a significant role in food production, usually work long hours, and are frequently burdened with double duty.

Despite her pioneering effort to explicate the role of women in development and to determine the patterns of labour organization in small farm households in Africa and Asia, Boserup's analysis is somewhat superficial and not theoretically well grounded. Much of her analysis focuses on the role of women in the productive sphere of farming, and largely ignores women's vital contribution to the domestic domain, their reproductive roles and the intricate connection between them. Because of this lopsidedness in Boserup's work, her analysis fails to examine the causes of gender inequality and female subordination and has had little to say about the dialectical interplay between patriarchal structures in the societies she studied and the penetration of capitalist relations. Instead, the structure of the division of labour as it exists in these societies is simply attributed to culture and the greater involvement of women in farming activities is viewed as a mere reflection of natural biological attributes.

Essentially, there is nothing natural about the way various roles are allocated in subsistence systems except that traditional patriarchal structures of male dominance have been reinforced by capitalist development to establish a basis for role differentiation in ways that confer more power to men than women. The use of age, sex, and other equally invalid criteria as the bases of determining the nature and level of participation can be viewed as a way of legitimizing the existing system of gender inequality at the domestic and public levels. The farm tasks performed by men are usually regarded as distinctly complicated, fairly heavy, and generally physically demanding. Such activities are also assumed to require special skills and knowledge which other individuals or groups are presumed not to have or incapable of acquiring. Perhaps if it was simply a question of matching one's biological attributes against specific activities, this subject could be much less exciting. The fact of the matter is that the issues involved are much more fundamental and intractable than that. Discussions about the organization of household labour should go beyond mere identification of biological attributes and cultural definition of roles and include an analysis of the historical processes that have structured the division of labour within the household.

In a typical small farm household, the male head always makes the major decisions on issues relating to farm management, organization of production, allocation and utilization of household resources, among other things. Traditionally, women are not expected to make such decisions nor to raise livestock even though occasionally they help with milking cows (Ahmad, 1984). Cleave (1974) has observed that this clearly defined and rigidly maintained division of labour is likely to create

artificial labour shortages when labour that is potentially available for farm work cannot be utilized simply because a particular task is considered to be culturally inappropriate and physically unsuitable for a particular sex or age category. There are also a few evidence as well as some indications that this pattern of family labour organization and decision making has a tendency to impede change processes in certain farming enterprises, especially when some decisions and recommendations have to be delayed or deferred until the male head of household gives his approval(Heyer et al 1981; Nobel, 1982). This kind of situation is more prevalent in those households in which the male head is away from home either seeking wage employment or working elsewhere, and the women are left behind with the responsibility to take care of the family and the farm but no authority to make the major decisions.

The mobility of most farm women outside the home has been, and to a large extent still is, limited partly because of their confinement to the domestic sphere and partly because of the structural obstacles they face both at home and in the labour market. For example, the average farm woman in Western Kenya is still widely expected to combine and carry out her productive and reproductive functions at or nearer home. The predominant social norm is for women to stay home and look after the family and the farm when their spouses are away. They are the homemakers and men are the breadwinners. Throughout much of rural Kenya, such role prescriptions and expectations have become deeply embedded in the communities' social structure, reinforced by cultural values, and institutionalized as the standard practice.

Several studies (Hunt, 1975; Okeyo, 1980; Hill, 1981) have reported a changing trend in the sex-based division of labour, arguing

that these household labour organizational arrangements merely represent an ideal type which has lost much of its heuristic value and empirical validity. In her assessment of the relevance of Chayanov's model in Mbere division in Eastern Kenya, Hunt (1978:82) noted that some of the features of the traditional division of labour have broken down even though some distinctions still exist.

Chayanov's theory of the peasant economy is concerned with an understanding of how peasant households allocate their land and labour resources and organize production. His organizational analysis focuses on the economic structure of the household as the unit of production and emphasizes the viability rather than vulnerability of the peasant economy in the face of capitalist development. The theory stresses the insignificant role played by hired labour and the centrality of family labour as a key determinant of agricultural production.

Despite its useful insights into the internal dynamics of household production, Chayanov's model has mainly been criticized for analyzing the peasant farm statically by concentrating on the internal processes and ignoring the dialectical and asymmetrical relationships between the household and the larger society or the market system (Worsley, 1984:75; Harrison, 1975) because Chayanov and his colleagues were:

> interested not in the system of the peasant farm and forms of organization in their historical development but, rather, in the mere mechanics of the organizational process (Chayanov, 1966:44).

The organizational analysis of the household as a self-contained entity ignores the fundamental fact that the small farm household is integrated into the market economy and the small farmers are dominated and exploited by the larger structures from within and outside.

Changes in the organization of the household labour are largely attributable to an increasing trend in male labour migration outside the home. Driven by persistent poverty, men migrate in search of wage employment in urban areas or plantation agriculture, sometimes at a considerable distance from home, while the women remain behind and head the households. Several studies in Western Kenya have shown that a large proportion of the farm households are headed by women because the men have moved to the cities (Staudt, 1975; Moock, 1976; ILO, 1974; Kenya, 1977a). In another study in Vihiga division in Kakamega district Moock (1981) found that about 38 percent of the households were headed by women mainly as a result of male labour migration but also partly because of death of a male head of household.

One of the most immediate consequences of male labour migration is the expansion in the social and economic roles of women. Traditionally, women have always made a significant contribution in agricultural production, but increased male migration has resulted in women assuming more responsibilities by taking over extra tasks that were previously regarded as a male prerogative (Fortmann, 1979; 1984). The women left behind are required to combine domestic chores with farming activities thereby intensifying their workload. Domestic and agricultural responsibilities of female heads of households have increased partly as a result of male migration and partly due to increased school attendance of children. School participation tends to keep the young out of household or farm work and consequently deprives parents and other adult members of the household of an important source of labour.

During peak periods, women are usually under considerable pressure to combine their domestic and agricultural roles. They work long hours in the fields, sometimes with babies strapped on their backs, before they return home in the evening to fetch water, collect firewood, prepare food, and continue with child care. In an area where child care facilities are not available and older children are gone to school, it is not uncommon for women to carry their babies to the fields or any other workplace. The involvement of women in production and reproduction, though fundamental to the maintenance of the household, also represents competing priorities and role conflicts that characterize the complexity of their lives. Commenting on the double duty problem facing most women in underdeveloped countries, Beneria and Sen (1981:292-293) have observed:

> The separation between productive and reproductive activities is often artificial, symbolized, perhaps, by a woman carrying a baby on her back while working on the fields. Women perform the great bulk of reproduction tasks. To the extent that they are also engaged in productive activities outside of the household, they are often burdened with the problems of 'a double day'.

Although female heads of households have assumed many of the responsibilities that were formerly assigned to men, there does not seem to have been a concomitant shift in decision-making power from men to women. In most cases, their decision-making power are considerably curtailed. Generally, these women are left behind with a number of responsibilities but no authority because, among other things, the socially constituted relations of male domination and female subordination within the family are still persistent. Most women lack adequate access to, and control over, resources. These and other constraints do limit their ability to make changes, much less to

participate in the development process. And such relationships are frequently and routinely legitimized, rationalized and reinforced by a series of cultural values and belief systems which define and prescribe what is considered as an appropriate sex role. There appears to be limited female involvement in livestock production primarily because male labour and management skills are still widely considered necessary for livestock management. Despite the limitations in their labour market participation, some studies have, however, shown an increasing involvement of rural women in petty business enterprises in an effort to make some economic contribution as well as to provide goods and services necessary for the maintenance of the family (Hunt, 1978).

Any analysis by Barnes (1983) based on 1978 national survey data obtained from small farms in Kenya indicates that the division of labour based on gender is becoming increasingly less rigid in those parts of the country where intensive crop production is dominant. Decreased child labour contribution, reduced livestock production, increased male participation in off-farm employment, greater involvement of the household in the market economy through sale of surplus produce, and the fragmentation of holdings and subsequent intensification of land use of land are some of the factors associated with this trend (Clark, 1984:346).

These and other studies seem to indicate that the traditional division of labour in many farm households is in a state of considerable flux quite in keeping with the way the household is being constituted and with changes in the larger market economy of which the household unit is a part. Although the specific ramifications of such changes and the extent of their impact on farm labour participation vary greatly from one

community to another, one of the most interesting aspects of the changes that are taking place in the organization of labour - at least from the standpoint of those who have to bear the consequences - is the fact that whenever someone has to take over another person's tasks, it is always the female who assumes male tasks and not vice versa. The roles seem to be only partially reversible which puts many women in contradictory role positions as they deal with the dilemma of a lingering cultural legacy in the midst of a transition.

The supply, allocation, and utilization of small farm labour usually takes place at the household level. The household thus constitutes the basic organizing and decision-making unit of production, reproduction, consumption, and distribution (Friedmann, 1980). For most households, the size of the family is considered as a key factor in the production process. This proposition is based upon the premise that the larger the family size, the greater the output. Yet such an assumption can be challenged by a counter argument that a large family also means many mouths to feed.

Since the use of hired labour in small farm households is very limited, most producers rely almost entirely on labour from their children and members of the extended family, particularly during school vacations and peak periods. Despite a growing direct competition of labour from other enterprises, there are still residuals of communal and reciprocal labour arrangements which are primarily based upon kinship ties, age groups, and other traditional social organizations. But the extent of such labour organizational processes vary by household and also depend on the cohesiveness of the groups in a particular neighbourhood, the availability of off-farm income-generating opportunities as well as

the influence of school participation. In many parts of Western Kenya, however, communal farm labour has become much less prevalent over the last few decades mainly as a result of the market influence.

As a whole, the family labour resource have been spread thin to meet competing demands emanating from other enterprises. The influence of the market on the organization of household labour as manifested in male labour migration and school participation has profound implications for the assignment of sex roles. Male migration increases female responsibility but reduces labour and decision-making inputs for livestock production. What are usually considered as changes in the traditional division of labour turn out on closer examination to be superficial shifts which are more apparent than real. Participation in off-farm activities has frequently been cited as one of the most enduring constraints to the supply of farm labour in the smallholder agriculture where there is limited use of hired labour (Cleave, 1974). Other studies have shown that household labour is not always available for farm use only but that a great deal of labour is also devoted to non-farm pursuits (Forbes, 1968; Mbithi, 1974). According to a survey on off-farm activities conducted by the Central Bureau of Statistics, about 50 percent of the rural households in Kenya are involved in various forms of off-farm activities, most of which are performed on a part-time basis to supplement the family income (Kenya, 1977a).

Some of the activities are primarily engaged in to fulfill specific social obligations. Others are necessary to meet certain economic needs. In most cases, it is both. Among the most common diversions from farm work are visiting friends and relatives, attending funerals, as well as other festivities and rituals that are considered to

be the integral part of the farmers' belief system. Some of these activities consume a great deal of time. For instance, in some parts of Western Kenya, particularly among the Luo, the average funeral ceremony may take anywhere between two weeks to two months depending upon the social status of the deceased and the number of progeny, both of which determine the duration and elaborateness of the rituals observed. The value farmers attach to some of these cultural non-farm activities is hard to quantify because it is difficult to place a price tag on any of them as they mean different things to different groups at different times.

Other off-farm activities include petty trade in the local markets, domestic chores by women, school attendance by children, attending community public meetings, and participation in a wide variety of rural development projects. Some of these activities might occupy a whole day, which raises some legitimate questions regarding assumptions about a surplus labour supply. The assumption that small farm households in underdeveloped countries have surplus labour stems from the idea of high population growth rates that is said to characterize underdeveloped nations. It is often argued in traditional circles and the modernization literature that high rates of population growth is one of the major problems, if not the actual cause, of underdevelopment. As Stockwell and Laidhaw (1981:169) have put it, many underdeveloped nations are considered to be in the middle of a "demographic nightmare" which constitutes an obstacle to development efforts. Implicit in this assumption is the notion that a substantial reduction in the fertility rates will be the panacea for poverty in the underdeveloped nations. Those who subscribe to this school of thought frequently assert that

small farm households have an abundance of labour that cannot be profitably and efficiently absorbed in agriculture. And in order to alleviate rural underemployment and unemployment, this 'surplus' labour has to be absorbed off the farm into other activities. The rest can be forced to migrate to seek employment in the cities or elsewhere.

Overpopulation is a relative concept. It only has meaning when viewed in relation to the amount and nature of resources available and their patterns of ownership, control and distribution. In most discussions of development issues in the Third World, the concept of over population is frequently evoked to obscure the structural reality - however perceived - that underlies underdevelopment. Let me explain. Small farmers in Western Kenya have limited access to almost any kind of resources. Many, if not most, of them are wretchedly poor. Those of them who decide to engage in off-farm activities do so not necessarily because of high population density but rather because the land they own is either too small or potentially unproductive to support the family, given the rising cost of reproduction. But in order to increase farm production, these farmers need to purchase farm inputs, hire more labour and acquire more land, all of which require large capital outlay. They have no meaningful access to land and control over the land market. Land prices are prohibitively high and much too outside the range of the average small farmer. However, land is always available for anyone who can afford it.

It is, therefore, somewhat misleading to assume that small farm households have a surplus labour that can be shifted around and re-allocated to any activity which requires immediate attention. While there are some evidence that additional labour would increase production,

competition from off-farm activities suggests a lack of surplus labour in small farm households. Given that some of the domestic chores performed by women are very time-consuming, women are frequently faced with double duty when they combine domestic duties with agricultural work. Their burden has been aggravated by the increased school attendance of children, which means that many parents cannot turn to their teen-age children for help with household and farm duties, they have no one to run errands for them, and some have problems getting help with child care.

Increased school enrollment of children has created labour bottlenecks in small farm holdings, particularly during periods of peak labour demands when adult members of the household have to work long hours in the field. When older children do not attend school, they provide assistance with such activities as tending livestock, collecting firewood, fetching water, guarding the crops against birds and animals, looking after their younger siblings, and running errands for their parents. The availability of child labour is considered crucial in determining the amount of labour adult members are able to devote to the farm and non-farm activities. As Kongstad and Monsted (1980:66) have noted, child labour contribution "may release the mother for productive agricultural work when the household duties are carried out by the children". As with adult labour, child labour is also allocated on the basis of age and sex. Thus, female children tend to be more directly involved in household duties while male children tend to concentrate on farm activities.

Yet with more children attending primary school than ever before, mainly as a result of state policy to provide free primary education, some of these household and farm activities have become ancillary to

schooling, and child labour has become available only in the evenings, on week-ends, and during school holidays (Feldman, 1984; Stichter, 1982; Leacock, 1981). Education is commonly seen as having an instrumental value as the key to success often defined in terms of a steady source of income, wealth, prestige and security. In view of the strong emphasis placed on formal education, sending a child to school has become every parent's social and moral obligation, and there is no question that this trend has substantially reduced child labour supply in a large number of farm households.

Other constraints, particularly capital and land shortages largely created by inequalities in the distribution pattern and individualization of the land tenure system, have given rise to a large group of small farmers who can barely generate a decent livelihood from farming alone. The landless, as well as those faced with severe shortages frequently seek wage employment opportunities away from the farm in an attempt to augment their family incomes. Labour migration to the urban areas and temporary migration to the estate farms have become two of the most common ways the small farm household adjust their labour utilization patterns in response to and to cope with changing economic conditions. Usually, it is the men who migrate to seek such opportunities and to sell their labour, although some women also engage in off-farm employment or take up paid jobs outside the home on a casual basis. But due to strong social and structural barriers, off-farm employment opportunities open to women appear to be considerably limited and intermittent.

Off-farm labour market participation can be seen as a clear indication of the smallholder economy's integration into the capitalist

world economy. Small farmers participate in the market economy in a variety of ways, mainly through the sale of their labour and surplus produce. Many small farm households are becoming increasingly dependent on off-farm sources of income because, as Livingstone (1981) has indicated, in most underdeveloped nations, farm incomes are generally lower than wages generated from off-farm enterprises.

Despite the strong appeal of urban areas and the high rates of labour outmigration, participation in off-farm activities does not necessarily involve rural-urban migration. Seasonal migration to work on estate farms is one example of rural-rural migration. Some off-farm activities are also carried out on the farm, within the local community, and in the nearby rural market centres. For the low-income farmers, petty trade represents an important part-time activity and a major source of supplementary income (Heyer et al, 1981; Bernstein, 1978). Even at times of peak labour demands, marketing surplus produce may occupy up to about two days a week, depending on the market schedules in the area. And as Cleave (1974:168) has pointed out:

> ....market days are social as well as economic occasions and visits are probably as much a matter of habitual behaviour as of necessity ....

Interaction Between On- and off-Farm Activities

Although the demand for off-farm activities does sometimes conflict with the time required for agricultural work, there is an interrelationship between some farm and off-farm activities. For example, many farmers market farm surplus produce in good seasons. This indicates that marketing is primarily based on farm production.

Similarly, some farmers spend considerable amount of time making and selling farm implements, and income generated from such sales may be used to purchase farm inputs as well as other goods and services considered essential for farm production and family reproduction. Because of such overlaps, the distinction between farm and non-farm labour is sometimes difficult to make. Typically, the small farmers in this area are involved in various kinds of activities some of which are complementary to subsistence agriculture. For instance, many farmers make and repair their own grain storages (granaries), baskets for carrying harvested crops, hoes and many other equipments. The question to be raised, however, is whether or not the production of such items constitute farm work.

Let us put this into perspective. In their discussion of the measures of non-farm work among a sample of New York farmers, Buttel and Gillespie (1984:205) raised the question of what does constitute on-farm or off-farm work by farm women, and "whether answering the telephone or driving to town for repairs can be regarded as farm work". Similar questions could be raised about the labour time spent by farm women in Western Kenya purchasing seeds in a local market, or the time spent walking to and from the farm located several miles away from home. The point here is that when the definition of labour is not quite so universal and its patterns of utilization between farm and non-farm activities overlap, the determination of what does or does not constitute farm work tends to be somewhat arbitrary.

Much of the literature on the organization of household labour tends to emphasize the effects of migration, formal schooling and off-farm employment on the availability of family labour. These are

viewed as major limiting factors in small farm labour supply. The general conclusion reached by most of the studies reviewed in this chapter is that, all factors considered, there is no surplus labour in most subsistence households. Given the limited use of hired labour, the traditional division of labour within the household, and competing labour demands between farm and off-farm activities, significant increases in farm production without additional labour and other resources are highly unlikely. Changes in the assignment of male and female roles have occurred within the traditional patriarchal structure that precludes meaningful female participation in livestock enterprises. So even if women assume additional responsibilities, these are mainly confined to the household and cultivation of food crops but may not be extended into cash crop and livestock production.

CHAPTER 3

THEORETICAL ISSUES AND DISCUSSIONS

Introduction

Empirical studies are rarely atheoretical. In cases where the approach is not eclectic, a research problem is usually located within a specific theoretical perspective considered most appropriate for understanding the problem under investigation and the substantive issues that are dealt with. In this chapter, the assumptions and assertions of different competing theoretical perspectives are explored in terms of how they analyze and inform our understanding of household labour organization in the context of subsistence agriculture. The discussions focus more on specific arguments within each approach that would help us understand how labour is organized in small farm households than on their general assumptions about the nature of development. In other words, this chapter focuses attention on how modernization theory, dependency perspective, world-system theory, and modes of production theory each looks at the changing processes and patterns of labour organization in small farm households, the way production is organized and the impact of migration on farm production. Since this is a micro-level study which takes the household as its unit of analysis, the relative appropriateness of each of these theoretical frameworks for the present study will be evaluated on the bases of their premises and levels of analysis.

Some of the previous studies on the organization of household labour reviewed in chapter 2 are informed by modernization theory or the

developmentalist perspective. Discussions of the modernization perspective which follow will attempt to delineate the specific arguments the approach makes on issues like the household division of labour, migratory labour processes, the organization of cultural, social, and economic institutions and the general pattern of social and economic change in smallholder agriculture. The specific assumptions of dependency and world system perspectives which are examined in this chapter are used as conceptual tools to situate the problem being investigated within the context of the larger market economy and to put the analysis into a historical perspective. These approaches help to clarify the nature of the household's or smallholder economy's integration into the capitalist world economy. On the other hand, the modes of production perspective informs the analysis by focusing on the internal dynamics of household labour organization. The central focus of the modes of production analysis is on the nature of the articulation between different modes of production within a social formation. The modes of production theory is a framework which looks at the differences between the households and the communities, identifies the various processes of articulation between the household and the capitalist economy and examines the dialectial nature of their interaction. We begin the discussion with the modernization perspective.

Modernization Perspective and the Analysis of the Division of Labour in Small Farm Households

Modernization theory came out of the evolutionary approach of structural-functionalism exemplified in the writings of such scholars as Talcott Parsons (1937, 1951) and Emile Durkheim (1964), among many

others. Theoretical discussions within the modernization perspective tend to reflect this functionalist influence:

> Evidence of their influence may be found in many features of modernization theory: the frequent use of dichotomous type constructions and concepts such as "social differentiation" and "social system"; an emphasis upon the ability to adapt to gradual, continual change as the normal condition of stability; the attribution of causal priority to immanent sources of change; and the analysis of social change as a directional process (Tipps, 1973 cited in Lauer, 1977:304).

The general orientation of the modernization perspective is marked by a dichotomous conception of reality derived from the five-pattern variable scheme developed by Parsons but which has been used by Bert Hoselitz (1960) to apply to the study of economic development and cultural change.

Different approaches are subsumed under the modernization perspective. These include Rostow's (1960, 1978) stage analysis of economic and industrial development, McClelland's (1961) social psychological analysis of individual motivation, the diffusion model (Rogers and Shoemaker, 1971), and Levy's (1966) discussions of modernization processes and structural changes in what he describes as 'relatively non-modernized societies'. All of these approaches are developmentalist perspective which uses a simple traditional-modern dichotomy as its basic frame of reference. Individuals, groups and societies are described as either 'traditional' or 'modern', although some may fall somewhere along this continuum, depending on certain attributes and the stage in the development process. Change and development are conceptualized as evolutionary processes which necessarily require that the attributes of the relatively modernized societies be transposed onto relatively non-modernized societies (Levy, 1966). Thus, the processes of social change and economic development can be viewed as representing a transition from, say, Durkheim's mechanical

solidarity to organic solidarity. Tonnies' gemeinschaft to gesellschaft, Parson's role diffuseness to specificity, particularism to universalism, ascription to achievement, and so forth (Goldthorpe, 1984; Parsons, 1937; Durkheim, 1964).

This model posits that roles in developed societies are typically universalistic, based on achievement and functionally specific whereas those in underdeveloped societies are particularistic, based on ascription and functionally diffuse (Worsley, 1984:18). Development thus consists of replacing the ideal typical features of a traditional economy with those of a modern economy; it involves a transition from traditional forms of organization to modern methods of production:

> .... economic development would be a process whereby a society undergoes a basic structural transformation from a type characterized by diffuseness/particularism/ascription to one characterized by specificity/universalism/achievement. (Stockwell and Laidlaw, 1981: 152)

According to this conceptualization, as development takes place, there is a concomitant increase in the division of labour and a growing structural complexity, differentiation, and integration among the various units of the social system. In general, adherents of the modernization perspective tend to view development as a process characterized by progressive differentiation, structural integration, and functional interdependence of roles, structures and institutions. Increased role specialization and the complexity of the division of labour are seen as the key to greater integration and high productivity that have come to be associated with economic growth and development in industrial societies.

Based upon Talcott Parson's five pairs of pattern variables, the modernization perspective assumes that "traditional" societies or sectors within them are characterized by a division of labour in which roles are

functionally diffuse rather than specific and the level of farm production is generally low because of lack of modern technology. Manifestations of this role diffuseness can be identified in cases where "a man will be a hunter, a farmer, a warrior, a house builder and a tool maker all at once (Stockwell and Laidlaw, 1981:152; Hoselitz, 1952, 1960).

Those who operate within the modernization framework frequently argue that labour in small farm households in so-called traditional societies is allocated on the basis of ascriptive rather than achievement criteria. Levy (1966:654), for example, argues that in underdeveloped nations, family roles are differentiated on ascriptive criteria of age and sex, and do not take into account particular skills, knowledge or experience that may be possessed by individual members of the household. The analysis of the division of labour in small farm households in Western Kenya support such an argument. Household labour is differentiated by age, gender and the type of commodity produced. The basis for role differnetiation is predominantly ascriptive but it is also culturally defined. But since achievement is usually not a major consideration in the assignment of farm tasks and responsibilities, modernization theorists contend that substantial human potential maybe left untapped particularly in matters regarding livestock management and farm decision-making which are traditionally reserved for male heads of household. In households where the male head is away from home and the women left behind have to defer all major decisions to the head, there is a possibility that this could impede productivity of certain enterprises and eventually reduce overall farm production. Although the modernization perspective provides some useful insights into the

organization of household labour, the cultural, social and economic basis of these practices are somewhat taken as given and rarely made problematic.

Underdeveloped countries are also characterized as particularistic rather than universalistic in terms of the ways in which productive tasks are assigned. This implies, for example, that small farmers in Western Kenya are more likely to hire or exchange labour with their relatives and friends than to engage the services of someone else from outside who may be more competent to do the job. This tendency to engage in exchange or reciprocal relationships with members of one's family or kinship group derives from a strong sense of kinship obligation and the general orientation to avoid risk and ensure security. These cultural belief and value systems are viewed by the diffusion model as representing an obstacle to change in underdeveloped countries (Rogers and Shoemaker, 1971). The assumption is made that change cannot be generated unless these traditional obstacles are overcome and significant changes made in the farmers' predispositions, attitudes, values and beliefs, which underlie and influence their behavioral patterns. According to this orientation, change and development are considered possible through piecemeal reforms and do not necessarily involve a radical transformation of the system which produces and reproduces poverty.

Despite the diversity within the modernization perspective, there is, however, a common thread that is woven through all the different strands of thought which comprise this perspective. Although modernization theory tends to focus on the values, beliefs, attitudes and demographic characteristics of individuals, these are usually aggregated

and used to characterize the nation-state as an appropriate unit of analysis:

> The level of analysis which is of crucial theoretical significance is that of society and culture - the national state is normally the focus of interest (ultimately, even individual modernity is of interest because of its implications for the societal level (Lauer, 1977:304).

According to this assumption, development and underdevelopment tend to be explained in terms of the unique conditions and attributes internal to a particular nation-state. These units are often studied and analyzed as discrete entities, largely in terms of their internal dynamics and processes, almost as if they have an existence independent of the world economic system of which they are apart. Usually, the tasks of modernization analysis are to identify the obstacles and to design projects and programmes to help remove them in order to promote development or at least to initiate some changes. Once the obstacles are removed, then development, normally measured in terms of aggregate economic growth, could proceed regardless of how the benefits of such growth are distributed. Changes in individual perceptions, cultural patterns and economic systems are seen as processes that can be brought about or facilitated through communication and increased literacy level which allow for greater exposure to outside influence. These processes enhance upward social mobility. For example, modernization theory would argue that improved transportation, increased school participation, more social and economic opportunities in the rural communities in Western Kenya are indicators of development. But the specific consequences of these development processes have received relatively little attention. The emphasis on internal factors as the major explanatory variables in the analysis of underdevelopment is premised on the assumption that economic

growth is largely an endogenous process because even if Third World nations receive aid from the developed nations, the social, economic and political institutions in the recipient country must create an overall atmosphere conducive to change. This line of argument suggests that even though modernization takes place within international context through external influence, it is largely seen as a function of internal processes.

Because of its focus and emphasis on endogenous processes within each country, the modernization perspective has been criticized for being ahistorical. The approach has had little to say about the colonial history and experience of underdeveloped countries which have structured the relationship between the core and the periphery in some fundamental ways. The approach's conceptualization of development, especilly as it pertains to the historical origins of capitalist expansion into Third World social formations has generated much criticism (Amin, 1972; Frank, 1969, 1972a; stavenhagen, 1975). Hoselitz (1952:v), for example, has pointed out that "if there are 'developed' and 'advanced' countries in the present they must have at some point been underdeveloped". According to this assumption, development and underdevelopment are not seen as parts of the same historical processes, namely colonialism and the emergence and expansion of a stratified capitalist world economy characterized by an international division of labour. It was through these historical processes that Kenya became incorporated into the capitalist world economy as a dependent periphery.

It was shown in chapter one that the vast majority of the rural population in Kenya is engaged in subsistence agriculture, carried out largely on a family basis. From the standpoint of the diffusion model,

the subsistence sector is "backward". An increase in food production calls for a change in traditional farming practices. This, it is argued, could be achieved through the transfer of technology, capital, and skills from the core to the periphery. When these various forms of innovations are diffused from outside and adopted by the indigenous "target" groups, the process is seen as basic to increased productivity. Technology is thus held as the prepotent factor in agricultural development and its inexorable force and compelling effects sometimes tend to be overstated even though a particular technology might be inappropriate for the resource conditions of the setting to which it has been transferred. Very often, the consequences of certain technological innovations tend not to be anticipated apriori. As Goss (1979) has pointed out, some technical changes in farm production could create and exacerbate inequalities. Moreover, many technical modifications and inputs notably in farm mechanization and improved husbandry techniques in Kenya and other parts of Africa have consistently been shown to be hopelessly inappropriate (Cliffe, 1976). Such technical modifications are seldom incorporated into the existing practices nor informed by indigenous knowledge. And since the modern inputs are not usually combined with adequate fostering of creative skills and knowledge on the part of small producers, they seldom lead to a meaningful change in subsistence agricultural enterprises.

The diffusion model, which is a variant of the modernization perspective, tends to explain lack of development in Third World nations in terms of what Roxborough (1979:20) has referred to as "some 'missing factor' which was absent in these societies and would account for their failure to achieve economic growth" (my emphasis). Included

among the missing factors are capital, technology, achievement motivation, entrepreneurships, institutions, skills, and sometimes labour, although this is generally considered abundant on account of high population growth rates in Third World nations. Within this framework, development would be conceptualized as a process involving a decline in the rate of population growth, the transfer or acquisition of the missing factors, and an increase in aggregate economic growth (Anker and Knowles, 1983). The concern with aggregate economic growth tends to preclude any serious attention on issues of distribution or equity (Fields, 1980b). The general implicit assumption is that once increased production has been achieved, the benefits of growth will trickle-down, hopefully equitably.

From the foregoing discussion of the modernization perspective and examination of some of its key assumptions, it seems clear that its conceptualization of household labour organization and how this relates to the broader question of agricultural development calls attention to the pre-existing forms of cultural, social and economic systems which need to be restructured or otherwise modified through contact with the larger market economy as a necessary part of the development process. Some of the insights from modernization theory bear directly on the differences between the two communities in Western Kenya specifically in terms of resource distribution, cultural attributes and economic opportunities. From the standpoint of modernization theory, understanding these cultural and structural conditions is essential to understanding the development potential of the communities. But modernization theory is relatively inadequate for understanding the historical origins of underdevelopment in smallholder agriculture in Kenya. Much of the theoretical critiques of the modernization perspec-

tive have largely been leveled by writers who operate within the political economy framework. The general line of criticism has developed along what critics consider as lack of "historical awareness" (Goldthorpe, 1984:135) and dialectial reasoning. From the dependency and world-system perspectives, this lack of historical awareness is particularly viewed as a major theoretical error of the modernization perspective.

The Dependency Perspective and World-System Theory: Some Disjunctures in Thinking Globally and Acting Locally

The dependency perspective emerged in the 1950s from the writings of Latin American scholars who were largely disillusioned with development policies based on modernization theory. Dependency then came out as a critique of, and an alternative approach to, developmentalism. The basic tenets of the new approach were initially articulated and forcefully expressed in the work of the United Nations Economic Commission for Latin America (ECLA) under the leadership of Argentine economist and former finance minister, Raul Prebisch (Frank, 1974; Wallerstein, 1977).

Although Latin America is the cradle of the dependency perspective, the issues that the theory speaks to have important relevance for,and applicability to, Kenya and the rest of the underdeveloped world. The overriding concern of the perspective is to determine the structural causes or historical roots of underdevelopment. Later, in the 1960s, the dependency perspective became widely known and was popularized in Africa largely through the writings of Samir Amin (1972; 1974; 1976) which have focused on the historical processes of underdevelopment in Africa including a thorough-going analysis of capital

accumulation and the structure of international relationships that produces, reproduces and reinforces poverty in the periphery.

There are, however, some fundamental differences and diverse strands of thought within the dependency framework which makes it inappropriate to talk of a single theory of dependency (Palma, 1978; Smith, 1979; Haru, 1981). However, the competing theoretical explanations of the nature of dependency and the cause of underdevelopment in dependency analyses are not necessarily mutually exclusive although the range of these theories run from those that are somewhat liberal to those at the radical left end of the continuum. Despite the diversity in their explanations of the nature of dependency, the dependencistas (dependency theorists) share a general conception of the relationship between dependency and underdevelopment, asserting that the former structures the latter. Theotonio Dos Santos (1970:231) has offered one of the best known and most frequently cited definitions of dependency:

> By dependence we mean a situation in which the economy of certain countries is conditioned by the development and expansion of another economy to which the former is subjected. The relation of interdependence between two or more economies, and between these and world trade, assumes the form of dependency when some countries (the dominant ones) can expand and can be self-sustaining, while other countries (the dependent ones) can do this only as a reflection of that expansion, which can have either a positive or a negative effect on their immediate development.

The penetration of core capital into the peripheral economies is taken as the single most important conditioning factor that has created underdevelopment in Third World social formations. Peripheral economies are seen as part of the capitalist world economy and the internal situation in the periphery is explained in terms of their incorporation into this world system. While the dependency perspective focuses on the

external causes of underdevelopment, the world-system theory is more concerned with a delineation of the historical processes which led to the emergence of the capitalist economy. Despite their emphasis, the two perspectives are basically similar and, as Haru (1981) and Petras (1981) have each pointed out, the major difference between the two is in style rather than substance. One of the key assumptions of the dependency perspective is that underdevelopment is not an original condition of the so-called traditional societies but a product of the same historical process of the expansion and the development of capitalism that has given rise to development (Goldthorpe, 1984:139; Frank, 1967:9-11)

In his attempt to identify the historical determinants of underdevelopment in the Third World, Johnson, (1972:72) has noted:

> Historical situations of dependency have shaped present day underdevelopment in Latin America, Asia, and Africa. Underdevelopment is not an original state.

He further points out the key to understanding the roots of underdevelopment:

> ... each nation has developed underdevelopment according to unique economic, socio-cultural and political factors and events in their separate histories. But the unique qualities, factors and events should not be allowed to obscure the fundamental conditioning situation of dependency (Johnson, 1972:108).

This situation of dependency is asserted to have conditioned not only the international relations between the core and the periphery but also their internal structures such as agricultural development policies, the organization of household labour processes, land tenure system, the traditional forms of production, and the distribution of resources between the subsistence agriculture and export agriculture. Thus underdevelopment is seen as a function of capitalist development and there does not seem to be much debate over this issue among the proponents

of dependency and world-systems perspectives whose theoretical analyses have focused on Third World realities. Based upon their historical analysis of the development of colonial capitalism in Africa and how this has shaped the political economy in African social formations, Gutkind and Wallerstein (1976:26) conclude:

> That Africa is "underdeveloped" is common knowledge, a cruel fact perhaps better understood by Africans than by those who make their living by studying this condition .....

Their question, however, is:

> Why is Africa (or for that matter Latin America and much of Asia) so poor? ..... the answer is very brief: we have made it poor (Gutkind and Wallerstein, 1976:27).

This view is also shared by Worsley, who wrote:

> We said at the outset that these countries are not naturally poor. They have been made poor. Nor is their problem one of needing to be taught how to produce. It is that the wealth they produce ends up elsewhere. The situation will continue as long as they receive low prices for their products and pay high prices for what we sell them (1984:343).

A major thematic issue that characterizes both the dependency perspective and world-system theory is the emphasis on the exploitation of the periphery by the core regions through surplus appropriation and other mechanisms of unequal exchange. The world-system theory takes a holistic view of the development process rather than a fragmented dualist perspective characteristic of the modernization framework. Consistent with their holistic approach is their basic assumption that the unit of analysis is neither the household nor the nation-state but the capitalist world economy. Consequently, in order to understand changes in the labour processes on small farms in Western Kenya, for example, it is necessary that analysis should shift away from the internal differences between the communities or households and instead focus on the dynamics of the larger system and their influence at the local level because,

according to the world-system theory, this is what gives meaning to the specific internal attributes. Wallerstein explains why he considers the capitalist world system as the appropriate unit of analysis. He points out that he:

> abandoned the idea altogether of taking either the sovereign state or that vaguer concept, the national society, as the unit of analysis. I decided that neither one was a social system and that one could only speak of social change in social systems. The only social system in this scheme was the world system (1974:7; also quoted in Roxborough, 1979:51).

Critique

Although the assumptions underlying the dependency perspective and world-system theory have had a profound influence in the way in which historical development processes in Third World social formations are conceptualized, they have generated a new set of criticisms from other approaches. The ensuing debates and controversies have become something of a theoretical impasse because of the differences in the levels of discourse. At the theoretical level, this cul-de-sac precludes a meaningful dialogue or trialogue between different perspectives because even if different theoretical approaches employ similar empirical analyses, the data are interpreted differently.

The point of departure of the world-system theory is the capitalist world economy. Typically, Wallerstein's and Frank's analysis start with a global conception of the relationship between external and internal forces and proceed almost as if internal factors are epiphenomenal in terms of understanding what is going on at the local level. The external structures are viewed as exercising an overriding influence on the internal processes in a fairly mechanical and determin-

istic fashion. What appears to be missing in this kind of analysis is the lack of a dialectical conception of the relationship between internal and external forces.

Despite their theoretical merits (they have major pitfalls as well) over the modernization perspective, dependency and world-system perspectives have come under increasing attack by critics who charge that their assumption of systemic holism and their general teleological reasoning tend to ignore the relative autonomy of individuals, groups and communities at the micro-level (Smith, 1979:254; Taylor, 1979). Based on concrete examples from Brazil, Hall (1984:44), for instance, has suggested that these assumptions of systemic holism should be abandoned and replaced with other forms of conceptualization which would view the world economy as "a totality of more loosely coupled and relatively autonomous phenomena."

There is no doubt that the small farmers in Western Kenya have been drawn into and are articulated with the world economy and they participate in it, albeit as subordinate partners. If Petras' (1981:148) argument that Wallerstein's problematic ignores the actors who are assumed not to be acting "for their immediate concrete interests but because the system dictates that they act," is defensible, then this line of reasoning could raise a whole new set of questions concerning the way small farm households in Western Kenya are affected by and respond to the external market forces that are penetrating into the household. Although the development of such trends as the use or lack of hired labour, school attendance of children, male labour out-migration, and the changing role of women are viewed as manifestations and inevitable consequences of the incorporation of the small farm households into the capitalist economy

and not purely as reflections of socio-economic characteristics of individual members of the household or farm units, the way these trends have evolved tends to vary somewhat dramatically between the communities. Small farm households in Western Kenya have not responded uniformly to the changes wrought by capitalist penetration. Critics argue that this is because capitalist expansion is uneven (Hall, 1984:60; Mintz, 1977; Taylor, 1979).

Wallerstein has acknowledged the criticism leveled against his systemic analysis, particularly with reference to the colonial history of African involvement in the world economy, and has subsequently explicated his theoretical position in a reflective treatise that is worth quoting in its entirety:

> At a certain point in time, both Europe and Africa (or at least large zones of each) came to be incorporated into a single social system, a capitalist world economy, whose fundamental dynamic largely controlled the actors located in both sectors of one united arena. It is in the reciprocal linkages of the various regions of the capitalist world-economy that we find the underlying determinants of social actions at a more local level.
>
> It will be said that this ignores the relative autonomy of the acting groups. It does indeed in the sense that all systemic analysis denies the real autonomy of parts of a whole. It is not that there are no particularities of each acting group. Quite the contrary. It is that the alternatives available for each unit are constrained by the framework of the whole, even while each actor opting for a given alternative in fact alters the framework of the whole (Wallerstein, 1976:30).

The criticisms discussed up to this point have been theoretical, and have mainly questioned the perspective's adequacy for conceptualizing development processes in specific cases and internal dynamics of household production. Other critiques of the world-system theory and the dependency perspective are of a methodological genre.

Methodological Implications of Some of the Assumptions Underlying Dependency and World-Systems Perspectives

The holistic assumptions underlying the world-system theory and the dependency perspective have important implications for micro-level empirical studies. They also have direct implications of an epistemological nature to the extent that they are concerned with what constitutes knowledge and how it might be obtained (Burrell and Morgan, 1979).

Since the capitalist world economy is taken as the primary unit of analysis, from a methodological standpoint, the dependency perspective and world system theory represent a macro-framework which tends to focus on the interplay between external structures and internal processes usually at high level of generality and abstraction. Obviously, the small farm household in Western Kenya is integrated into the market economy which has a profound effect in shaping the developmental processes within the household. This articulation is manifested through the sale of labour, land, and surplus produce by some households. Indeed, the overall impact of the market economy on the organization of household production is profound and growing, and as Hobbs (1980:10) has observed:

> Where in the world today can one find the rural community which is not affected in very profound and direct ways by the existence of a highly stratified and technically dominated world system.

Given their general theoretical orientation, dependency and world-system theory take their point of departure from the functioning of a unified world economy and tend to regard the internal processes as mere derivatives of the larger system (Koo, 1984:40). Because of the broadness of their scope and their basic concern with understanding the

world economy as a whole, all the internal structures and processes tend to be explained in terms of their function for the whole. This line of reasoning is considered as teleological. Their scope also renders their analyses conceptually less rigorous (Fost-Carter, 1978:50). One implication of such an approach is that unique and specific cases at the micro-level and the differences between cases tend to be trivialized or receive little attention as long as the logic of the whole is understood. There seem to be some methodological problems associated with this kind of approach. As Smith (1979:257-258) has noted:

> The error of this approach is not that it draws attention to the interconnectedness of economic and political processes and events in global manner, but that it refuses to grant the part any autonomy, any specificity, any particularity independent of its membership in the whole. Such writing is tyrannical (emphasis in original).

From a methodological standpoint, the emphasis on macro-level structures sets certain limits on research efforts on well-focused, micro-level studies. At the present time, there seems to be a manifest disjuncture between the world system analysis and empirical case studies, say, at the local level in a Third World setting attempting to determine the extent of dependency. A major methodological problem facing research efforts within the dependency and world system framework, for example, is that of concept formation, and operationalization. If the structure of the market economy is taken as the key variable then this conceptualization more or less defines the parameters of the study because micro-level processes such as the division of labour within the household, participation in off-farm activities, the exchange of local commodities in rural markets, migration, and the emergence of land markets are assumed to be subsumed under the capitalist world economy. The influence of the market is held to be mediated by state intervention

in the form of agricultural development policies. Beyond this, very little else is explained independently of the market impact. A careful review of the dependency literature reveals that the perspective offers little methodological guidance for substantive empirical research at the micro-level, be that the household or a small rural community.

Most of the empirical studies that have been informed by the dependency perspective have basically sought to test the extent and effects of dependency either nationally or across nations (Chase-Dunn, 1975; Kaufman et al, 1975; McGowan and Smith, 1976; Cheng, 1982). Such studies set at the macro-level are generally appropriately designed for the kinds of problems being investigated, and many of them have generated a useful set of empirically testable hypotheses about the extent and effects of dependency in selected Third World economies and specific sectors. The crucial point, however, is the problem that is being investigated and what is essential in studying it. The choice of the approach then hinges on the scope of the problem under investigation; whether one wants to understand the world system as a whole or specific processes and substantive issues in a particular context.

If understanding and explaining changes in household labour organization on small farms in Western Kenya is the subject of research then analysis should at least include some discussion of the traditional division of labour, indigenous forms of production and technology, the kinship system in which these organizational structures are embedded, the commodity markets that have emerged in the rural economy and a steady withdrawal of labour from subsistence agriculture which creates seasonal

labour bottlenecks and shortages. Most of these change processes do not occur in isolation but as part of the extension of the market economy into the household economy. But small farm households in Western Kenya are heterogenous and cannot be regarded simply as one monolithic group. They exhibit diverse socio-cultural and economic characteristics. Some small farm communities have had unique historical experiences and therefore development efforts in such communities have to be understood in the context of that diversity and each country's historical experience. Micro-level studies that are now needed to establish an empirical basis for dependency theory are, as Palma (1978:882) has suggested:

> those which resist the temptation to build a formal theory, and focus on 'concrete situations of dependency'.

Taking the small farm community in Western Kenya as an example, a well-focused study within the dependency perspective or world-system theory would seek to identify the specific situations of dependency relationships and the concrete forms in which the household economy is integrated into the larger market economy, specifying the nature of the articulation and the extent of dependency. Perhaps such a study would determine, in a more definitive way, the extent to which the changing labour processes in the household are a function of capitalist development and incorporation.

Dependency theorists argue that even though the world economy has a profound impact upon the internal functioning of the peripheral economy, the external dependency relationships between the core and the periphery are internally reproduced within the periphery through an alliance between the indigeneous bourgeoisie and international bourgeoisie. Petras (1981) indicates that it is through the local col-

laborator classes that the core exploitation of the periphery is facilitated and perpetuated. Most invariably, the local or national bourgeoisie have reciprocal (but not equal) relationships with the core capitalists, and because of the coincidences of interests the former benefit from dependency relationships mainly by exploiting the small farmers and the proletarians within the periphery. They do this to strengthen and consolidate their power and wealth vis-a-vis the poor, the vast majority of whom are in the rural areas, engage in smallholder agriculture, and still live near subsistence levels. This situation is described as internal colonialism in which some communities in rural peripheral nations look like and are considered as an internal colony or satellite not only of the urban industrial areas but also of the cash crop regions (Wolpe, 1975).

At the state level, the urban areas, particularly the major cities, are considered as the national metropolis which drain and appropriate resources from the rural areas thereby aggravating their impoverishment (Stavenhagen, 1975; Frank, 1972:425). Consequently, the former develops at the expense of the latter. These local elites who have ties with international capital are also the ones who run the state, organize the economy, formulate public policies, and set the agenda for development according to their definition and that of the interest of capital within the core. Thus, the process of underdevelopment is generated externally but reproduced locally through internal structures and the coincidence of such interests. Reflecting upon the structure of relationships between the rural and urban areas in Tanzania, President Julius Nyerere noted:

> ... when we talk of exploitation we usually think of capitalists ... But we can also divide the people into urban dwellers ... and those who live in the rural areas. If we are not careful we might get to the position where the real exploitation in Tanzania is that of the town dwellers exploiting the peasants (Nyerere, 1971:376).

In terms of what constitutes meaningful development, the world-system and dependency theories consider equitable and increased access to resources, local autonomy, and greater participation as some of its essential elements, and suggest that the only way to achieve these objectives is by restructuring the system of exploitative relationships which exist both internally and internationally and produce and reproduce poverty (Frank, 1972a, 1979; Stavenhagen, 1975). Some of the theoretical and criticisms of the world-system theory and the dependency perspective have come out of the modes of production theory. At the methodological level:

> Concepts like Frank's 'metropolis' and 'satellite' were in their own scarcely less elusive or easier to pin down than Rostow's 'stages of growth'. An operationalizing problem, then, was early detected; and social scientists attracted by the dependency perspective often found that in practice they could use it as little more than a charter. Almost at once other approaches began to be sought, both for the detailed study of the local level and for understanding its linkages with the wider society (Foster-Carter, 1978:49).

Articulation of Modes of Production: Understanding the Relations Between Household Production and Capitalist Mode of Production.

The modes of production theory is an orientation that has emerged as an alternative approach to, and a critique of, the dependency perspective, the world-systems theory and the modernization perspective. It has been articulated as a self-conscious effort to reinterpret the Marxist analysis of capitalist development, particularly the notion of the progressive nature of capitalism. One of its assumptions is that

specific modes of production within a given social formation constitute the units of analysis. Each national economy is seen as a concrete, historically created social formation comprising different modes of production which are articulated with one another (Chinchilla and Dietz, 1981). Thus, various modes of production co-exist within a given social formation.

This approach questions Wallerstein's conceptualization of the capitalist world economy as a single unified system that incorporates all other forms of production. The main line of criticism of this holistic approach stems from the fact that pre-capitalist forms of production have survived within the capitalist system in different social formations (Taylor, 1979; Hindess and Hirst, 1977; Hall, 1984). The articulation perspective rejects the notion that there is only one mode of production and that it is capitalist. Instead, it argues that the world economy is a totality of relatively autonomous modes of production which are in different stages of development. Chinchilla and Dietz (1981:145) argue that external dependency is not a major determinant of underdevelopment but that underdevelopment is structured through a dynamic and dialectical relationship between various modes of production within a social formation. These relationships are historically constituted and the exact form of production in each mode changes over time according to the stage in the development of capital. Cliffe (1976:125) also points to the continued existence of pre-capitalist structures in rural Africa as both the cause and consequence of underdevelopment in the African social formations. Development therefore entails the destruction of pre-capitalist institutions and the emergence of capitalist forms and relations of production. But commodity relations have not been fully

developed in the small farm units where subsistence needs are still largely met through household production. This resistance of subsistence agricultural production to change and the inability of rural African economies to evolve into a capitalist form both indicate continually reproduced underdevelopment. The specific forms of organizing labour for household production have been explicated in considerable detail by Friedmann (1980).

In her attempt to determine the nature of the articulation between the household production and the national economy, Friedmann (1980) has offered one of the most adequate theoretical explications of the household organization of the production process. Her theoretical analysis takes the household as the basic unit of production and reproduction in which the major inputs or factors of production such as labour, land and capital are supplied by the family. She makes a conceptual distinction between 'peasant' forms of production and simple commodity production as representing separate forms of articulation in which the latter is more tightly linked to the market than the former. These distinctions also suggest the extent of capitalist development in smallholder agriculture. The concepts generated by her theoretical analysis may be useful in understanding small-scale household production in Western Kenya.

One of the defining characteristics of household production is its reliance on household labour. Production is primarily for household consumption rather than exchange although a small surplus is usually marketed. In most small farm households commodities are produced largely to meet the needs of simple reproduction which includes providing food for the family and generating funds to replace, renew or repair the

technical elements of production in order to continue the reproduction cycle.

The analysis of household production has focused on the issues of the household's articulation with the market economy and the extent of commodity relations in the context of that relationship. It has been argued that one of the features that distinguishes small producers from simple commodity producers is their partial integration into and limited participation in the market (Bernstein, 1979:437; Friedmann, 1980:166). Household production involves limited mobility of factors of production and commodity relations are increasingly becoming a part of the household economy. In Kenya, most land of the is privately owned and controlled. Through individualization of the land tenure system, fragmentation of land holdings, and the penetration of commodity relations into the household economy, land has become a partially commoditized private property with increasingly fewer people having access to it. Drawing upon examples from Kenya, Cliffe (1977) has pointed out that even though land is a salable commodity, it cannot be bought and sold freely because, in some cases one has to obtain permission from other members of the household before decisions involving cash transactions take place. This points to the manner in which traditional kinship structures interact with market relations to define the nature of the articulation.

At the level of the household economy, labour has not been fully commoditized in the sense that not all households sell or purchase labour. Wage labour constitutes a small proportion of the total labour input in small farm households. Much of the farm labour is supplied by the family. Only a few relatively wealthy farmers have access to hired labour. In Western Kenya, most of these tend to be livestock producers.

As a traditional form of wealth, livestock ownership confers status upon individuals. This status derives primarily from the role of livestock as a form of liquid capital as well as a traditional form of wealth.

In some small farm household units, the labour process is organized on the basis of social relations which include co-operative and mutual help on the farm from friends and relatives on a reciprocal basis without wage relations. But such communal, non-capitalist forms of labour relations are getting replaced by commodity relations as the impact of capitalist development penetrates into the household economy. The small producers who have limited access to the factors of production such as land, labour and capital, and are unable to reproduce themselves through household production have to sell their labour in the cities or in large farms.

The mobility of labour out of subsistence households is viewed as one of the processes of articulation which link the household to the market but that the labour influence of the market is not all too pervasive because some elements of production such as some family labour resources are held outside the market (Foster-Carter, 1978). Migration is then one form of the articulation process. Other forms include the use of purchased agricultural inputs by a small minority who have access to credit facilities, access to produce markets, and the sale of surplus produce. Increased mobility of labour away from the farm could affect the household organization and division of labour in certain fundamental ways.

One of the consequences which has been widely documented is the emergence of female-headed households and concomitant changes in female responsibilities on the farm. In the absence of hired labour, the incor-

poration of a new commodity into the existing system of household production may depend on the labour requirements for the specific commodity as well as other farm and household activities. If the demands on labour exceed the family supply, then changes in the production process cannot be readily responded to, or actually made, even if they are considered to be compatible with the local conditions of the small farm community.

Despite the penetration of capital and the extension of commodity relations, the 'articulation' perspective considers the household economy as a relatively autonomous form of production in which the labour process is still largely organized outside the marketplace. The central theme of the debate is that both historically and contemporarily the progressive nature of capitalism has been limited at least in the small farm sector where it is argued that some means of production are held outside the circuit of capital (Bernstein, 1979). Consequently, Friedmann (1980) has suggested that discussions of the exploitation of small-scale producers should be less general and attempt to specify the mechanisms of surplus appropriation as a more fruitful way of understanding the nature of the articulation between household production and capitalist production in a given social formation. Analysis should also focus on the conditions under which various forms of articulation occur and the specific nature of the interaction. Some of the efforts to determine the nature of articulation between the rural household and the urban industrial sector have been made in the studies of migration. These efforts are informed by conflicting sets of ideas about the conditions that give rise to migration and the overall impact of migration on labour supply and agricultural production.

Conflicting Conceptions of the Conditions for and Consequences of Labour Migration

Although reductions in labour supply for household production has been linked directly to migration, some empirical evidence suggest that the flow of income transfers from urban to rural areas is a major benefit of migration. Before we get into the discussion of why migrants decide to remit and how much is remitted, it is necessary to examine some of the reasons why people move.

People migrate for various reasons, and the motives behind their decisions could also be manifold. Some decisions could be based on individual motives; others on social, economic and ecological factors. Frequently, some or all of these are inextricably bound up in a complex set of relationships. Studies that have been informed by the modernization perspective and the neo-classical economic theory tend to emphasize the utilitarian value or the contribution of the migration process to rural or agricultural development in the underdeveloped nations (Byerlee, 1974; Todaro, 1976; Findley, 1980). In terms of explaining why people choose to migrate, the concept of rationality features rather prominently in most of these traditional approaches. Here is an example of a rational decision-making process:

> If the potential migrant gives some consideration to the benefits and costs of alternative destinations, or to the consequences of moving versus staying, then we consider the decision-making process to be "rational" ... (De Jong and Fawcett, 1981:46).

In any given community there are a wide variety of reasons why some individuals or groups might want to relocate. The reasons might include jobs, the availability of certain amenities such as recreation or enter-

tainment, education, health, climate, housing, marriage, and other family-related reasons. Basically, the decision to migrate is viewed as a function of personal values, needs, aspirations, preferences and expectations. Some of these considerations are not necessarily rational but they are shaped by local economic conditions as well as other structural "push" and "pull" factors. If, for whatever reason, the individual is not satisfied with the present location, migration will take place.

> Thus, migration is viewed as a process of adjustment whereby one residence or location is substituted for another in order to satisfy the needs and desires of each migrant better .... (Brown and Sanders, 1981:150).

Although labour migration patterns and processes have mostly been explained in terms of overall individual level of satisfaction or dissatisfaction the primary focus of the economic model and the developmentalist perspective has been on the differences between wage rates and employment opportunities in rural and urban areas. Rural-urban income levels and job opportunity differentials have thus been postulated and also emphasized as the principal determining factors of labour migration (Todaro, 1976; De Jong and Fawcett, 1981). These social and economic opportunities in the urban areas, or any other area of destination, constitute the structural "pull" factors (Worsley, 1984). However, others like Goldscheider, (1971) tend to disagree with this line of reasoning, arguing instead that economic opportunity is only a facilitating factor in, rather than a major determinant of, labour migration, especially among the young. Goldscheider further indicates that the reason the young are more likely than older members to move is because they have fewer, if any social and economic investments and

weaker family ties and kinship obligations, and therefore are less integrated into the community social structure than the older members.

Despite the debate on why people do or do not migrate, and the conditions under which migration takes place, the general assumption is that rural areas in underdeveloped countries are predominantly agrarian, overpopulated, or offer limited or no opportunities for a large number of people. Rural-to-urban migration is therefore seen as a rational response to inequalities and real or perceived lack of opportunities in the agricultural sector. Some of the "push" factors include land shortage, the fragmentation of holdings, low yields, unemployment and underemployment (Worsley, 1984). Together, these and other factors push out the young, the landless poor, and the relatively well educated out of subsistence agriculture to look for opportunities to improve their situation. Rural-urban migration then serves as a classic example of how the household economy and the market system are connected. But it is a dialectical relationship in that the inequalities in the distribution of resources between the rural and urban areas create conditions of pvoerty and relative deprivation which, in turn, make migration almost inevitable. But once migration has occurred, it tends to create further inequality in the areas of origin. In Western Kenya, increased labour mobility out of agriculture is largely attributed to the colonial influence.:

> The colonial impact on the Abaluyia and Luo seems to have been the high emphasis on education, the many missionary schools, and the use of men from these areas for bureaucratic work. There is a very high out-migration of especially males from these areas, especially from the densely populated Maragoli area in Kakamega district. The high emphasis on education and white-collar jobs seems to have withdrawn men from their own farm work more rapidly than in other areas (Kongstad and Monsted, 1980:44).

The modernization perspective argues that partly because of the limited economic opportunities and social amenities in the rural areas and the apparent low status accorded agricultural work, the young and better educated in the rural areas seem to consider their expectations unmet and aspirations frustrated. Consequently, many of them shift their labour from the agricultural to the urban/industrial sector basically because they are reluctant to take up farming as an occupation. The decision to migrate is sometimes made despite open unemployment or marginal unemployment in the urban areas. It is a decision that can be said to be motivated by self-interest and the idea that, relatively speaking, chances of personal advancement are better in the cities than the rural areas (Worsley, 1984; Goldstein, 1974). But beyond the rational considerations of the social and economic opportunities that constitute structural "pull" factors, some individuals and groups may simply find rural farm life full of drudgery and even downright unattractive. For such people, this alone could be enough reason to make them move regardless of the job prospects in the area of destination.

The Impact of Migration on Farm Production: The Case of Remittances

In a subsistence household economy that relies almost entirely on family labour, a steady withdrawal of labour from the household becomes a critical issue because of its potential impact on the organization of labour, the decision-making process and the overall farm production. Even though substantial reductions in family labour supply in Siaya district and other parts of Western Kenya have been linked to rural-urban migration and participation in various forms of off-farm activities, some

studies have shown that many migrants maintain links with, and send remittances in cash and kind to their families left behind in the rural areas (Livingstone, 1981; Eicher and Baker, 1982). Since most migration processes are considered temporary, the tendency to maintain strong rural ties is sustained by the anticipation of future need in case of unemployment or retirement and the migrant has to return to the rural area. At that point it might be necessary to have a strong rural foothold, at least a place to retire.

Urban-rural remittances from migrants are frequently considered by the modernization theory as one of the major benefits of migration particularly in the high density areas that are also characterized by high labour out-migration. A study by Rempel and Lobdell (1978) estimates that, in Africa, remittances constitute about 20 percent of the migrant's income, and that such remittances often serve as a supplemental source of income to the rural household. The results of a 1971 survey on low- and middle-income male wage earners in Nairobi are fairly consistent with the above estimates as they indicate that about 60 percent of the male migrants in the sample had a wife at home in the rural area and that approximately 87 percent of them remitted income regularly to their families in the rural areas (Anker and Knowles, 1983; Eicher and Baker, 1982; Knowles and Anker, 1981; Johnson and Whitelaw, 1974). Based on the same 1971 sample of Nairobi immigrants, Johnson and Whitelaw (1974) found that urban income transfers accounted for about 21 percent of the total income of male migrants interviewed.

While there is considerable evidence suggesting that rural-urban migrants in Kenya do remit a significant part of their income to their families at home, data are still scanty on just how such remittances are

used. However, some studies have indicated that the remittances are frequently used to cover everything from school fees for children and siblings to land and livestock purchases (Livingstone, 1981; Lipton, 1982). Much of it also goes to pay off debts, to hire labour needed to replace the migrant's lost input during peak seasons, to consumption, and other miscellaneous household expenses and investments (Ahmad, 1984). In general, one of the strongest arguments for migration is that it provides capital resources that could be used to increase farm production and improve the welfare of the rural families. Such examples on the use of urban-rural remittances have led Stark (1982:69) to conclude that:

> By now there is sufficient reason to believe and evidence to suggest that rural-to-urban migration and urban-to-rural remittances have actually been used to transform agricultural modes of production. Remittances can be turned into a vehicle of rural prosperity even if in the past they were not always conducive to agricultural development.

In their study to assess and estimate the function of remittances in Kenya, Johnson and Whitelaw (1979) found that remittances are an important source of supplemental income in rural households and that a substantial portion of the income remitted was used to improve the family farm and the overall welfare of members of the rural households.

But just why do migrants decide to remit? A number of reasons have been suggested. In Kenya, urban labour migrants are considered as temporary residents who will one day, often sooner, return to their rural home areas. Moreover, many male migrants leave their wives and other family members behind. This suggests that such migrants might be under a strong obligation to send remittances to support their relatives back home. Some of them own property and have certain investments in their home areas which need to be looked after. Because of such commitments in

the rural areas most urban migrants tend to retain and maintain strong rural links.

Livingstone (1981:2:11) has noted that migrants from Western Kenya who work in Nairobi have a general tendency to maintain strong social and economic ties with their families in the rural areas. He argues that this tendency is reflected in the continuous movement of spouses, children and other kin back and forth between the urban and rural areas. Parkin (1975) has also shown that migrants in Nairobi from Western Kenya have a strong tendency to maintain ties with their families back home mainly because of strong kinship obligations and partly because of the value placed on having a rural stronghold. With respect to the Luo and Luhya communities, some of these linkages could be explained and understood primarily in terms of their social and cultural implications:

> Rural urban networks between urban migrants and people in the countryside include a variety of kin ranging from parents, siblings, and spouses to distant cousins and nephews. These networks appear to be strongest in the ethnic groups such as the Luo and Luhya where the emphasis on the patrilineage and associated genealogy makes it easier to find some kinship link between any two people of the same ethnicity (Clark, 1984:349, my emphasis).

A major characteristic of rural-urban migration in Kenya is that it tends to be selective with a bias towards the young and better educated males (Rempel, 1978; Livingstone, 1981; Anker and Knowles, 1983). The argument is often made that these young and relatively well educated urban migrants are more likely than their rural counterparts to know about the availability of, and have access to, new ideas and information that are needed for improvements in farm production. The migrants are assumed to have a better exposure to the mass media and other communication channels which create awareness of new ideas. It is argued that this kind of exposure could facilitate access to market

information and other new technology that could be used to improve farming practices. This comparative advantage is, from the standpoint of the diffusion model, seen as one of the key benefits of migration. It facilitates adoption of technological innovations. The modernization perspective and the diffusion model in particular is based upon the notion of dualism that both economy and society are divided into two sectors: a dynamic modern sector and a conservative traditional one. The latter is dominated by subsistence agriculture and characterized by traditional technology and low labour productivity. On the other hand, the modern sector is categorized as being either the urban sector, a mining enclave or an export-oriented commodity agriculture. The modern sector is variously regarded as being successful, progressive, and capitalist basically because of its close ties to the market and contact with the advanced industrial nations.

The dual economy thesis assumes that there is a limited but reciprocal and symbiotic relationship between the two sectors. This dualist conception of economy and society has come under increasing attack mainly from the world-system perspective which views the world as a single unified system. One of the most persistent criticisms of dualism seems to centre around the notion that it not only fails to take a holistic approach to development issues but also completely ignores the historical process that simultaneously created development and underdevelopment (Frank, 1972; 1981; Wallerstein, 1979; Amin, 1976). More specifically, critics charge that modernization theory, the diffusion model and the dual-economy thesis are not only lacking in historical awareness but are also seemingly oblivious to the structural inequalities and exploitative relationships between the 'traditional' and

the 'modern' sectors or more specifically, between subsistence agriculture and both export-oriented agriculture and the urban areas. Of course, the world-system theory and the dependency perspective both recognize the existence of a dual economy but the relationship between the 'traditional' and the 'modern' sectors is conceptualized in a determinisitic way. The two sectors are not viewed as relatively autonomous entities, each with its own internal logic. Rather, the function and internal character of the traditional sector, say, subsistence production is held to be defined and determined entirely by the capitalist world economy.

Some studies that have documented the impact of labour migration on rural and/or agricultural development in a few selected underdeveloped nations seem to indicate that much of what are usually considered as "benefits" of migration are essentially individual gains that do not necessarily accrue to the larger community (Rhoda, 1979; Lipton, 1982).

Thus, there are essentially two competing views on the impact of labour migration process on farm production, or rural development broadly conceived. Modernization theory seems to hold an optimistic view and tends to emphasize the positive consequences of labour migration in the rural areas of departure. This approach views migration as a process that fosters rural development through the distribution of labour resources and urban-rural income transfers. According to this line of reasoning, the withdrawal of labour from smallholder agriculture is compensated by the proceeds from members of the household engaged in off-farm employment elsewhere. The proceeds are reinvested in agricultural development. From this perspective, one of the arguments for migration is the claim that remittances are an important source of

investment for rural development or farm production. The diffusion model also makes a strong case for migration, emphasizing that migration and access to urban wage employment increases the migrants' exposure to new ideas, information, values, skills, techniques and income (Gerold-Scheepers and Van Binsbergen, 1978). This exposure could increase the willingness and perhaps the ability of the migrants and their rural families to take risks with new farming practices because if they have wage employment presumably they can afford the cost of crop failure.

The implicit assumption underlying this approach is that both rural and urban sectors stand to gain from the process of labour migration (Goldstein, 1983; Browning, 1973). Sociologists, anthropologists and neo-classical economists operating within the modernization perspective tend to depict labour migrants as rational actors who are constantly seeking economic opportunities to maximize their incomes. Of course, development studies are inevitably multi-disciplinary and the theories which inform them often eclectic.

An alternative view of migration, represented by the dependency perspective, world-system theory and the modes of production approach, explain migration at the level of the social structure, primarily focusing on the larger social-structural determinants and negative consequences of the withdrawal of labour from agriculture. Migration is viewed as an integral part of the incorporation of the smallholder economy into the capitalist world economy. The penetration of capital and the integration of the rural economy into the market economy have transformed patterns of resource distribution and social relationships in certain ways that make migration appear inevitable. In his critique of

the methodological individualism that pervades migration studies in Africa, Samir Amin (1974) emphasized the need to focus attention on structural arrangements and processes of the system which cannot be understood from individual motivations because as Van Binsbergen and Meilink (1978:11) explain:

> ... One may perhaps understand why (given a structural arrangement that offers the individuals involved certain options, certain accesses to scarce goods and services, certain forms of oppression and freedom), a particular individual decides to migrate ...

From the political economy perspective, the focus of attention is on the structural conditions under which migration occurs. These conditions are explained in terms of the patterns of resource distribution between the rural areas and the urban sector to determine the kinds of opportunities available in each sector. According to this perspective, these structural explanations are considered more plausible than those which deal with individual motives:

> motivations of individual migrants are merely surface phenomena, which far from explaining migration are themselves to be explained by reference to more fundamental conditions ... (Gerold-Scheepers and Van Binsbergen, 1978:31).

Thus migration is viewed as a key factor of the articulation or integration process. The withdrawal of labour from subsistence agriculture through migration is said to constitute a drain of resources and the loss of human potential in the form of leadership, skills, and talents from the rural areas. The remittances and other forms of urban-rural income transfers are seen not as benefits but as an institutional arrangement that has been put in place as a result of the penetration of capitalism and the subsequent incorporation of the smallholder economy into the world capitalist system. Thus, whatever their benefits to the rural families, remittances are also considered as

having the potential to increase dependency on off-farm sources of income, reduce local autonomy, create vulnerability, and exacerbate income inequalities between farm households.

By way of summary, Figure 3.1 presents a matrix of the theoretical perspectives discussed in this chapter and their levels of analysis as a way of determining their relative adequacies for dealing with the household labour processes which constitute the central theme of this study.

Figure 3.1: A Matrix of the Major Theoretical Perspectives and Their Adequacies for the Analysis of Household Labour Processes

Major theoretical perspectives on social change and development	LEVELS OF ANALYSIS		
	World Economy	National Economy	Local Economy
World-System Theory	Historical processes and origins of capitalist development, colonialism, international division of labour, world economy is unit of analysis, etc.	Role of the state in the development process, incorporation into the capitalist world system, nation-state is unit of analysis, etc.	Household labour organization and production processes determined by the market structures etc.
Dependency Perspective	Colonial history, satellite-metropolis structure of dependency relationships, etc.	Distributional and equity issues, migration drains labour resources from rural areas, etc.	Labour participation in off-farm activities, internal colonialism, increased dependency on off-farm sources of income, vulnerability, loss of local autonomy, etc.
Modes of Production Theory	Articulation of modes of production, competition for labour between smallholder and commodity sectors, etc.	Articulation of modes of production, competition tion for labour between smallholder and commodity sectors, etc.	Household as unit of production, consumption and reproduction, limited mobility of labour, relative autonomy of household production, etc.
Modernization Perspective	Transfer and diffusion of capital, institutions, technology, etc., from 'modern' to 'traditional' economies, etc.	Patterns of labour migration, structural "push" and "pull" factors, etc.	Socio-cultural beliefs, attitudes, and values; demographic characteristics of the household, sexual division of labour, etc.

Conclusion

This chapter has examined the major theoretical perspectives in the sociology of development and underdevelopment. The focus of the discussion has been on an understanding of how each theoretical approach deals with the specific issues of labour migration, off-farm employment, school participation of children, household organization of the labour process and changes in the role of women. Each of the perspectives discussed in this chapter interprets each of these processes differently. None of them answers all the questions but each of them brings a unique perspective to bear upon the various issues discussed in this study.

The relative appropriateness of a theoretical perspective seems to depend largely on the problem under investigation and the level of analysis. This being a micro-level study, the macro-framework of the world-system theory and the dependency perspective precludes a rigorous conceptual analysis of local processes. The dependency perspective and world-system analysis view migration as one of the processes through which the household is integrated into the cash economy but then regards remittances as an instrument of social differentiation which is considered antithetical to development. Labour market participation thus creates further dependency on off-farm sources of income especially on the part of women whose mobility outside the home are limited but who are becoming increasingly dependent on the income controlled by their migrant spouses.

The modernization perspective holds a more optimistic view of the consequences of capitalist development. School enrollment of children migration and off-farm employment and the availability of new economic opportunities are considered to be beneficial because they are

thought to increase the flow of new ideas. Some households may not embrace new ideas of how to organize and increase farm production but this could be explained, at least in part, by the persistence of cultural beliefs or the absence of new technology.

The 'articulation' perspective which questions most of the above conceptualizations focuses attention on the specific ways in which the small farm household is linked to the wider market economy and the contradictions inherent in the transition from a pre-capitalist to a capitalist mode of production. Migration is one such form of linkage and it can either generate capital accumulation or undermine the local economy by withdrawing labour from the household. There are various forms of articulation even within a single household. For example, children go to school, male labour migrate to seek wage employment elsewhere and women sell handicrafts or surplus agricultural produce in the local market. But the way in which a household is involved in the market economy is to some extent defined by the existing kinship structures and other cultural antecedents. It remains to test these alternative claims against the empirical analysis of labour processes in Western Kenya small farm households.

CHAPTER 4

METHODOLOGY

The Conjunction of Theory and Method

> Theory cannot be judged independent of research methods, and substantive speciality is of little value if it is not firmly embedded within a theoretical framework and based upon sound research strategies (Denzin, 1970:1).

In most instances, methodological procedures appear to bear upon certain theoretical orientations. Social research methods are not atheoretical but theoretically informed techniques of investigating the social world in a way that makes it meaningful. This approach calls for sociological imagination because the way we investigate and interpret the world depends on our social location, values, and time or historical circumstances that shape our experiences (Mills, 1959).

In general, the researcher's theoretical orientation and its underlying assumptions influence the type of sampling techniques employed, the unit of analysis chosen, the methods of data collection used, and the analytical strategy regarded as the most appropriate. Ontological questions about what to study and epistemological issues concerning how to study it are all part of a research enterprise which determines the kinds of questions raised. To a large extent, the way research is conducted depends on the problem under investigation.

The overall strategy of this study is to understand household labour organization processes in a small farm system in Western Kenya.

More specifically, the study examines how household labour is differentiated, organized and utilized in an environment where the productive resource base is severely limited. This substantive issue is theoretically conceptualized and empirically investigated not merely in a static manner but as a process that has temporally evolved through history, and is still in the process of becoming.

The farm household is taken as the unit of analysis. It is also the primary unit of production, consumption and reproduction. But the household unit does not exist in a vacuum because it is an integral part of a larger system. Although the central focus is on household labour organization, other internal dynamics such as the kinds of subsistence activities farmers engage in and the type of commodities produced by whom and why are also explored. These internal processes reflect external influences. The survey research is used to obtain information about the labour process and the production system at the household level and how all this fits into the larger scheme of things both at the national and international arenas. The information obtained can be used as a basis for future development efforts. The assumption of a vertical linkage or integration allows us to focus on household labour processes and also be able to situate these within the larger context of the capitalist world economy in a way that is internally consistent with the subject matter of this study.

The research hypotheses that are formulated and presented in this chapter are not simply logically deduced from a set of law-like propositions about the way small farmers organize their labour and carry out production. Rather, they represent a logic of reasoning which links the key variables together as a way of organizing the discussion. Some

of the concepts are operational but others may be sensitizing. The critical point is that a new set of hypotheses can be generated from the data and these hypotheses could be further refined for the development of micro-theories of household production. That, in essence, is the underlying reason the study combines the survey technique with field observations as well as informal discussions in order to grasp the farmers' situation, the general scope of their activities, and their experiences in such activities. Talking to the farmers in addition to the structured interviews was important not only because it underscores the fallacy of objectivity, but more importantly, because it reinforces the view that the farmers themselves are not mere objects but active subjects who create, constitute and have the potential to change the reality under investigation.

Some Working Hypotheses

- o One of the hypotheses of this study suggests that migration, off-farm employment, and school attendance of children reduce family labour supply for farm use.
- o Farm labour is an important factor in small farm production.
- o It is further hypothesized that availability of farm labour and adequate access to land have a significant positive effect on the size of the area cultivated. This implies that, controlling for other factors affecting productivity, a household with a large number of productive members and many acres of land would have higher overall production.

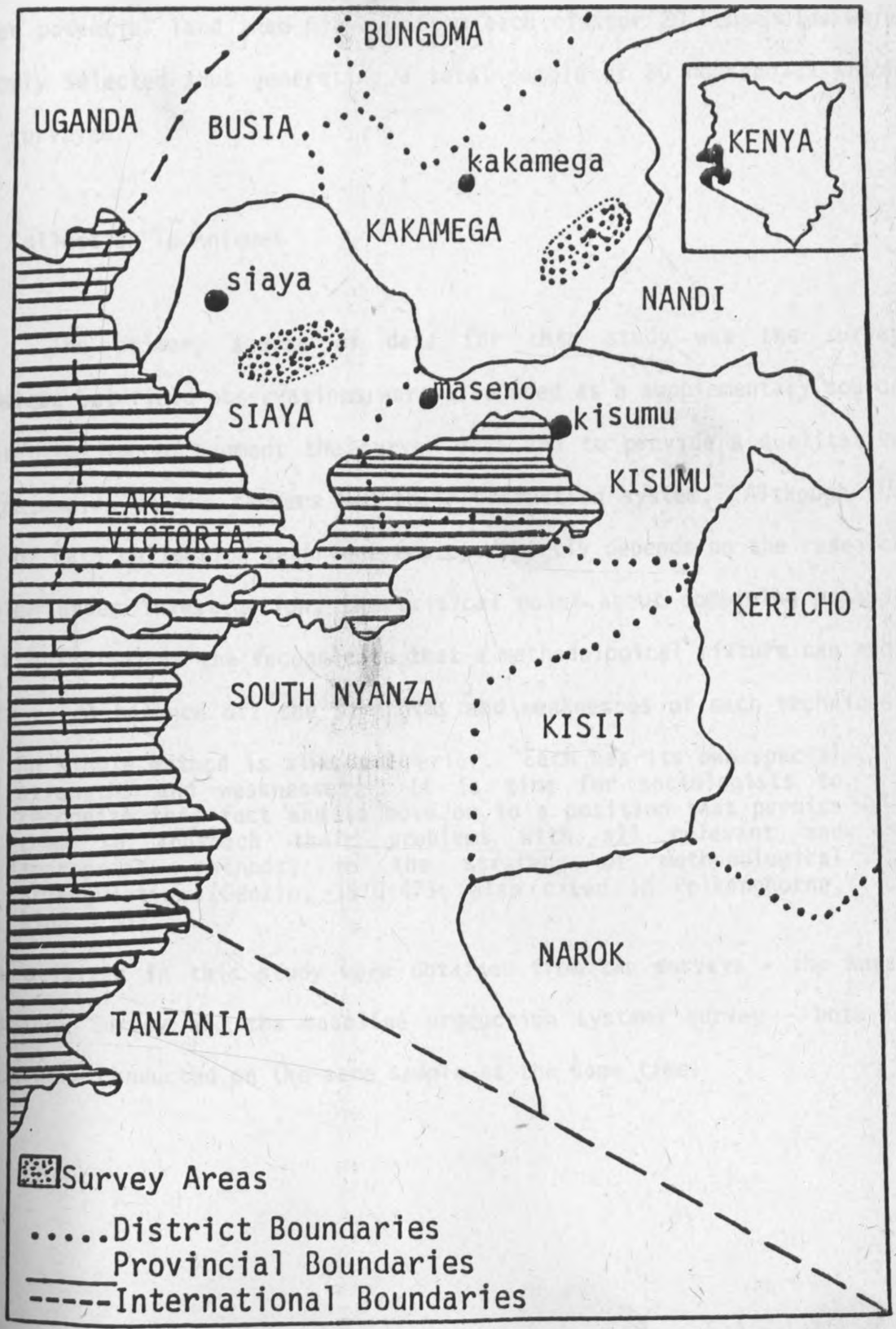
- o Farmers with smaller land holdings are less likely to raise livestock or hire labour. They are also more likely to engage in off-farm enterprises to diversify their sources of income or to leave the farm to seek wage employment elsewhere.
- o Households which are involved in the migration process and also participate in off-farm labour market are more likely to hire labour than those which are not involved in the labour market.

Sampling Procedures

This study is based on data from two separate surveys of 80 farm households in Western Kenya. The sample was drawn from a larger sample frame designed by the Central Bureau of Statistics for purposes of the Integrated Rural Survey (Kenya, 1977b). This sample was used for the Small Farm Systems Survey which included the Rural Sociology Survey (University of Missouri), Agricultural Economics Survey (Winrock International), and Production Systems Survey (Winrock International).

The survey area is located in two districts - Siaya in Nyanza Province and Kakamega in Western Province both of which are in Western Kenya. Each district has several divisions, locations and sub-locations. The sub-location was taken as the basic sampling unit because it is the lowest administrative unit headed by an assistant chief. The sub-locations from various provinces were identified, picked and grouped into different ecological zones. Within each ecological zone, locations were divided into several large groups of households. These households were grouped into clusters. Each cluster had about 200 households and two clusters were randomly selected from each location in each district.

FIGURE 4.1 Location of the Survey Areas in Western Kenya



Each district represents a different ecological zone. Kakamega has a higher potential land than Siaya. From each cluster 20 households were randomly selected thus generating a total sample of 80 households which were surveyed.

Data Collection Techniques

The primary source of data for this study was the survey technique but field observations were also used as a supplementary source of information to augment the survey data and to provide a qualitative understanding of the farmers and their production system. Although the type of data collection technique employed partly depends on the research problem under investigation, the critical point about combining methods (triangulation) is the recognition that a methodological mixture can and, in fact, do balance off the strengths and weaknesses of each technique:

> No single method is always superior. Each has its own special strengths and weaknesses. It is time for sociologists to recognize this fact and to move on to a position that permits them to approach their problems with all relevant and appropriate methods, to the strategy of methodological triangulation (Denzin, 1970:471; also cited in Polkinghorne, 1983: 253).

Data utilized in this study were obtained from two surveys - the Rural Sociology Survey and the baseline production systems survey - both of which were conducted on the same sample at the same time.

Rural Sociology Survey

The Rural Sociology Survey was a component of the small farm systems survey sponsored and undertaken by the Small Ruminant Collaborative Research Support Programme (SR-CRSP) in Western Kenya. During the initial stages of the research, before the actual survey got underway, field enumerators attended a short training session at Maseno Farmers' Training Centre. The enumerators were hired by the Kenya Central Bureau of Statistics (CBS) to assist with the interviews and other research procedures. They were secondary school graduates. One of the criteria for their appointment is that they had to come from the survey area and speak one of the languages of the two communities.

The training programme was basically intended to familiarize the enumerators with the survey instruments, to brief them on the logistics of the survey procedures and the work plan, and to have them pre-test the questionnaires in a few farms around Maseno. The pre-testing exercise provided the enumerators with an opportunity to get acquainted with the interview situation and procedure. It also made it possible for us to identify the survey items that needed some revision. After the pre-testing, a few minor revisions were subsequently made on the Rural Sociology Survey instrument and the actual survey was carried out from October 1980 through March 1981.

The survey was done in two communities; one in Siaya and the other in Kakamega district. In both communities farmers primarily speak their respective native or ethnic languages; namely Luo and Luhya. Because of the linguistic and other cultural differences between the two groups, the enumerators were assigned to their respective clusters on the

basis of their ethnic backgrounds. Enumerators who speak Luo interviewed farmers in Siaya and those who speak Luhya were assigned to the households in Kakamega. It was assumed that this kind of arrangement would facilitate their efforts to interact more freely, relate more easily, and perhaps communicate more effectively with the farmers. Some of the enumerators stayed in the clusters where they conducted the interviews but others found accommodation in the neighbouring communities. Those who lived outside their clusters were provided with transport to and from the farms.

The questionnaires were administered by the enumerators to the head of the household (or an adult member if the head was not in). The questions were asked in the local language and the responses translated back into English. The author was involved in the supervision of the survey. Prior appointments for interviews with the farmers were usually made by the location chief or his assitant because each of them knew every household if not every farmer in his area. This kind of arrangement facilitated the interview process. Because of language translations and the length of the questionnaire, each interview session lasted for several hours. Of course, the farmers (respondents) always had other things to do, such as carrying on with their daily round of domestic chores, in the middle of interviews.

The major focus of the Rural Sociology Survey was to generate data on the farmers' attitudes, values, beliefs and other socio-cultural characteristics that are likely to influence changes in their current farming system. Other sets of data obtained from this survey included farm labour organizational processes and utilization patterns, labour migration, and off-farm labour participation. This dissertation is

primarily based on the labour data. (A copy of the Rural Sociology questionnaire is in Appendix B).

The Baseline Production Systems Survey

Given the subject matter of this dissertation, the nature of the issues addressed, and the type of variables examined such as availability of farm labour, its use patterns and relationship to farm production, it was considered necessary to have data on some of the variables which constitute measures of farm production. Data from the baseline production systems survey thus provided information on farm size, the size of cultivated area of maize and beans, crop yields and the number of livestock in each household in one agricultural season.

The baseline survey was basically concerned with a general description of the small farm production system in Western Kenya. The survey was sponsored by the Production Systems Project (Winrock International) and undertaken during October-November, 1980 on the same sample of 80 households with the help of the same enumerators[1]. (See Appendices C and D for copies of the baseline survey instruments).

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[1]Sands (1983) supervised the survey the results of which are reported in his Ph.D. dissertation entitled, "Role of Livestock on Smallholder Farms: Prospects for a Dual Purpose Goat".

Field Observations

As a supplementary source of data, the author made field observations on the types of subsistence activities the surveyed farmers were engaged in. The observations were made in the morning and afternoon hours during slack periods as well as during planting, weeding and harvesting seasons. These are the peak seasons with peak labour demands. The primary focus of the observation was on the division of labour within the household the labour contributions of children, adult males and females. The aim was to identify discernible patterns in the allocation and utilization of family labour and to determine whether these patterns change as the commodity produced changes.

One of the patterns observed was the regularity with which some activities were performed by particular members of the household. Participation on some activities was largely variable, depending upon the time of the day, day of the week, and the production season. The observations were carried out at the same time the interviewers were conducted and thus did not pose any problems in terms of seeking entry into the households.

In addition to the observations, the author engaged in a series of informal discussions with the same farmers who were interviewed in an attempt to gain some insights into how they organize production, allocate labour, interpret their farming situation and perceive the proposed changes in the livestock enterprises. Part of the idea was to try to establish meanings farmers assign to their situation, particularly the kinds of resources available to them and what they consider as a worthwhile undertaking. The discussions mainly centred around the

general subject of social change and its impact on labour organization in the context of subsistence agriculture. This was an effort to interact with the farmers on a one-to-one basis, let them give their thoughts on the specific issues addressed by the research, and listen to them describe their situation from their own experiences.

Insights gained from such observations and informal conversations are used in this dissertation, whenever appropriate, to highlight, reinforce or supplement the survey data. Altogether, these sets of information contribute a better overall understanding of how subsistence farmers organize production and utilize their labour.

The Key Variables and Their Measurements

This portion of the project focuses on an assessment of the labour situation in small farm households in Western Kenya. It examines labour utilization patterns and the factors influencing family labour supply and its implications for farm production. The key assumption is that family labour is a significant factor in small farm production and the primary objective of the study is to determine the extent to which labour is or is not a limiting factor in smallholder agriculture. The focus is on family labour, its availability and use patterns. It could be argued that in most social research there is usually no clear-cut distinction between what are designated as independent and dependent variables. Often, many factors are interrelated and tend to interact in complex ways. However, for analytical purposes and conceptual clarity, such a distinction is necessary.

Independent Variables

The labour variable is divided into two categories: (1) Family labour, which includes the actual number of all members of the household who are six years and over, and (2) hired labour, which combines households which hired labour on full- or part-time basis. Availability of family labour is operationalized in terms of the number of household members six years or older. This number is also used as a proxy for family size and therefore the terms family labour supply and family size are used interchangeably in this study. Six was taken as a cutting point because in this area, most children at this age make important labour contributions in the household.

Migration

For the purposes of this study, migration is operationalized in terms of the number of households reporting that any member(s) had moved for more than a year or permanently from the farm. Respondents were thus asked to indicate if any member of their household had moved permanently to a place more than ten kilometres away from the farm. This categorical response was used as a measure of migration. Typically, most studies of migration measure the variable in terms of the actual number of people who have moved. The tendency of young people (mainly high school graduates) to move to the urban areas was also used as an indicator of migration. The propensity to migrate (as opposed to actual migration) was measured by asking respondents to indicate whether most young people in their local community tended to stay in the area or move away to some other places.

Farm Size

Farm size was measured in terms of the actual number of acres of land holding owned by a household.

Off-Farm Employment

Three indicators were used to measure the concept of off-farm labour employment: (1) respondents were asked if any member of their household worked off the farm at any one time in the year, (2) approximate number of days per month worked off the farm, and (3) number of days stayed away performing the work. Like Migration, off-farm employment is also a categorical variable in this study.

School Enrollment of Children.

The number of male and female children 6-14 years in the household enrolled at school was taken as an index of school participation.

Family Labour Input.

The amount of family labour time invested in household, cropping and livestock activities was assessed by asking respondents to specify whether each member of the farm household (1) did not work, (2) worked occasionally, or (3) worked regularly on a particular activity. This measure was used instead of the exact number of hours per week because

most of the farmers interviewed did not keep a written record of the hours worked on the farm. In addition, for many of them, a typical working day runs from dawn to dusk, and sometimes there is no clear distinction between on- and off-farm work. The influence of each and all of the above variables on farm labour supply was examined, and the influence of labour on farm production was also examined.

Dependent Variable

Farm production is the dependent variable. It is measured in terms of the area cultivated (in square metres), crop yields (in kilograms) per acre, and the number of livestock in each household in one agricultural season. Data on these variables were obtained from the baseline production survey.

As with all other phenomena, labour availability and supply as well as farm production are likely to be influenced by a wide variety of factors some of which are not directly dealt with in this study. The social world is more complex and less structured than is generally assumed.

Data Analysis

Data for this study were obtained from a sample of 80 households in Western Kenya. The labour data on which this study is based were processed and analyzed at the University of Missouri-Columbia using the SAS System. Data on some selected variables from the baseline survey were combined with the labour data for use in this study. There were six

cases with missing data in the combined data set. All cases with missing data were excluded from the analysis. This study is thus based on an effective sample of 74 households.

In order to examine the structure of the division of labour, the activity data were recoded so that the unit of analysis became individual males and females in the household rather than the household itself. This analytical strategy was used for this portion of the data to allow us to see how labour is differentiated by gender.

Various statistical analyses were performed. They include zero-order correlations, multiple regressions and one- and two-way analyses of variance. The analysis was performed in two stages. First, factors that were assumed to have some influence on the availability of family labour were examined. The second part of the analysis dealt with an assessment of the relationship between family labour supply, farm size, migration and off farm employment on each of the measures of farm production, namely the area cultivated, yields, and number of livestock. The analyses were both bivariate and multivariate.

CHAPTER 5

HOUSEHOLD LABOUR AND LAND RESOURCES: AN ANALYSIS OF THE FACTORS THAT WITHDRAW LABOUR FROM THE HOUSEHOLD

An understanding of the resource conditions of a production system is essential to the understanding of that system. Subsistence activities in Western Kenya are typically small-scale and highly labour-intensive operations. Under conditions of low technology and the limited use of outside hired labour, a steady supply of family labour is necessary to the functioning of small-scale mixed farming enterprises. The number of household members who are six years and older is used as an indicator of family labour availability. This number is also used to proxy for family size. Household labour remains the predominant form of labour organization in these enterprises, and a key element in smallholder production.

The task of this chapter is to provide concrete empirical understanding of the labour situation and an assessment of land resources in small farms in Western Kenya. The focus of the analysis is on those factors that affect family labour supply. The actual stock of available labour and land resources are presented and various competing demands for labour are identified. The implications of these resource constraints on the overall production process are explored in ways that transcend the contemporary situation and extend into a general historical trend. In all the analyses, the relationship between variables is presented for all cases and for each district. This is intended to show the differences between districts.

Family Labour Resources

Smallholder agriculture in Siaya and Kakamega districts heavily relies on family labour inputs. It is possible, at least conceptually, to distinguish between a household and a family as separate units of labour organization. The basic distinction commonly made between the two is that the former is nothing more than an aggregate of several small nuclear families living together in the same homestead. But in the context of rural Western Kenya, such a distinction is somewhat unwarranted because of the extended nature of the family system in which various members from several generations usually live and work together as a single unit. In view of this overlap, the two terms are used interchangeably to refer to the same form of labour organization.

Since the basic criteria for the allocation of tasks are age and sex, ~~six~~ sex was chosen as the dividing line between being economically productive or not. Children under six years of age are obviously too young to be economically active and productive. At the age of six, however, most children in these households begin to help their parents with cattle herding, running errands, child care, and many other chores. For purposes of this study, therefore, only members of the household who were considered to constitute a potential labour force were included.

The size of the family labour force ranged from 1 to 8 in Siaya and 1 to 13 in Kakamega. On average, the family labour force was 3.9 members in Siaya and 6.3 in Kakamega. This difference reflects differences in the actual family sizes between the two communities. Sands (1983: 41) has shown that the family size was 4.65 in Siaya compared to 7.95 in Kakamega. This is due in part to the larger number of children under six years in Kakamega than in Siaya households.

Table 5.1 Number of Households by Family Labour Supply by District

Family Labour Supply (members 6 years and older)	Number of Households	
	Siaya	Kakamega
	N	N
< 4	18	6
4-7	16	23
> 7	2	9
Total	36	38
$\bar{X}$	3.97	6.32
S.D.	2.10	2.63

Many farmers reported limited access to outside labour including hired and communal labour. Communal and reciprocal labour relations between neighbours, friends and kin have recently become increasingly less available mainly as a result of a growing trend toward off-farm wage employment.

School Participation and Reductions in Child Labour Contribution

Although children from 6 to 14 years of age are an important source of farm labour in the area, almost all of them were attending school. Many of them were in local schools but a few were also in boarding schools farther away from home. School attendance of children has led to a significant reduction in the amount of family labor available for farm use because more children are attending school now than ever before. This trend is largely attributable to a recent

government policy to provide free primary education nationwide. This policy also reflects a general compelling need on the part of farm families to invest in their children's education partly because of its instrumental value, namely, the perception of education as the key to social mobility and success and partly because children here are an important source of support for their parents at old age.

The average number of children attending school in the survey area was 1.9 females and 1.8 males per household. As shown in Table 5.2, a little more than half (54.1%) of the households in both districts had at least one child in school. Figure 5.1 shows that all school age children in the households were attending school. There were significant differences between the districts. For example, unlike in Siaya, most households in Kakamega had two or more children in school. In other words, school attendance was higher in Kakamega than in Siaya. But this is only because the family size was larger in Kakamega than Siaya.

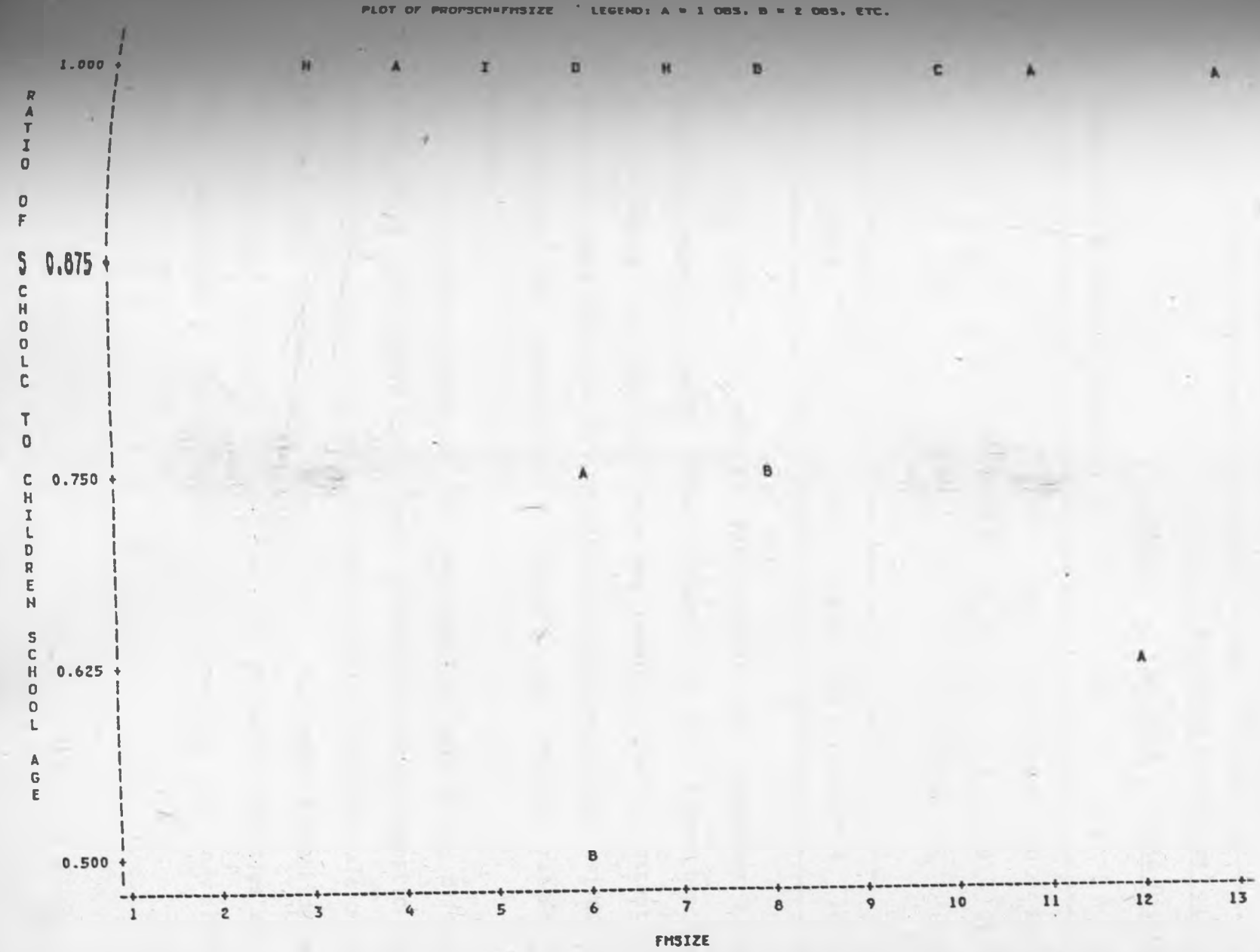


Figure 5.1: The Ratio of Children Attending School to the Number of School Age Children by Family Size

Table 5.2 Distribution of Households by Number of Children in School by District

	Number of Households					
	Siaya		Kakamega		Both Districts	
Number of Children in School	n	%	n	%	n	%
1	27	75.0	13	34.2	40	54.1
2-4	9	25.0	20	52.6	29	39.2
> 4	--	--	5	13.2	5	6.7
Total	36	100.0	38	100.0	74	100.0

The influx of children into schools thus represents a major competing demand on family labour resources as child labour has become less available for domestic chores and farming activities except after school, on weekends, and during holidays. This means that child labour contribution has become mostly variable and seasonal rather than constant.

Observations revealed that many families were having difficulty getting help with child care, small errands and other domestic chores usually performed by children. In families with livestock, male children had less time to help out with herding. For those households which relied entirely on family labour, the range of responsibilities and the overall workload of adult members were increasing with no relief in sight.

Table 5.3 Analyses of Variance for the Mean Number of Children Attending School by Hired Labour by District*

Differences in the Mean Number of Children Attending School

	Siaya			Kakamega			Both Districts		
Hired Labour	N	$\bar{X}$	S.D	N	$\bar{X}$	S.D.	N	$\bar{X}$	S.D
Yes	3	2.0	1.0	7	2.9	1.0	10	2.6	2.0
No	10	2.1	0.9	23	3.0	2.6	33	2.7	1.2

Summary of One-Way Analyses of Variance

	Siaya			Kakamega			Both Districts		
Source	DF	MS	F	DF	MS	F	DF	MS	F
Hired Labour	1	0.02	0.03	1	2.3	0.05	1	2.0	0.06
Error	11	0.81		28			41		

*This table reports the results of three separate analyses of variance, one for each district and both districts combined.

Table 5.3 shows that school participation was the same for households with and without hired labour. Put another way, there were no significant differences in the use of hired labour between households that had children in school and those that did not. This pattern was basically the same in both districts combined. This indicates that these farms were small and could not afford to hire labour to compensate for the loss of child labour.

Hired Labour

A salient feature of smallholder agriculture is its limited use of hired labour. A study by Cleave (1974) showed that hired labour constituted only about 13 percent of the total farm labour input on small farms in Kakamega district. The rest of the work was done by non-wage family labour. The case is almost as true now as it was then, when Cleave did the study.

A large proportion (75.7 percent) of the surveyed farms hired no labour. Despite low wage rates in the rural labour market, only a few households could afford hired labour on a part- or full-time basis. Farms with hired labour were relatively larger than those with none.

Table 5.4 Number of Households with Hired Labour by District

	Number of Households					
	Siaya		Kakamega		Both Districts	
Hired Labour	n	%	n	%	n	%
Yes	10	27.8	8	21.1	18	24.3
No	26	72.2	30	78.9	56	75.7
Total	36	100.0	38	100.0	74	100.0

The use of hired labour was limited and mainly seasonal. Labour was hired for planting, weeding and harvesting as a supplement to family labour supplies during such peak periods. Many of them (55.6%) were hired on a part-time basis as casual workers. These were mostly people

within the local community who had limited land and needed additional income to support their families. However, payment was not always in cash. Occasionally, casual farm labour was remunerated in kind by providing them with part of the produce. Sometimes payment was a combination of both.

Some 24.3 percent of the total households used hired labour and the survey results in Table 5.5 indicate that many (66.7%) of the households which hired labour had more than two acres of land. About 50 percent of the households had less than two acres of land and hired no labour. Farmers with smaller holdings relied almost entirely on family labour supply.

Table 5.5 Number of Households with Hired Labour by Farm Size

	Without Hired Labour		With Hired Labour		Total	
Farm Size (Acres)	n	%	n	%	n	%
< 2	29	51.8	6	33.3	35	47.3
2-4	16	28.6	7	38.9	23	31.1
> 4	11	19.6	5	27.8	16	21.6
Total	56	100.0	18	100.0	74	100.0

Table 5.6 Analyses of Variance for the Mean Family Labour Supply by Hired Labour by District*

	Mean Differences in Family Labour Supply								
	Siaya			Kakamega			Both Districts		
Hired Labour	N	$\bar{X}$	S.D	N	$\bar{X}$	S.D	N	$\bar{X}$	S.D
Yes	10	2.6	1.4	8	6.6	2.6	18	4.4	2.8
No	26	4.5	2.1	30	6.2	2.7	56	5.4	2.6

Summary of One-Way Analyses of Variance

	Siaya			Kakamega			Both Districts		
Source	DF	MS	F	DF	MS	F	DF	MS	F
Hired Labour	1	26.1	6.9**	1	1.0	0.14	1	14.7	2.1
Error	34	3.8		36	7.1		72	6.9	

**p < .05

*Table 5.6 presents the results of three separate analyses of variance, one for each district and both districts combined.

The data on Table 5.6 indicate that in Siaya smaller families were more likely to hire outside labour than those which had adequate supply of family labour. In Kakamega, farms which had a larger supply of family labour were the ones that hired labour. The relationship between the use of hired labour and availability of family labour was stronger in Siaya than Kakamega. But the opposite nature of this relationship between the districts indicates that small families in Siaya needed additional labour to augment their family labour whereas large families

in Kakamega could afford to purchase labour to work on the farm while they pursued off-farm enterprises.

Table 5.7 Analyses of Variance for the Mean Farm Sizes by Use of Hired Labour by District*

	Differences in Mean Farm Size								
	Siaya			Kakamega			Both Districts		
Hired Labour	N	$\bar{X}$	S.D	N	$\bar{X}$	S.D	N	$\bar{X}$	S.D
Yes	10	2.1	1.3	8	3.8	2.0	18	2.9	1.8
No	26	2.9	2.3	30	2.2	2.0	56	2.5	2.2

Summary of One-Way Analyses of Variance

	Siaya			Kakamega			Both Districts		
Source	DF	MS	F	DF	MS	F	DF	MS	F
Hired Labour	1	4.1	0.9	1	17.0	4.2*	1	1.9	0.4
Error	34	4.5		36	4.0		72	4.4	

*$p < .05$

*This table reports the results of three separate analyses of variance, one for each district and both districts combined.

Table 5.7 shows that farms with hired labour, in Kakamega were significantly larger than those which did not hire labour. In Siaya, however, farms with hired labour were relatively smaller than those without hired labour. Hired labour was used in Kakamega for the expansion of farm production. But in Siaya, small families which could not support a large number of people on a regular basis hired labour

during peak seasons. In Kakamega, those who owned relatively large farms in high potential areas tended to combine subsistence and commodity production and labour could be hired to substitute family labour in the production of commodities for the market. However, most of the surveyed farms could not analytically be classified into medium and large-scale categories. These farms were predominantly small subsistence units in which the overriding concern was to produce for consumption rather than for exchange. For most households, there just was not enough money to purchase outside labour and not enough land to justify the purchase.

Farm Size

Land is a major constraint in the two communities. The average land holding was about 2.6 acres in Siaya and 2.5 in Kakamega. The size of holdings in Siaya and Kakamega ranged from 0.1 to 9.8 and from 0.2 to 9.9 acres respectively. There were no significant differences between the districts.

Table 5.8 Number of Households by Farm Size by District

Farm Size (Acres)	Number of Households	
	Siaya	Kakamega
	N	N
< 2	16	19
2-4	12	11
> 4	8	8
Total	36	38
$\bar{X}$	2.64	2.51
S.D	2.11	2.09

The data on Table 5.9 show that about 50 percent of the farms in Kakamega and 45 percent in Siaya were under two acres. There were no statistically significant differences in the size of land holdings between the districts.

Table 5.9 Number of Households by Farm Size and District

	Number of Households					
	Siaya		Kakamega		Both Districts	
Farm Size (Acres)	n	%	n	%	n	%
< 2	16	44.5	19	50.1	35	47.3
2-4	12	33.3	11	28.9	23	31.1
> 4	8	22.2	8	21.1	16	21.6
Total	36	100.0	38	100.0	74	100.0

The freehold land tenure system in Kenya has institutionalized the private and exclusive ownership of land. Farmers have been provided with title deeds and have individual rights to own land as a private property. Individualization of land tenure is part of the colonial legacy and a direct outcome of capital penetration into the household economy.

The colonial state placed a great deal of emphasis on land registration and consolidation as two major land reform programmes intended to enhance agricultural development in smallholder agriculture. The subsequent fragmentation and private ownership of land have not only exacerbated land shortage but have also led to the loss of communal grazing lands and other rights to land use. One of the consequences of this trend is that livestock producers, particularly those in high

density areas, have to spend considerable amount of their time looking for forages elsewhere. Some with smaller holdings are already faced with the decision to reduce the size of their stock because there is nowhere to graze them and no one to look after them. The system of cut and carry, in which forages are brought to tethered animals, is relatively uncommon in the area.

The creation of a land market in Kenya, which is an integral part of the historical expansion of capitalism, is another process that has accelerated differential access to land. Not only do the large-scale producers buy off smaller farmers, but this situation is linked to a direct competition for land and labour between subsistence and commodity production, with much of the high potential land being brought under export agriculture. Although land is available in Kenya for those who have the cash and credit to buy it, some families with limited access to this basic means of production and source of reproduction are increasingly being drawn into the labour markets off the farm. For poorer households, the high cost of land is prohibitive. Land shortage in the area can be attributed in large part to land alienation, private appropriation and the use of high potential land for commercial agriculture.

Inequality in the distribution of land together with other resource constraints have conjointly imposed major limitations on what and how much can be produced on these small farm units. It is becoming increasingly difficult for some families to support themselves and generate a decent livelihood from the land that is available to them. In such households, it is usually the male head who leaves to seek off-farm employment. The data on Table 5.10 indicate that in both districts,

households which were involved in the migration process had smaller land holdings. Those who could not support their families on the amount of land available sought to diversity their sources of income. However, in Siaya, unlike in Kakamega, land shortage also created the need for off-farm employment. Those who worked off the farm in Kakamega had larger holdings. This indicates, in part, that these households were relatively better off and had additional income to purchase an extra piece of land.

Off-Farm Employment

The penetration of the market influence or the extension of the exchange relationships into the rural household economy has created certain demands that can no longer be met through simple subsistence production. A large proportion of the farmers' reproduction was derived from involvement in small-scale off farm enterprises, some of which were owned by the family. Table 5.11 shows that off-farm labour market participation was significantly higher in Kakamega district than Siaya. These results are consistent with the findings of previous studies (Kenya, 1977b; Livingstone, 1981) which have indicated that farmers in Western Kakamega devote a significant amount of their time to rural off-farm income generating activities.

Unlike in Kakamega, most of the households involved in off-farm activities in Siaya had smaller farms. Thus in Siaya off-farm labour market participation was closely linked to land shortage. But in Kakamega, greater access to land served as a resource base to establish a variety of off-farm enterprises. Those with relatively larger holdings

in Kakamega engaged in off-farm enterprises to generate income for further improvement of their farms.

In those households where someone was working off the farm, 42.6 Percent of them were the husbands or male heads of households, all of whom spent more than eight days per month on a wide variety of off-farm enterprises. Others involved in off-farm work included females and older children. While some of the activities were carried out on the farm and in the local communities, 91.7 percent of both men and women who engaged in off-farm work stayed away from the farm for a period of about 5-6 days a month doing such work. However, off-farm labour market participation did not necessarily involve rural-urban migration. Most of the activities involved small-scale retail trade carried out on a part-time basis as a supplemental source of family income. The types of off-farm activities ranged from producing handicrafts at home to selling vending in the local market places. Such endeavours could be viewed as the farmer's strategy to spread the risk between on- and off-farm investments so that just in case the crops failed, the family's survival would still be ensured.

The wage rates were invariably low in the rural labour markets because these farmers produced much of what they consumed and therefore did not have to purchase all the basic means of subsistence. As a result, remunerations were kept as low as possible for those who found casual wage employment either in the commodity sector or in small business establishments in the area. Low wage rates indicate appropriation of surplus value which is a measure of exploitation. Some

Table 5.10 Analyses of Variance for the Mean Farm Sizes by Migration and Off-farm Employment by District*

		Differences in Mean Farm Sizes								
		Siaya			Kakamega			Both Districts		
		N	$\bar{X}$	S.D	N	$\bar{X}$	S.D	N	$\bar{X}$	S.D
Migration	Yes	19	2.6	1.8	24	2.5	2.3	43	2.5	2.1
	No	11	3.3	2.8	14	2.6	1.7	25	2.9	2.2
Off-farm Employment	Yes	18	2.3	1.5	30	2.8	2.2	48	2.6	1.9
	No	12	4.9	2.2	8	1.4	1.1	26	2.5	2.3
Migration	Off-farm Employment									
Yes	Yes	14	2.2	1.3	19	2.8	2.5	33	2.5	2.1
Yes	No	5	3.8	2.6	5	1.3	0.7	10	2.5	2.2
No	Yes	4	2.8	2.5	11	2.8	1.7	15	2.8	1.8
No	No	7	3.7	3.1	3	1.6	1.8	10	3.0	2.9

Summary of Two-Way Analyses of Variance

	Siaya			Kakamega			Both Districts		
Source	DF	MS	F	DF	MS	F	DF	MS	F
Migration	1	0.3	0.05	1	0.2	0.06	1	2.1	0.45
Off-farm Employment	1	9.4	1.97	1	11.3	2.58	1	0.2	0.03
Migration and Off-farm Employment	1	0.8	0.17	1	0.1	0.03	1	0.1	0.03
Error	26	4.8		34	4.4		64	4.7	

*Table 5.10 reports the results of three separate analyses of variance, one for each district and both districts combined.

of those who worked off the farm, however, were self-employed. But whatever the nature of off-farm activities the farmers engaged in, the fundamental question is whether or not their participation in these activities did constitute a constraint to the supply of farm labour.

Two-way analysis of variance to compare the individual and combined effects of migration and off-farm labour on family labour supply shows that off-farm employment had no significant effect on availability of family labour for farm use. Part of the explanation for this is the seasonality of off-farm labour demand. Off-farm labour was mainly seasonal and part-time; something to be done during slack periods or after a day's work on the farm. The periods after weeding and harvesting were usually the time for many off-farm activities. Moreover, many off-farm activities were mostly carried out on or around the farm without labour having to actually move. But when labour did migrate, it was for a relatively longer period of time and created different sets of consequences. As shown on Table 5.12, family labour supply was significantly reduced in households involved in the migration process in Siaya as opposed labour shortage is only supported by the evidence in Siaya.

The data from Siaya also lend support to the hypothesis that participation in off-farm enterprises reduce family labour supply. In Siaya where relatively more children attend school and the use of hired labour is limited, migration had a significant negative impact on farm labour supply. The observed differences between districts can be explained partly in terms of the differences in actual family sizes between the communities.

Table 5.11 Number of Households With Off-Farm Employment by District

	Number of Households					
	Siaya		Kakamega		Both Districts	
Off-farm Employment	n	%	n	%	n	%
Yes	18	50.0	30	78.9	48	64.9
No	18	50.0	8	21.1	26	35.1
Total	36	100.0	38	100.0	74	100.0

Table 5.12 Analyses of Variance for the Mean Family Labour Supply by Migration and Off-farm Employment by District*

		Differences in Mean Family Labour Supply								
		Siaya			Kakamega			Both Districts		
		N	$\bar{X}$	S.D	N	$\bar{X}$	S.D	N	$\bar{X}$	S.D
Migration	Yes	19	3.5	2.0	24	6.5	2.6	43	5.2	2.7
	No	11	5.3	2.1	14	6.0	2.8	25	5.7	2.5
Off-farm Employment	Yes	18	3.7	2.1	30	6.5	2.8	48	5.4	2.9
	No	12	4.9	2.2	8	5.6	1.7	20	5.2	2.0
Migration	Off-farm Employment									
Yes	Yes	14	3.2	1.9	19	6.7	2.7	33	5.2	3.0
Yes	No	5	4.4	2.1	5	5.6	1.7	10	5.0	1.9
No	Yes	4	5.3	2.2	11	6.1	3.1	15	5.9	2.8
No	No	7	5.3	2.3	3	5.7	2.1	10	5.4	2.1

Summary of Two-Way Analyses of Variance

	Siaya			Kakamega			Both Districts		
Source	DF	MS	F	DF	MS	F	DF	MS	F
Migration	1	12.8	2.99*	1	0.5	0.07	1	3.5	0.48
Off-farm employment	1	2.2	0.52	1	3.6	0.49	1	1.7	0.23
Migration and off-farm employment	1	2.0	0.46	1	0.8	0.10	1	0.2	0.02
Error	26	4.3		34	7.3		64	7.3	

*P < .10

*Table 5.12 presents the results of three separate analyses of variance, one for each district and both districts combined.

Labour Migration

It has become a common trend that after high school most young people in Western Kenya move to the urban areas to look for white collar jobs despite high unemployment and marginal employment in the urban areas. Migrants and potential migrants alike are painfully aware of this situation but they keep trying, hoping that in the long run it might be worth all the effort. This phenomenon points to a real or perceived lack of social and economic opportunities in the rural small farm communities. It also reflects a distinct differential pattern of resource allocation between the urban and rural sectors. In the rural areas, the small farm sector is relatively underdeveloped and therefore lacks the structural and institutional capacity to attract and absorb a rapidly-growing young labour force.

The survey results show that most young people, mainly secondary school graduates, had a tendency to leave the farm. The data in Table 5.13 show, young people in Kakamega were more likely (97.4%) to leave the farm than their counterparts in Siaya (60%). This difference in the migratory tendency between the districts is due in part to differential exposure to external influence, improved transportation system, and proximity to urban areas. Farmers in Kakamega are relatively better exposed than their counterparts in Siaya. On the whole, 79.5 percent of the surveyed households reported that most young people in the area do, in fact, move away to seek employment opportunities elsewhere.

Table 5.13 Number of Households Reporting That Young People in the Area Either Do Stay or Move Away by District

	Number of Households					
	Siaya		Kakamega		Both Districts	
Migration Tendency	n	%	n	%	n	%
Tend to Stay	14	40.0	1	2.6	15	20.5
Tend to Move Away	21	60.0	37	97.4	58	79.5
Total	35	100.0	38	100.0	73	100.0

These survey findings support the existing literature (Mbithi, 1974; Parkin, 1975; Rempel, 1978; Eicher and Baker, 1982) on rural-urban migration in Kenya which have consistently shown that the migration stream mainly consists of younger and better educated individuals and groups. It is this selective feature of the migration process that has long attracted much criticism that migration drains the rural community, particularly the small farm sector, of its much needed, potentially productive labour resources. And as long as this process continues, critics contend, the smallholder sector which has been transformed into something of a "labour reserve" will continue to lag behind the commodity and urban sectors. Herein lies the basis of regional inequality.

But in Western Kenya, the young and educated were not the only ones likely to leave the farm in search of jobs elsewhere. Other groups also left.

Table 5.14 Number of Households Involved in the Migration Process by District

	Number of Households					
	Siaya		Kakamega		Both Districts	
Migration	n	%	n	%	n	%
Yes	19	63.3	24	63.2	43	63.2
No	11	36.7	14	36.8	25	36.8
Total	30	100.0	38	100.0	68	100.0

Table 5.14 shows some striking similarities in the migration process between the two districts. It indicates that 63.2 percent of the households had at least one of their members living way from home at the time of the survey. The similarity is fairly typical and reflects, among other things, the propensity on the part of males, especially male heads of households, to leave the farm for a considerable period of time. The most common type of migration in the area was rural-urban rather than rural-rural or urban-rural. But this similarity in the actual migration pattern between the districts is in sharp contrast with the data on migratory tendency presented in Table 5.13. This apparent contradiction indicates that while young people in Kakamega are more likely to migrate, they are also more likely to engage in off-farm activities within the community (see Table 5.11). In Siaya, off-farm economic opportunities were relatively few and migration was a more likely alternative.

Reasons for Migration

Obviously people left the farm household for different reasons but a large proportion (40.5%) of the labour migrants moved to seek wage employment in the urban areas. A further 21.6 percent gave marriage as their reason for moving, 2.7 percent moved for schooling, and only 1.4 percent migrated for health reasons. The rest left the farm for other unspecified reasons.

The search for wage labour contracts away from the farm is one of the most significant trends in Western Kenya despite high rates of unemployment and underemployment in the cities. There are more labour migrants than there are jobs in the urban labour market to absorb them. On the other hand, the rural labour market is characterized by persistent underemployment because of unequal opportunity and lack of a diversified approach to rural development. As a result, many high school graduates and male heads of household are asking a Catch-22 question: whether to stay on the farm and raise a few goats on a two-acre piece of land the whole year round or to move to town and be part of the unemployment statistics. Only the questions are easy. Answers to these questions call for a development approach that is attuned to the structural conditions and real needs of a small farmer.

Remittances

Many labour migrants maintained strong social ties with their families in the rural areas. This was demonstrated through frequent visits by and income transfers from urban migrants. Some 41.7 percent of

the migrants from Siaya and another 36.8 percent from Kakamega remitted items periodically from where they lived to their families back home on the farm. Most of the migrants were men who left their families behind, and some had long-term commitments such as buying land, building a house or paying school fees for children and siblings, and therefore were under strong obligations to remit in order to cover such expenses.

Remittances included everything from cash and clothes to cutleries. Informal discussions with the farmers revealed that though income transfers were mainly made to members of the migrant's immediate family, members of the extended family also received a share of the remittances. For example, in a typical polygynous family, a married male migrant was expected to send various consumer items to all his wives, children, in-laws and both parents. If this sounds like a lot of responsibility, perhaps it is. But it is all part of a cultural system in which strong kinship obligations and the extended family structure are the bases of social and economic security. This also explains much of the appeal for a large family in these small farm households.

Urban income remittances have frequently been cited as a major input in farm production. The rural household economy begins to depend on such remittances even for basic subsistence needs. In fact, the remittances often create artificial demands on the part of rural families. Proponents argue that income transfers can be used to hire farm labour to substitute family labour that has migrated and also to make improvements on the farm. But critics do not share this optimistic view of the role of remittances. They charge that remittances create and, quite frequently exacerbate income inequalities between households

as those that receive income transfers tend to have an innovative edge over the others.

Despite the debate, both sides of the issue acknowledge that remittances have a significant impact on the ability of some rural households to cope with the uncertainty of subsistence existence. The transfers represent an important linkage between rural and urban areas and serve as a means to re-distribute resources through repatriation of "surplus property" from the latter to the former. A case in point was when one of the farmers interviewed reported that two of his migrant sons had recently sent him and his two wives a large consignment of miscellaneous consumer items and money to purchase an extra piece of land. The exact amount remitted was not disclosed and could not be determined. This farmer had a family of seven children and less than three acres of land and, by their own criteria, was considered better off than many of his neighbours in the community. The point of this illustration is that remittances are an instrument of differentiation.

Female Heads of Household: New Roles in an Old Structure

The consequences of male labour migration are not merely economic; they are also social and political. The fact that a large and increasing number of rural households in Western Kenya are headed by women who also make a vital contribution to agricultural production has already been sufficiently documented to warrant a further detailed exposition (Moock, 1976, 1981; Kenya, 1977a; Livingstone, 1981; Noble, 1982; Noble and Nolan, 1982; Sands, 1983; Anker and Knowles, 1982).

What, however, deserves more attention are the consequences and implications of male labour migration on the role of women.

Sands (1983:44) reported that between 42-45 percent of the surveyed households were headed by women. Almost invariably, the male heads in these households were either seeking wage employment or working elsewhere. A few of the female heads were widows, and none was reported divorced. There were no important differences in the extent to which women had assumed responsibilities as heads of households between the two districts.

Whether as de facto or de jure heads of household, to use Kerven's (1979:2-4) distinction, these women retained their traditional roles and, in addition, assumed a wide range of social and economic responsibilities that were traditionally assigned to men. For example, the women continued to bear and rear children and to produce and prepare food. But they also became involved in such men's tasks as tending livestock and ploughing or at least, they were required to keep an eye on things while the male head was away. But this is where most of their responsibilities ended. The major decisions, especially those regarding livestock production and management, were made by their migrant husbands in absentia. The women were denied the authority and personal autonomy to make such decisions.

Implicit in this pattern of social relations is the realization that, in a practical sense, the role of farm women in Western Kenya cannot be said to have changed in any meaningful way. In fact, their traditional productive and reproductive activities have essentially remained the same. What has changed, however, is that to these traditional roles, a new set of responsibilities have been added.

Paradoxically, these changes have inhibited rather than enhanced women's capacity to participate in the decision-making process. The scope of their responsibilities and their power to make or influence decisions that affect their lives at the household level and in the public sphere are manifestly incongruent.

This incongruence shows the extent to which patriarchy and capitalist development have structured power relations and legitimized exploitation based on gender. Despite increased incorporation of the subsistence economy into the market economy, rural women in Western Kenya are still largely confined to the domestic sphere while the men leave the household to engage in wage labour. The ensuing differential participation in the labour market and access to resources demonstrate the extent of asymmetrical power relations that exist between men and women. All too frequently, these profound contradictions are sanctioned by cultural norms and legitimized, rationalized and justified by the existing structural mechanisms.

Summary

This chapter has examined the existing labour and land resources as essential elements to subsistence production and the survival of the household. The analyses focused on the factors that influence the supply of labour and the processes that have created land and labour shortages. A central finding was that the small-scale farmers in Western Kenya operate on a limited resource base. Some 24.3 percent of the surveyed farms hired labour. There were no significant differences in the use of hired labour between districts. Labour was in short supply primarily

because of competing demands from school attendance of children and, in Siaya, because of male labour migration in search of wage employment outside the household. These differences between the two communities reflect the differential impact of capitalist development in the area. Although these households are articulated with the market economy, the nature of the articulation is different for each community and the consequences of that integration are also varied.

Participation in off-farm wage employment, though widespread in the survey area, had no significant effect on the stock of family labour available for farm use. This indicates that off-farm employment did not necessarily involve migration and thus, by itself, does not constitute a major constraint to family labour resources.

CHAPTER 6

THE ROLE OF LIVESTOCK IN SMALL FARMS, THE EFFECT OF LABOUR ON FARM PRODUCTION AND THE DIVISION OF LABOUR IN THE HOUSEHOLD: FINDINGS AND DISCUSSION

Smallholder agricultural production in Western Kenya is a mixed enterprise in which the production mixture is largely determined by the general consumption pattern and needs of the producers. This chapter is organized into three segments. The first part deals with a discussion of the livestock enterprise within the context of the overall production system. The central focus here is on the examination of the differences between livestock and non-livestock farms and the varying perceptions on cattle and small ruminant production. The second section of the chapter seeks to determine the precise effect of labour on farm production and shows that access to land and other resources, are equally vital. In the final portion of the chapter, the findings concerning the gender division of labour are discussed.

Mixed Crop/Livestock Production System

The prevailing farming system in Western Kenya involves an intensive use of labour and land resources to produce crops and livestock on a small-scale subsistence basis. These farmers are not specialized commodity producers. They are smallholders whose principal goal is to meet the basic household consumption needs. Although they occasionally exchange part of what they produce (usually a small surplus) on the market, production is primarily for home consumption and not oriented toward profit maximization through sales in the market. In terms of the

writings of Friedmann (1980:166) and Worsley (1984:74), the high ratio of production for domestic consumption to production for exchange demonstrates a partial integration into the market system. The household members consume much of what they produce and produce much of what they consume through essentially labour-intensive cultivation practices (Wolf, 1966; Shanin, 1971, 1982).

The overall production strategy is to achieve an efficient use of resources in a production process which is informed and guided by a different set of logics from those that underlie capitalist agriculture. Since all the major productive resources are in limited supply, one of the strategies employed as a labour- and land-saving device is intercropping of the major food crops such as maize and beans or millet, sorghum and sweet potatoes which are among the basic staples in the area. Land and labour shortages also require that cattle, sheep and goats are all grazed together on the same pasture to take advantage of economies of scale. Based on low levels of technology, this system of production may not be highly efficient and cost-effective in the capitalist sense of rationality but it has been fine-tuned and well adjusted to the total environment of these small producers.

Traditionally, crop production has been the major enterprise within the small farm system. Livestock production, though important, is generally considered a secondary component. The predominance of crop over livestock production provides a social and economic basis for understanding the general role of women in agricultural production both in terms of the amount of labour contributed by women and the differential level of participation between men and women.

Livestock production is not a dominant enterprise and this is evidenced by the fact that livestock ownership was limited to some but not all farms. Some 37.8 percent of the surveyed farms had no livestock and there was no evidence or indication that these households had engaged in any form of livestock production before. As shown on Table 6.1, there were no significant differences in patterns of livestock ownership between the districts.

Table 6.1 Number of Households With Livestock by District

	Number of Households					
	Siaya		Kakamega		Both Districts	
Presence of Livestock	n	%	n	%	n	%
With livestock	22	61.1	24	63.2	46	62.2
Without livestock	14	38.9	14	36.8	28	37.8
Total	36	100.0	38	100.0	74	100.0

Livestock farms were generally larger than non-livestock ones. More livestock were found in households with more land and labour (See Table 6.2). These households were also more likely to hire outside labour than their counterparts without livestock. In Kakamega district, the number of livestock per household significantly increased with farm size and availability of family labour (Table 6.2), which indicates that livestock production or more specifically, cattle ownership in this area is an important measure of wealth. In these communities, a large family is important. For many people, it represents the only form of security available, particularly during the times of need. It requires a large family with a substantial amount of labour and adequate land to be able

to raise large herds of cattle. But, by the same token, a large family also needs a large number of livestock to be able to plough and plant their fields on time or to sell them and obtain enough cash to cover the high and rising cost of household reproduction. Because cattle ownership is associated with status enhancement, livestock farms had greater access to other resources, including hired labour. Households which kept livestock were observed to be relatively well-off.

Table 6.2 Zero-Order Correlation Coefficients for the Relationships Between the Number of Livestock, Family Size and Farm Size by District

	Number of Livestock		
Variables	Siaya (N=36)	Kakamega (N=38)	Both Districts (N=74)
Family size	0.03	0.27*	0.07
Farm size	0.07	0.36**	0.18

*p < .10
**p < .05

Livestock Production and Use of Hired Labour

Despite the limited use of hired labour throughout the surveyed farms it was observed that the use of hired labour varied significantly between livestock and non-livestock farms. As shown on Table 6.3, those households which had a large number of livestock were the ones that hired labour. The majority of the households that hired no labour had very few

animals or none at all. They relied entirely on non-wage family labour. This significant relationship between the use of hired labour and the number of livestock per household suggests that households with livestock were relatively better off than those which had none. It was noted in chapter 5 that households which hired labour also generally had larger farms than those which hired no labour. These findings point to the differences and inequalities between livestock and non-livestock farms in the survey area.

Such inequalities have largely been engendered by the agricultural research and extension system. The system, like many other institutional organizations, was inherited from colonialism and seems to widen the gap between small and what are commonly referred to as "progressive" farmers (Leonard, 1972; Alila, 1977; Ascroft et al, 1972). Traditionally, the extension system in Kenya has been attentive, responsive and attuned to the needs and interests of a small group of relatively wealthy farmers. In some parts of the country, this orientation has either become more pronounced or basically remained the same.

Table 6.3 Analyses of Variance for the Mean Number of Livestock by Use of Hired Labor by District*

		Differences in Mean Number of Livestock								
		Siaya			Kakamega			Both Districts		
		N	$\bar{X}$	S.D	N	$\bar{X}$	S.D	N	$\bar{X}$	S.D
Hired Labour	Yes	10	5.4	4.7	8	6.0	5.6	18	5.7	4.9
	No	26	3.5	6.3	30	2.1	2.6	56	2.7	4.7

Summary of One-Way Analyses of Variance

	Siaya (N=36)			Kakamega (N=38)			Both Districts (N=74)		
Source	DF	MS	F	DF	MS	F	DF	MS	F
Hired labour	1	27.1	0.8	1	97.7	8.5***	1	118.7	5.3**
Error	34	34.6		36	11.4		72	22.5	

**p < .05
***p < .01

*Table 6.3 reports the results of three separate analyses of variance, one for each district and both districts combined.

Role and Status of Animals

The average number of livestock per household was 4.0 in Siaya and 2.9 in Kakamega. Many of these were cattle, but sheep and goats were also common. Cattle are kept for a wide variety of purposes ranging from

consumption to cash. They are a major source of meat and the only source of milk. There are several cultural taboos associated with the consumption of goat meat and milk. There is a strong belief in Siaya, for example, that goat meat causes stomach disorders and other related health problems. It is also customary in this part of Kenya for the elderly women to abstain from milk and poultry consumption. And goat milk is generally believed to be medicinal.

Cattle are generally perceived as a traditional form of wealth, a status symbol, a source of prestige and a convenient source of liquid capital. Because of their role in the social and economic fabrics of the two communities, cattle are considered a higher status animal than sheep and goats (see Table 6.4). They are used to provide draft power which is a critical factor in timely ploughing, to pay bride-wealth at the time of marriage, to provide cash for household expenses and to purchase other goods and services essential for the reproduction of the household. It used to be the case that farmers with large herds of cattle were also the ones who could afford multiple wives because polygyny required a substantial number of cattle to make bride-wealth payments possible.

Table 6.4 Percentage of Households by Status of Animals by District

	Percentage of Households					
	Siaya		Kakamega		Both Districts	
Status of Livestock	n	%	n	%	n	%
Cattle (N=68)						
Most important	34	100.0	34	100.0	68	100.0
Least important	-	-	-	-	-	-
Goats (N=56)						
Most important	2	7.4	12	41.4	14	25.0
Least important	25	92.6	17	58.6	42	75.0
Sheep (N=57)						
Most important	19	70.4	14	46.7	33	57.9
Least important	8	29.6	16	53.3	24	42.1

These data indicate that there is a strong preference for cattle over sheep and goats in these communities. Although 75 percent of the entire sample reported that goats are the lowest status animals after sheep and cattle, people in Kakamega had basically the same preference for sheep and goats. But in Siaya, only 7.4 percent of the households considered goats as most important. This seeming anti-goat sentiment in Siaya is linked to the cultural taboos associated with the consumption of goat products. However, it is evident from the data that, compared to small ruminants, cattle are the most preferred and highly valued animals in both communities. Everyone agreed with that.

Goats are kept for household consumption as well as for exchange. But they are essentially regarded as ritual animals that are used for

ceremonial purposes as during births, weddings and funerals. As with other types of livestock, goat production is traditionally a male responsibility. Women tend to be excluded from all the major goat management and production decisions.

Despite the role of goats in the socio-cultural life of the people in the two communities, goat production is generally considered a low priority enterprise. This disposition is due in part to the strong perception in Siaya that goats in particular, and small ruminants in general, are lower status animals which neither generate wealth, provide real security nor confer status to the producer. Another major consideration is the feeling that goats are relatively more difficult to care for than cattle in terms of their labour requirements. The data on Table 6.5 show a very distinct pattern in the perception of farmers about the animals they considered as easy to care for. Unlike cattle and sheep, goats were widely (90.9%) perceived by farmers in Siaya as being hard to care for. This strong negative perception about goats reflects a deep-seated belief system in Siaya about the social role of goats and the consumption of goat meat and milk. No one in Siaya reported that goats are easy to care for. On the contrary, farmers in Kakamega did not seem to care one way or the other whether they had sheep or goats although many of them also indicate a strong preference for cattle and felt that they are the easiest to raise.

Table 6.5 Percentage of Households by Types of Livestock That Are Easy to Care for by District

Type of Livestock That Are Easy to Care For	Percentage of Households					
	Siaya		Kakamega		Both Districts	
	n	%	n	%	n	%
Cattle (N=67)						
Easy	21	61.8	19	57.6	40	59.7
Average	13	38.2	4	12.1	17	25.4
Hard	-	-	10	30.3	10	14.9
Goats (N=65)						
Easy	-	-	6	18.7	6	9.2
Average	3	9.1	20	62.6	23	35.4
Hard	30	90.9	6	18.7	36	55.4
Sheep (N=67)						
Easy	20	60.6	8	23.5	28	41.8
Average	13	39.4	22	64.7	35	52.2
Hard	-	-	4	11.8	4	6.0

These perceptions, predispositions and preferences are built-into the overall production strategies employed by the small farmers in the surveyed households. In Siaya, more than in Kakamega, these preferences are also reflected in the farmers' management priorities. Given the social and economic role of cattle in the community social structure, a major livestock management priority in the district is to improve cattle production. Many of the farmers interviewed in Siaya indicated some willingness to keep a few extra goats on their holdings but not if it involved further resource investments and major changes in the current

production system. This, they felt, they could not afford given their resource conditions. Some of them may be willing to make changes in the current production system but most of them are simply unable to do so. Farmers in Kakamega were not terribly enthusiastic about a new goat enterprise either but most of them were quite ambivalent about the idea. We have already seen that a significant majority of the farms are faced with severe land and labour shortages. Credit and other forms of capital resources are not equitably accessible either.

It was pointed out earlier in this section that livestock production is a secondary enterprise in a crop-dominated production system. It may be noted further that goat production is also a secondary undertaking within the livestock enterprise. There is an inherent crop bias in the entire system and a definite cattle bias within the livestock enterprise.

These findings have important implications for development efforts aimed at incorporating new livestock enterprises such as dual purpose goats for meat and milk production into the existing production system in Western Kenya. If livestock production is considered as a low priority enterprise, as is evidenced by the distribution of livestock farms in the survey area, and if small ruminants - notably goats-are even more secondary, then it is conceivable that significant increases in overall production can only be warranted by adequate access to labour and other resources. Households that are relatively deprived in terms of productive resources may be unable to increase or expand production by incorporating new enterprises. In the analysis that follows, the effect of labour, relative to land, migration and off-farm employment, on farm production is assessed and discussed.

The Labour Input/Farm Output Equation: Results and the Missing Factors

So far, the analysis has focused on the factors that withdraw family labour from farming activities, the effect of labour on livestock production and the role of livestock in small farm households. The conclusion reached from the data presented up to this point is that there are strong competing demands on family labour resources in the surveyed farms. But except for school participation, other processes like migration and off-farm employment have had differential impact on availability of labour and the organization of household production in Siaya and Kakamega. The second part of the analysis seeks to determine the effects of labour, land, migration and off-farm employment on the area cultivated and crop yields as measures of farm production.

The Amount of Land Under Cultivation

A major hypothesis of this study suggests that availability of family labour has a significant positive influence on the area of land under cultivation. But the study found that although availability of labour was important, farm size had significant positive and direct effect on the area of maize cultivated alone (Table 6.6) and maize and beans intercropped (Table 6.7) in each district. These data lend some support to the hypothesis that family labour is an important factor in crop production even though access to land is also vital. About 30 percent of the variation in the area cultivated was explained by increased access to land. Given the kind of technology available, there were basically two ways in which the farmers could increase farm

production. One was through intensive use of land and labour which involved such strategies as intercropping and working longer hours especially during peak seasons. The other approach was the extensive use of resources which includes buying more land to bring under production and to hire more labour to work the extended farm. Small farm operations in Western Kenya are generally land- and labour-intensive. Land holdings have been fragmented into small parcels and only those able to acquire extra land through purchase could expand farm production extensively by bringing more land under production and still have some left for livestock grazing. But high and rising land prices are beyond the reach of most small farmers in these communities.

Under the same level of technology, the size of land cultivated increased with farm size and availability of family labour. The positive combined effect of land and labour on the area cultivated of maize alone (Table 6.8) and a maize and beans intercropped (Table 6.9) in Siaya suggests that farmers with limited access to these and other related resources may be willing to incorporate new enterprises into their production system but are structurally constrained. Figures 6.2 through 6.4 are pictorial representations of the combined effect of farm size and family size on the size of land under cultivation. In a small-scale farming system, one of the keys to increased farm production is adequate access to and control over the major means of production - capital, land and labour.

Historically, labour, rather than land, shortage was the major limiting factor in farm production because the existence of an open land frontier meant that production could be increased by expanding the area of land under cultivation. Production was organized according to the

specific needs of the household unit and the extended kinship networks in the larger community. Property relations were removed from the production process and consumption rather than accumulation was the primary goal of production. But the extension of commodity relations into the household economy, drastic changes in the land tenure system, and rapid population growth rates have all imposed serious limits on the open land frontier and the farmers' ability to mobilize other forms of productive resources.

Table 6.6 Zero-Order Correlation Coefficients for the Relationships Between the Area of Maize Cultivated, Family Size and Farm Size by District

	Cultivated Area of Maize in Monoculture (M^2)		
Variables	Siaya (N=27)	Kakamega (N=12)	Both Districts (N=39)
Family size	0.14	-0.17	0.02
Farm size	0.47*	0.69**	0.54**

*p < .05
**p < .01

Table 6.7 Zero-Order Correlation Coefficients for the Relationships Between the Area of Maize and Beans Cultivated, Family Size and Farm Size by District

	Cultivated Area of Maize and Beans Intercropped (M^2)		
Variables	Siaya (N=18)	Kakamega (N=35)	Both Districts (N=53)
Family size	0.05	0.33*	0.34**
Farm size	0.24	0.44***	0.29**

*p < .10
**p < .05
***p < .01

Table 6.8 Unstandardized Multiple Regression Coefficients of the Cultivated Area of Maize in Monoculture on Family Size and Farm Size by District

	Cultivated Area of Maize in Monoculture (M^2)					
	Siaya (N=29)		Kakamega (N=14)		Both Districts (N=41)	
Variables	Beta	F-Value	Beta	F-Value	Beta	F-Value
Family size	-438.4	0.69	307.9	1.3	-299.3	0.02
Farm size	-172.6	6.75**	2740.8	26.2**	214.2	15.4***
Family size and farm size	159.2	3.54*	-273.2	8.7**	77.8	1.52
R^2	0.32**		0.82***		0.33***	

*p < .10
**p < .05
***p < .01

Table 6.9 Unstandardized Multiple Regression Coefficients of the Cultivated Area of Maize and Beans Intercropped on Family Size and Farm Size by District

	Cultivated Area of Maize and Beans Intercropped (M^2)					
	Siaya (N=20)		Kakamega (N=37)		Both Districts (N=55)	
Variables	Beta	F-Value	Beta	F-Value	Beta	F-Value
Family size	-660.5	0.04	186.3	4.27**	155.1	6.79**
Farm size	-403.8	0.91	544.2	4.31**	12.3	2.75
Family size and Farm size	149.5	0.94	- 14.6	0.05	36.1	0.59
R^2	0.12		0.22*		0.17**	

*p < .10
**p < .05

BOTH DISTRICTS

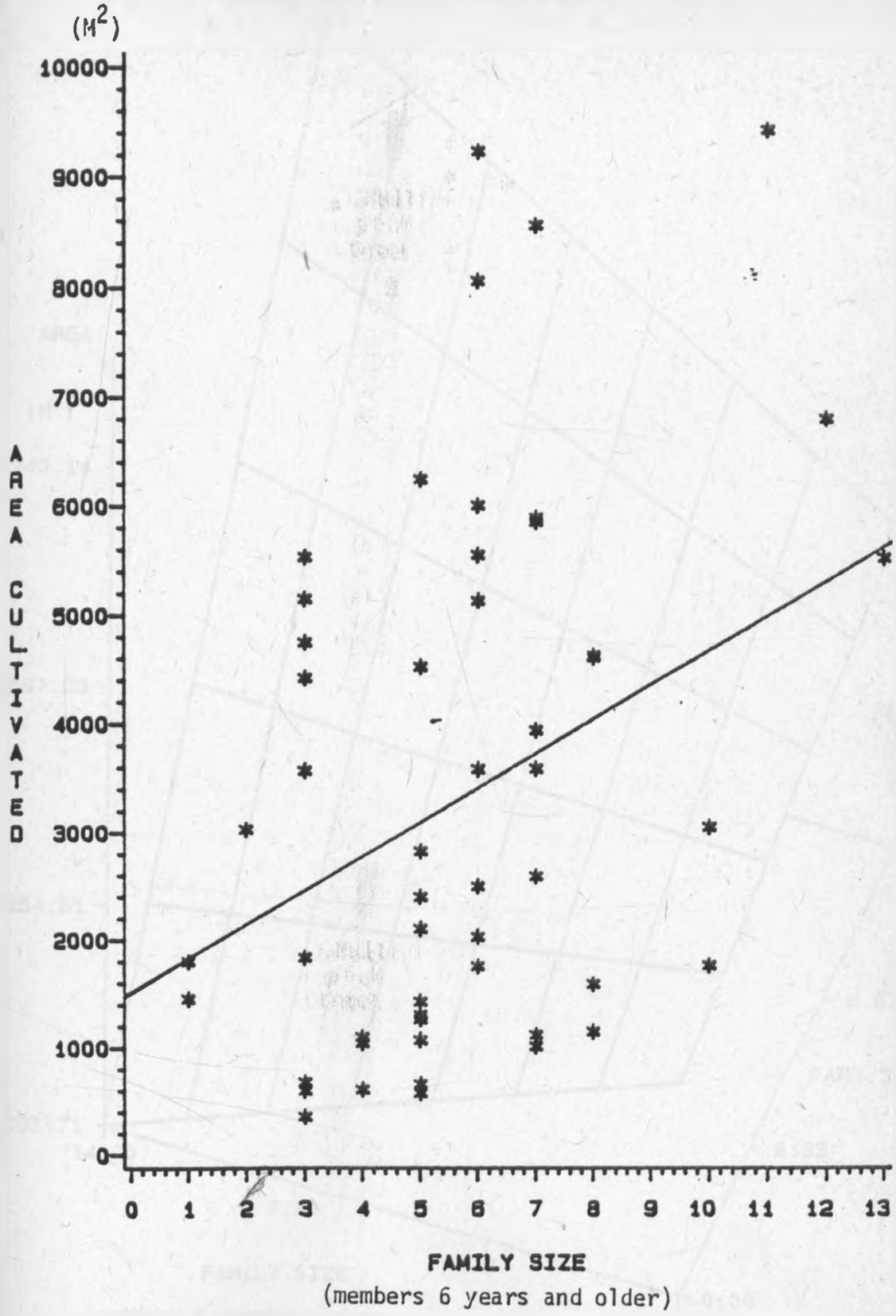


Figure 6.1 The Relationship Between Family Size and Area Cultivated of Maize and Beans Intercropped in Both Districts

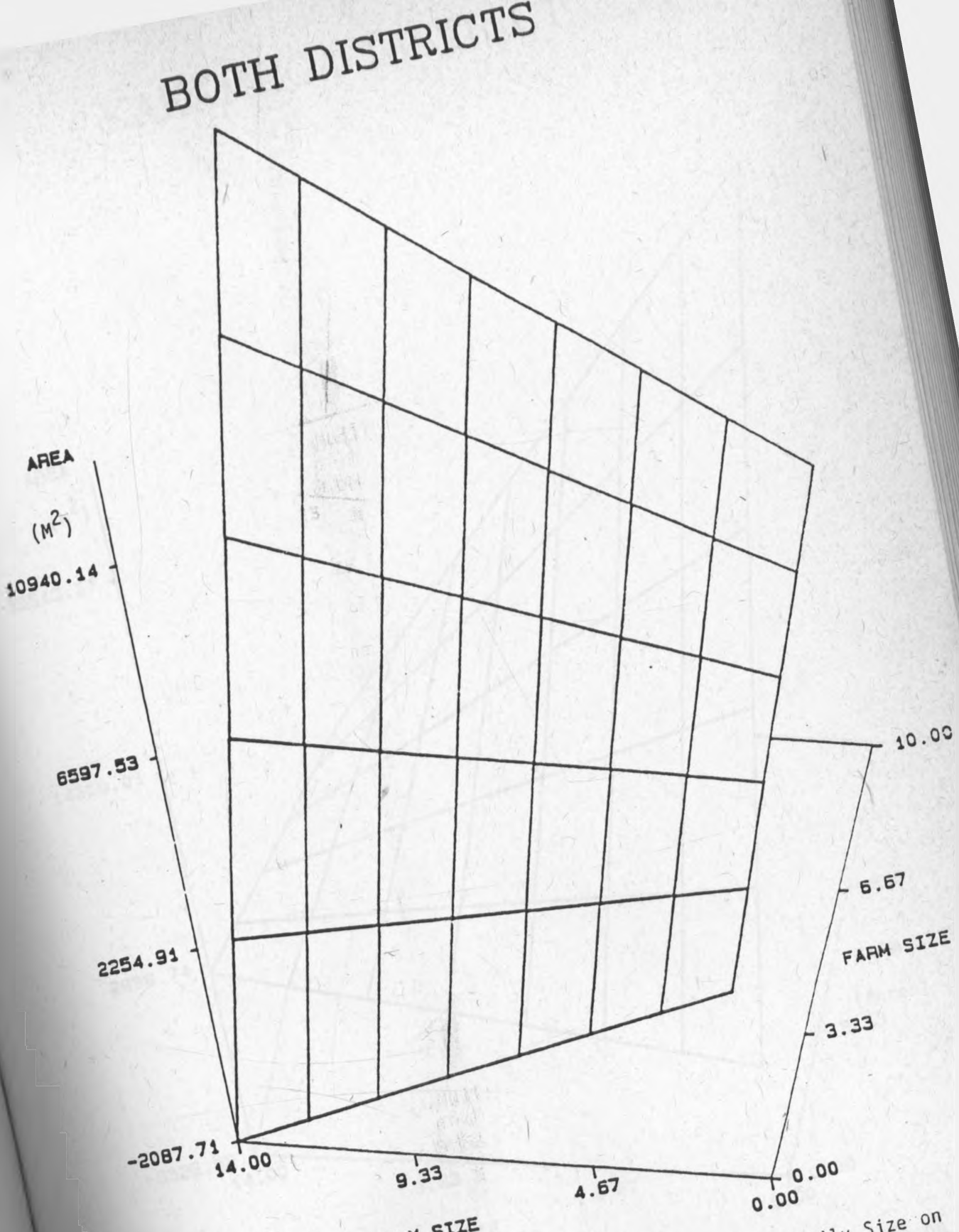
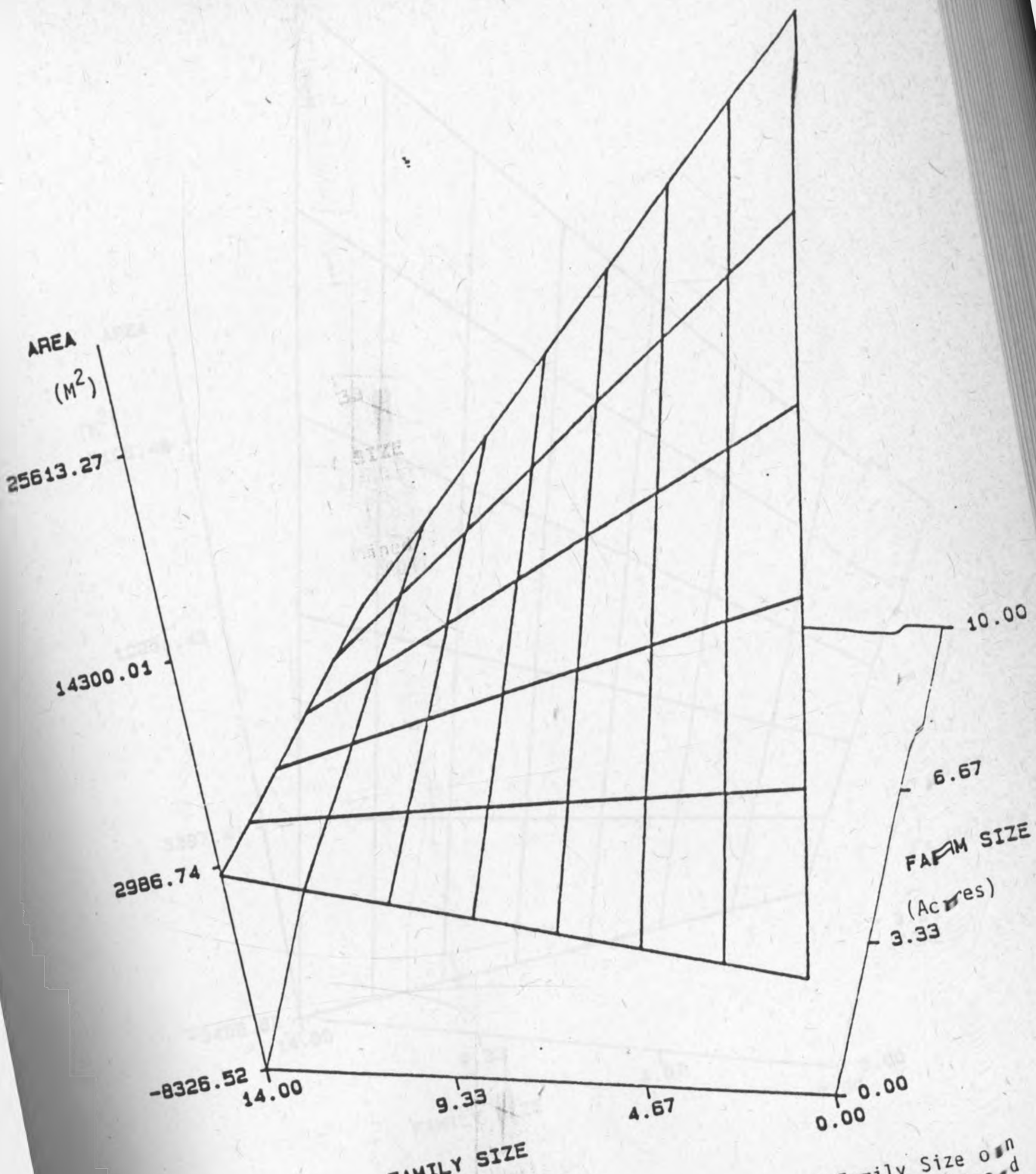


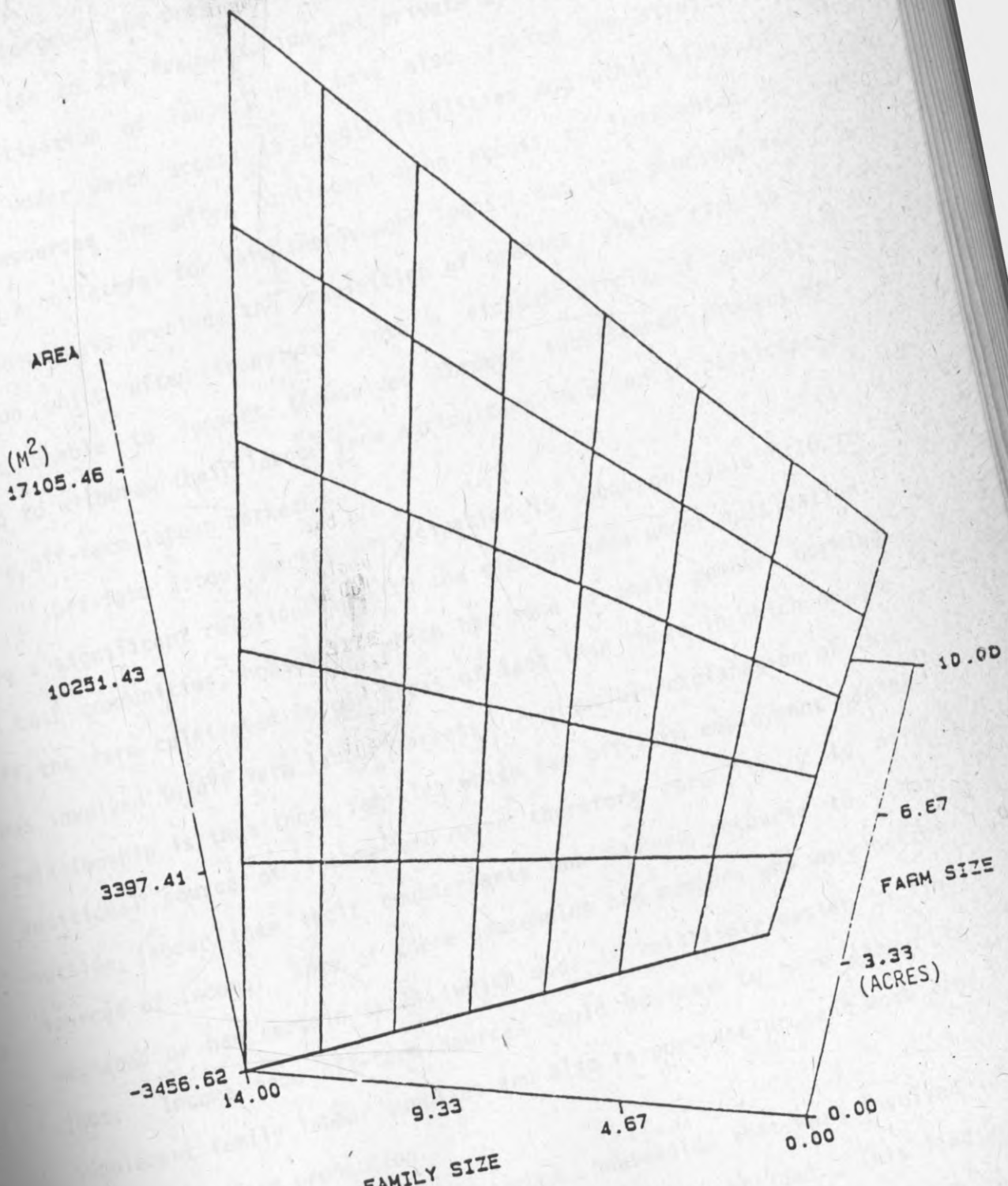
FIGURE 6.2: The Combined Effect of Farm Size and Family Size on the Area Cultivated of Maize in Monoculture

KAKAMEGA DISTRICT



Combined Effect of Farm Size and Family Size on
Cultivated of Maize and Beans Intercropped

SIAYA DISTRICT



(members 6 years and older)

FIGURE 6.4: The Combined Effect of Farm Size and Family Size on the Area Cultivated of Maize in Monoculture

The emergence and prevalence of land and labour markets have not only given rise to the fragmentation and private appropriation of land and commoditization of labour, but have also created the structural conditions under which access to credit facilities and other kinds of capital resources are often contingent upon access to land which is needed as a collateral for farm improvement loans. But land shortage and even landlessness preclude the acquisition of credits, giving rise to a situation which often translates into a vicious circle of poverty. Farmers unable to support themselves through subsistence production tended to withdraw their labour from agriculture in order to participate in the off-farm labour markets.

Off-farm labour market participation is shown on Table 6.10 to have a significant relationship with the size of area under cultivation. In both communities, households which had some of their members working off the farm cultivated larger areas of land than those in which no one was involved in off farm labour markets. A plausible explanation of this relationship is that those families which had off-farm employment had an additional source of income and were therefore more likely to hire outside labour than their counterparts who had no recourse to other sources of income. Some of these households had members who were better educated or had certain skills which made it relatively easier to find jobs. Income from off-farm sources could be used to hire labour to supplement family labour supplies and also to purchase or rent more land to increase farm production.

In Siaya, but not in Kakamega, households that were involved in the migration progress cultivated smaller amount of land. This finding is consistent with the previous results which showed that in Siaya the

Table 6.10 Analyses of Variance for Mean Cultivated Area of Maize and Beans Intercropped by Migration and Off-farm Employment by District*

		Differences in Mean Cultivated Area (M^2)								
		Siaya			Kakamega			Both Districts		
		N	$\bar{X}$	S.D	N	$\bar{X}$	S.D	N	$\bar{X}$	S.D
Migration	Yes	9	2351.3	1779.6	23	4325.9	2531.3	32	3770.6	2485.6
	No	6	2892.8	3155.5	12	2853.9	1904.8	18	2866.9	2297.1
Off-farm Employment	Yes	8	3338.8	3006.5	28	4259.5	2314.8	36	4054.9	2468.2
	No	10	1648.1	823.4	7	2068.3	2097.6	17	1821.1	1441.1
Migration	Off-Farm Employment									
Yes	Yes	7	2496.6	1981.3	18	4820.6	2406.2	25	4169.9	2493.4
Yes	No	2	1843.0	1056.4	5	2545.2	2359.8	7	2344.6	2003.9
No	Yes	1	9234.0	0.00*	10	3249.5	1837.2	11	3793.5	2508.7
No	No	5	1624.6	681.9	2	876.0	376.0	7	1410.7	642.4

*Sample less than 2.

(This table is continued on the next page)

Summary of Two-Way Analyses of Variance

	Area Cultivated of Maize and Beans Intercropped (M^2)								
	Siaya			Kakamega			Both Districts		
Variables	DF	MS	F	DF	MS	F	DF	MS	F
Migration	1	2306070785.6	9.68***	1	12272278.6	2.52	1	4120273.5	0.79
Off-farm Employment	1	37049370.4	15.55***	1	25261216.9	5.18**	1	42504672.2	8.19**
Migration and off-farm employment	1	26254640.1	11.02***	1	11245.8	0.00	1	746072.9	0.14
Error	11	2382017.5		31	4878200.7			5189383.6	

**p .05
***p .01

*Table 6.10 presents the results of three separate analyses of variance, one for each district and both districts combined.

rate of migration was higher in smaller farms and that migration also contributed to reductions in family labour supply. Under conditions of limited land labour and other productive resources, the penetration of the market influence could intensify poverty and further deprivation. This seems to be the case in Siaya.

In Kakamega, on the other hand, the data indicate that households that were involved in migration and off-farm employment cultivated more land. Apart from the fact that Kakamega has a better quality soil than Siaya, the extension of the market influence in Kakamega seem to have a beneficial effect in terms of creating investment opportunities in the rural areas in general and in agriculture in particular. Income transfers from urban migrants and off-farm enterprises are used either to purchase or hire farm equipment like ploughs, hire draft power for ploughing or hire outside labour during peak seasons. This form of articulation represents an alternative source of household reproduction. But differential participation in the market generates internal social differnetiation between household units. For example, although the use of hired labour was limited to a very small number of households, the data on Table 6.11 indicate that 83.3 percent of these households were also the ones with off-farm employment. Access to off-farm sources of income thus enhances the ability to hire labour.

Table 6.11 Number of Households With Off-Farm Employment and Hired Labour

Number of Households	Number of Households					
	With Hired Labour		Without Hired Labour		Total	
	n	%	n	%	n	%
With off-farm employment	15	83.3	33	58.9	48	64.9
Without off-farm employment	3	16.7	23	41.1	26	35.1
Total	18	100.0	56	100.0	74	100.0

Crop Yields

Farm production was also reflected in crop yields. Yield estimates of food crops were generally very low. In most cases yield estimates were just that - estimates. No one knew for certain the exact amount of maize, beans, potatoes or any other subsistence commodity that was harvested in any given agricultural season. Part of the explanation is that the producers kept no written records of the quantity of what they harvested, and the estimates were mainly based on their recollections. Secondly, in the survey area, the harvesting season is usually preceded by a period of food shortage which compels many farmers to start harvesting the crops a little early in order to provide food to their families. Consequently, by the time the crops are actually ready to be harvested, sometimes there is not much left in the fields to harvest. Observations also revealed that low crop yields in the area were not strictly a function of land, labour and capital but also

reflected a host of other factors many of which the small farmers had little or no control over.

The data on Table 6.12-15 show a weak negative correlation between farm size and maize yields in the two communities. This inverse relationship between farm size and maize yields is probably due to a more extensive use of land and labour resources. Table 6.12 shows a weak negative relationship between family size and maize yields in each community but a significant positive relationship for both areas combined. The positive correlation is probably spurious due to the fact that there are large differences in yields and family size between the two communities. The negative effects of land and labour on yields was statistically more significant in cases of intercropping than in monoculture. The combined effect of farm size and family size on yields was positive but statistically insignificant. Despite the apparent contradiction Chayanov (1966) would argue that when land and labour are plentiful in small farm households, the form of production and pattern of resource allocation and utilization tend to be much more extensive than when these resources are scarce. For example, availability of land could encourage the cultivation and planting of many acres even though the soil may not be well prepared and the weeding and harvesting cannot be done on time. It is argued that such a farming strategy is likely to generate low yields per unit of labour and land.

The data indicate that land and labour are actually not decisive factors in the production of maize and beans as the actual yields of

Table 6.12 Zero-Order Correlation Coefficients for the Relationships Between Maize Yields Per Acre of Maize in Monoculture, Family Size and Farm Size by District

Variables	Yields/acre of Maize in Monoculture (Kg)		
	Siaya (N=27)	Kakamega (N=12)	Both Districts (N=39)
Family size	-0.05	-0.09	0.29*
Farm size	-0.23	-0.13	-0.12

*p < .10

Table 6.13 Zero-Order Correlation Coefficients for the Relationships Between Maize Yields Per Acre of Maize and Beans Intercropped, Family Size and Farm Size by District

Variables	Maize Yields/acre of Maize and Beans Intercropped (Kg)		
	Siaya (N=18)	Kakamega (N=35)	Both Districts (N=53)
Family size	-0.19	-0.24	-0.05
Farm size	0.02	-0.39*	-0.33*

*p < .05

Table 6.14 Unstandardized Multiple Regression Coefficients of Maize Yields Per Acre of Monoculture Maize on Family Size and Farm Size by District

	Yield/acre of Monoculture Maize (Kg)					
	Siaya (N-29)		Kakamega (N=14)		Both Districts (N=41)	
Variables	Beta	F-Value	Beta	F-Value	Beta	F-Value
Family size	- 5.9	0.05	- 61.8	0.07	45.9	3.31*
Farm size	-25.9	1.19	-152.1	0.09	-50.2	1.35
Family size and farm size	2.2	0.07	18.9	0.16	2.8	0.04
R^2	0.05		0.04		0.12	

*p < .10

Table 6.15 Unstandardized Multiple Regression Coefficients of Maize Yield/Acre of Maize and Beans Intercropped on Family Size, and Farm Size by District

	Maize Yield/acre of Maize and Beans Intercropped (Kg)					
	Siaya (N=20)		Kakamega (N=37)		Both Districts (N=55)	
Variables	Beta	F-Value	Beta	F-Value	Beta	F-Value
Family size	-23.4	0.54	- 46.7	2.16	- 6.5	0.16
Farm size	6.4	0.07	-214.2	3.95*	-89.6	5.97**
Family size and farm size	-0.03	0.00	16.2	1.54	3.9	0.22
R^2	0.04		0.2*		0.11	

these and other crops could depend on a wide array of factors which include the rainfall patterns, quality of soil, time of planting, seed varieties, disease prevalence, pests, food preferences, the structure of the division of labour in the household, the type of crop, production technology, extension contact, access to credit facilities, the structure of product markets, government pricing policies, and so forth. All this and many other technical, environmental, social, economic and structural conditions constitute a total environment in which small farmers make their production decisions (CIMMYT, 1984). Their ability to manipulate their total environment, or some aspects of it, is thus relatively limited given the nature of resources avaiable to them.

Efficient Use of Scarce Resources: How the Smallholders Cope

Small farm production systems in the underdeveloped nations have been characterized as resource-based rather than science-based systems (Ruttan, 1984:38). Ruttan argues that efforts to increase overall farm production in these systems are mainly made through reallocation of the available resources and not by making drastic changes or incorporating new production enterprises into the existing farming system.

The literature is replete with stereotypes about small farmers in underdeveloped countries. These farmers have variously been characterized as poor, conservative and ignorant groups of producers who are apprehensive of the future, preoccupied with the present, wary of technological innovations and inherently inclined to avoid risks. These kinds of characterizations and generalizations reflect some lack of

understanding of these farmers' circumstances. In the case of Western Kenya, we have seen that small-scale farmers operate within certain resource constraints which preclude the realization of their goals such as increased food production. But the view of technology as the preponderant factor in agricultural production is routinely upheld without an adequate understanding of the farmers' resource conditions and the appropriateness of a given technology to the needs and socio-structural environment of the farmers. It is doubtful if improved technology without concomitant improvements in the distribution of land and labour resources could generate significant increases in farm production. When the average size of land holding per household is under three acres which are mainly worked by family labour (mostly women) really, even with new technology, these households are unlikely to generate a decent livelihood from subsistence production. Moreover, little attention has been devoted to the assessment and analysis of the social consequences of the recommended changes in production practices.

Although small farmers usually operate under considerable resource constraints they have been said to be uniquely efficient in the way they allocate and utilize whatever resources are available to them. Initially developed by Schutz (1964), the view of small farmers as 'efficient but poor' was subsequently tested in various cross-cultural settings to determine its validity. A major conclusion that has been reached by advocates of new technologies is that an increase in farm production in small farm systems is largely dependent upon, or must inevitably be accompanied by, a transition from an agricultural production system based on intensive use of resources to one that is predicated on science and technology:

> The finding that small farmers are efficient but poor has important policy implications because it indicates that additional output must come through technical change and not through a reallocation of resources (Eicher and Baker, 1982:106).

Because land, labour and capital are in limited supply, in Western Kenya, the farmers have devised production strategies to cope with land scarcity and seasonal labour shortages. Intercropping was a common cropping pattern in the surveyed farms. For these farmers, it was viewed as a necessary strategy justified by limited access to land and labour. It also represents an intensive and efficient use of the existing resources. In households where food preferences and taboos had a great deal to do with what is produced, the basic rationale for intercropping was to diversify production or increase the variety of what was produced rather than to increase yields of individual crops.

Some farmers who were faced with acute shortages of land and labour tended to prefer multiple cropping in which they planted a little bit of everything on the same plot. The total yields were generally low, and for some farmers it did not seem to matter what the exact returns of specific crops were as long as there was some variety in the produce that could make for what they consider as a balanced diet.

Crop yields are found (Table 6.16) to be consistently lower in households which were involved in migration and off-farm employment than in those which were not involved in off-farm labour markets. This variation of yields between households that did or did not participate in the wage labour market is open to interpretation in at least two different ways. First, migration could be seen as a major contributing factor to labour shortage and a conseqence of land shortage.

Table 6.16 Analyses of Variance for the Mean Maize Yields by Migration and Off-farm Employment by District*

		Differences in Mean Yields (Kg)								
		Siaya			Kakamega			Both Districts		
		N	$\bar{X}$	S.D	N	$\bar{X}$	S.D	N	$\bar{X}$	S.D
Migration	Yes	9	318.7	147.8	23	470.2	2531.3	32	550.0	429.3
	No	6	462.7	274.4	12	858.4	416.2	18	726.5	413.6
Off-farm Employment	Yes	8	331.8	151.9	28	583.5	301.9	36	527.6	293.6
	No	7	427.1	231.5	7	1242.1	612.9	14	834.6	577.3
Migration	Off-Farm Employment									
Yes	Yes	7	335.3	163.7	18	482.2	242.9	25	441.0	230.3
Yes	No	2	260.5	99.7	5	1210.6	668.0	7	939.1	716.9
No	Yes	1	307.0	0.00	10	765.9	323.3	11	724.2	336.5
No	No	5	493.8	294.7	2	1321.0	671.8	7	730.1	544.1

(This table is continued on the next page)

Summary of Two-Way Analyses of Variance

	Siaya			Kakamega			Both Districts		
Source	DF	MS	F	DF	MS	F	DF	MS	F
Migration	1	22807.4	0.48	1	181567.5	1.35	1	13194.2	0.08
Off-farm employment	1	6608.6	0.14	1	1925600.0	14.28***	1	609856.3	3.86*
Migration and off-farm employment	1	37130.9	0.79	1	35116.9	0.26	1	581348.9	3.68*
Error	11	47102.2			134840.3			157943.9	

*p < .10
***p < .01

*Table 6.16 reports the results of three separate analyses of variance, one for each distict and both districts combined.

It was shown in chapter 5, (Table 5.14) that households involved in the migration process had smaller farms than those from which no one had migrated. These findings suggest that the relationship between and migration is mediated by the same set of structural conditions that have created labour migration. In other words, it could be argued that low yields reflect inadequate farm labour supply because of migration. But migration is a process that has been set underway by lack of opportunities in the rural areas in general and limited access to land in particular. These conditions generally make for low productivity. An alternative interpretation could be that migration generates remittances which could be used to purchase more land and labour which, according to Chayanov's explanation, could lead to an expansion in the amount of land cultivated but not an increase in crop yields. The impact of migration

is not only reflected in crop yields, but also much more directly in the allocation of tasks. The point has already been made that labour withdrawal through migration has led to the expansion of women's roles in productive and reproductive spheres. But while female responsibilities have expanded, the structure of the division of labour has basically remained the same.

The Changing Structure of the Division of Labour and the Role of Women in Smallholder Agriculture: Differential Participation

Much of the literature review in chapter 2 dealt, in general terms, with the structure and organization of household labour in smallholder agriculture in Kenya. The literature also included pertinent examples drawn from other parts of Africa. A common theme echoed throughout the literature and one that is also reflected in most studies on the role of women is the changing structure of the division of labour based on gender and age. Despite its vital role in subsistence production, child labour contribution is currently on the decline, primarily as a result of competing demands on children's labour time between schooling and farm work. On the contrary, women's labour contribution both in production and reproduction have intensified in the wake of a growing market influence on the household economy which, in turn, has created new demands on labour and prompted a redefinition of culturally constituted sex roles.

Earlier discussions of the role of women in agriculture (Boserup, 1970) have tended to focus on the productive sphere. But more recent research frontiers and theoretical treatises have shifted the focus away from a one-dimensional analysis to an understanding of the interaction

between women's reproductive roles at home and their productive functions on the farm. Utilizing survey data from small farms in Western Kenya, this section speaks to these issues.

One of the basic criteria for the allocation of household tasks and farm activities in Western Kenya is gender. Differences by district on patterns of role differentiation were not significant and thus the data on Table 6.17 through 6.19 represent both districts combined rather than a separate treatment of each community.

The data in Tables 6.17 and 6.18 show a higher rate of female participation in household activities and crop production. Women performed the bulk of the activities on a more regular basis than men.

Table 6.17 Division of Labour on Household Activities by Gender[1]

	FOOD PREPARATION				CHILD CARE			
	Does Not Work	Works Occa-sion-ally	Works Regu-larly	Total	Does Not Work	Works Occa-sion-ally	Works Regu-larly	Total
Female	3	22	111	136	18	37	87	142
Male	36	3	4	43	43	5	2	50
Total	39	25	115	179	61	42	89	192

	FETCHING WATER				COLLECTING FIREWOOD			
	Does Not Work	Works Occa-sion-ally	Works Regu-larly	Total	Does Not Work	Works Occa-sion-ally	Works Regu-larly	Total
Female	6	21	121	148	5	13	127	145
Male	41	1	2	44	40	1	1	42
Total	47	22	123	192	45	14	128	187

[1]The differences in the total number of people for Tables 6.17-19 indicate that certain activities are more gender-specific and are more frequently performed by some members than by others. This is particularly the case in livestock activities where men perform the bulk of the tasks.

Table 6.18 Division of Labour on Crop Production by Gender

	PLANTING				WEEDING			
	Does Not Work	Works Occa-sion-ally	Works Regu-larly	Total	Does Not Work	Works Occa-sion-ally	Works Regu-larly	Total
Female	16	131	241	388	16	132	239	387
Male	81	111	94	286	78	121	83	282
Total	97	242	335	674	94	253	322	669

	HARVESTING				MARKETING			
	Does Not Work	Works Occa-sion-ally	Works Regu-larly	Total	Does Not Work	Works Occa-sion-ally	Works Regu-larly	Total
Female	13	133	243	389	156	48	176	380
Male	86	123	77	286	210	40	32	282
Total	99	256	320	675	366	88	208	662

Table 6.19 Division of Labour on Livestock Production by Gender

	HERDING SHEEP AND GOATS				HERDING CATTLE			
	Does Not Work	Works Occa-sion-ally	Works Regu-larly	Total	Does Not Work	Works Occa-sion-ally	Works Regu-larly	Total
Female	9	19	10	38	8	13	11	32
Male	1	1	17	19	2	26	26	54
Total	10	20	27	57	10	39	37	86

	MILKING COWS				MARKETING LIVESTOCK			
	Does Not Work	Works Occa-sion-ally	Works Regu-larly	Total	Does Not Work	Works Occa-sion-ally	Works Regu-larly	Total
Female	8	16	12	36	20	14	12	46
Male	8	22	23	53	12	13	45	70
Total	16	38	35	89	32	27	57	116

They were primarily responsible for all the domestic chores such as food preparation, child care, fetching water, and collecting firewood. They were also more heavily involved in the production of food crops. Their productive roles included planting, weeding, harvesting and marketing. Both sets of responsibilities within and outside the household were highly labour-intensive and time-consuming. According to observations and ethnographic materials, tasks like fetching water and firewood involved walking long distances and consumed anywhere between 2-4 hours a day. Whether performed before or after farm work, these chores constituted real competing demands on women's labour time.

Although male participation on cropping activities was notably higher than in domestic chores, their overall labour contribution was relatively minimal. And as Afonja (1981:304) has noted:

> This cooperation does not preclude inequalities in the distribution of responsibilities, although these inequalities are hardly perceived from within because they are culturally legitimized.

Male labour participation was, however, concentrated on livestock production (Table 6.3) in a manner consistent with the cultural definition of gender roles in the two communities. Ownership and control of livestock are associated with power, wealth and prestige. By controlling livestock production, these resources are inevitably conferred upon men as traditional heads of household. Women were expected to remain confined to the domestic sphere and their participation in livestock production was minimal and marginal. They were excluded from all the major decisions concerning livestock management and marketing but occasionally shared milking responsibilities with men. But this is only because cows on these farms are milked early in the morning when most men are out in the field ploughing and late in

the evening when they have returned from tending livestock several miles away and feel that they are entitled to a more leisurely pace after a long day. Milking, after all, is much less exacting than most of the other livestock activities.

Marketing activities were also differentiated by gender. Women were more regularly involved in marketing small surplus commodities than men who mainly marketed livestock. The data on marketing show that, compared to all other activities both in the household and on the farm, the level of participation in marketing activities was generally low. This indicates that production is primarily oriented toward household consumption rather than exchange in the market. Low yields preclude the production of a large surplus. But produce sales does not necessarily imply availability surplus. Usually, the need for cash to meet other household expenses compelled some families to sell their produce even in the absence of a surplus.

While the inequalities in the distribution of responsibilities between men and women may be culturally defensible, valid and justifiable, they nevertheless constitute a social basis for differential power that characterizes gender relations in these households. The structure of the division of labour both in its historical and contemporary forms has not only reinforced female subordination and subservience but has also underscored the relationship between women's productive and reproductive roles. Prior to colonialism, the major activity undertaken by men was hunting, which was done more for subsistence than for sport. The women remained behind to provide child care, look after the family farm and to produce and prepare food to subsidize the reproduction of the household labour force. Sex role

differentiation was more rigidly maintained because of strong customary beliefs and cultural sanctions. Although they received help from their teenage children, women still played a major role in subsistence production. Child labour contribution relieved women from some domestic chores, thereby making it possible for them to participate in other activities. But as we have already indicated, this kind of assistance has been diminishing since the penetration of colonial capitalism into the Kenyan rural economy.

Under colonialism, the structure of the rural economy and the household relations of production were altered and even transformed in ways that reflected the preoccupation with capital accumulation. In a settler economy that was based on export-oriented commodity production, one of the processes set underway was the alienation of high potential land that was brought under export agriculture. Commodity production created a new set of demands for labour. Some of the indigenous population were pushed to the marginal areas which came to be known as the "Native Reserves", and were transformed into wage labourers in the plantations and large estates. Their land had been alienated. The imposition of taxation was used to ensure a steady supply of cheap labour to the settler agriculture. The indigenous population - so-called the "natives" - were prohibited from commodity production to raise money to pay state taxes. They had to sell their labour and only the men became part of this wage labour force. The women were left behind to take care of subsistence production. Wages in the plantations were kept at their lowest rates mainly because the cost of maintaining and reproducing the labour force was subsidized through women's labour in subsistence

activities. Women produced food crops for household consumption while the men worked or sought wage labour contracts in the commodity sector.

A little more than two decades after decolonization, the key features of the structure of the division of labour in Western Kenya have basically remained the same. Recent scholarship devoted to the role of women in development and those that seek to determine the origins of female subordination have grappled with the question of whether sexual division of labour is a cause or a consequence of gender inequality (Safa and Leacock, 1981:265; Fernandez Kelly, 1981:270; Afonja, 1981:299). Part of this debate has been moved to the level of historical analysis in an effort to determine the causal priority of these phenomena. Explanations abound but they cannot be grasped independently of the historical processes that have structured gender roles and relations.

This chapter set out to present and discuss some of the key findings of this study. The data presented in this chapter suggest that smallholder agriculture in Western Kenya is predominantly crop-rather than livestock-oriented. Two of the major findings are that goats are the least preferred animals in the area and that women make a disproportionately high contribution to agricultural production.

CHAPTER 7

SUMMARY AND CONCLUSIONS

Recapitulation

The data presented in this study are based on a sample of 74 small farm households in Siaya and Kakamega districts in Western Kenya. The basic thrust of the analysis was to examine the labour situation in small farms, identify competing demands on family labour resources and to determine the consequences of the market influence on the organization of smallholder production.

Smallholder agricultural production in Western Kenya is primarily organized through family labour which is allocated on the basis of age and gender and differentiated by commodities and enterprises. Most subsistence activities are labour-intensive and a household's capacity to mobilize its labour resources is limited by competing labour demands from migration and school participation. These processes represent the extent to which the small farm household has been integrated into the larger market economy. But the penetration of the market influence into the household economy has generated some disparate consequences for each community. This differential pattern of articulation derives primarily from the fundamental cultural, social, economic and ecological differences between the two communities. However, one of the most important similarities between the households in both communities is that the traditional structure of the division of labour has undergone significant changes and the role of women has substantially expanded.

Summary of the Major Findings

Some Competing Demands For Household Labour

Because of the seasonality of labour demands for crop production and the constant labour requirements for livestock production, it would appear, on the surface, that the existing stock of the family labour force was a mixed bag of surplus and shortages. But in terms of the actual patterns of labour use, this was not quite the case. As a reservoir of labour, the family unit serves as a resource pool with limited supply. New trends in the form of schooling and migration have created competing demands on family labour resources. The loss of child labour through school participation was a major contributing factor in the reduction of family labour supply.

This study found that all school age children in the surveyed households were attending school. The data indicated that the loss of child labour was not replaced by the use of hired labour as there were no significant differences in the use of hired labour between households which did or did not have children in school. Field observations revealed that the loss of child labour increased the workload of adult members of the household. The expansion of responsibilities without adequate help imposed certain limitations on how much could be accomplished or produced.

The use of hired labour in both communities was notably limited and mainly confined to livestock production. The study found two conflicting conditions under which wage labour was employed. In Siaya, families with a smaller labour force were more likely to hire labour than

those with a larger supply of family labour. In these households, additional labour was needed to augment family labour for farm use. In Kakamega, on the contrary, wage labour was used by larger families which owned relatively large farms and needed extra labour for on- and off-farm enterprises. Hired labour on a part-time basis was more common in households with off-farm employment.

These findings lead to the inescapable conclusion that although family labour was a dominant form of organizing labour in the small farm households, the use of wage labour as a supplementary form of labour organization was determined by the existing conditions that were almost diametrically opposed to one another. Thus, the use of hired labour varied with income, farm size, availability of family labour, and the type of enterprise the household engaged in. Although the relationship between the use of hired labour, farm size and livestock production is somewhat problematic in terms of attempting to determine the direction of causation, a general conclusion that could be drawn based on these findings is that capitalist penetration into these households has not uniformly extended into all the niches and domains of household production. This seeming unevenness in the penetration of capital and the concomitant differential articulation both stem from the basic differences between the conditions in Siaya and Kakamega. In the case of Siaya, which exemplifies greater labour and land shortage than Kakamega, it seems that partial participation in the market economy deepens the level of poverty. In Kakamega, on the other hand, access to off-farm sources of income and other social and economic opportunities enhances capitalist penetration into the households but it also simultaneously

creates more demands on the family labour supply and structures further differentiation between and within households.

One of the most enduring processes of articulation between the household and the market economy is labour migration. Most of the households in Siaya and Kakamega were involved in the migration process. A large proportion of those who migrated left the farm to seek wage employment in the urban areas, and many of them were husbands or male heads of household. The effect of migration on family labour availability was, however, different for each community. In Siaya, the size of the family labor force was found to be smaller in households where migration had occurred. This indicates that migration had a strong negative influence on the availability of family labour because it involved the loss of one or several full units of adult labour. In Kakamega, the size of the family labour force was slightly larger in the households that were involved in the migration process. There are, at least, two plausible explanations for these differences. One, family size was found to be larger in Kakamega than Siaya. Secondly, most households in Kakamega included of young children below the age of 14 who were not yet part of the migration stream. This suggests a higher dependency ratio of consumers to producers.

Migration is often viewed as a response to limited social and economic opportunities in the smallholder sector. It is often a function of structural inequalities in the regions of origin. Consistent with this view, this study found that, in both communities, all households that were involved in the migration process had limited amount of land. Land shortage was one of the major structural "push" factors that gave rise to the massive withdrawal of labour from subsistence agriculture.

In some households, land holdings had been fragmented into units too small to provide a viable subsistence. Given the level of economic activities and the size of the labour market in the communities, migration became an inevitable consequence of structural constraints and an alternative source of livelihood. Labour migration represents a specific form of articulation between the household and the market economy.

Another alternative source of livelihood and use of family labour was local off-farm employment. Off-farm labour market participation in rural small-scale enterprises was more widespread in Kakamega than Siaya. Despite its prevalence, off-farm employment was not observed to be associated with reductions in family labour supply for farm use in Kakamega. One of the reasons for that was the seasonal nature of off-farm employment. Many off-farm activities were usually undertaken during slack periods when the demand for farm labour was relatively low. In addition, most of the activities were carried out in the community near the farm and therefore only involved partial withdrawal of labour from agriculture for a limited period of time. Moreover, some households with off-farm income purchased wage labour to supplement family labour supply.

In Siaya, involvement in off-farm activities was necessitated by a different set of circumstances. Most of the households which had off-farm employment also had limited amount of land. Land holdings in these households were too small to generate adequate livelihood. Moreover, the quality of soil is poorer in Siaya than Kakamega. Another interesting finding was that, unlike in Kakamega, off-farm employment in Siaya constituted a major limiting factor in family labour supply.

Therefore, the hypothesis that migration and off-farm employment contribute to reductions in family labour supply has only received support in Siaya but not Kakamega. It is, however, possible that if more on-farm opportunities become available, the rate of migration might decline. But this is something that is yet to be determined. However, in both communities, articulation of the household with the larger market economy has engendered similar forms of inequalities, particularly in the structure of gender relations and the household organization of labour.

Female Labour Participation in and Contribution to Agricultural Production

Women's labour contribution was vital. In aggregate terms, they did most of the work. But in terms of specific activities, most of their responsibilities were confined to domestic chores and crop production. On the other hand, men were more regularly involved in livestock production because, traditionally, this is their domain. But in cases where the male head of household was away, the women assumed a wide range of responsibilities which extended into the livestock enterprise but excluded the authority to make major decisions, especially those pertaining to livestock management.

When the men left the farm for wage employment elsewhere, the women remained confined to the domestic sphere without power but with a lot of responsibilities which translated into a double duty as they combined their productive and reproductive roles. Their mobility outside the home is limited by structural barriers in the labour market and cultural elements at home. Paradoxically, women's confinement and signi-

ficant contribution to subsistence agriculture exclude the right to property inheritance, especially land ownership. The paradox has to do with the fact that a group which makes such a vital contribution to agricultural production and the reproduction of the household labour force only has a marginal control over the means of production. Women in these communities are generally excluded from land ownership and retain usufructory rights to land only as long as they remain married.

The withdrawal of male labour from the household into the labour market has created a new structure of gender and social relations marked by further female subordination to, and dependence on, men. Capitalist development processes have increased women's responsibilities and intensified their dependence on off-farm income which are largely owned and controlled by their migrant spouses. As Strobel (1982: 114) has noted, women's vulnerability derives in part from the precarious and excessive dependence on male wage workers and the lack of access to land. The negative impact of capitalist development processes on the role and status of African women has received a great deal of attention in the past decade or so. For example, reflecting on some of the issues which were raised at the 1975 United Nations Conference for Women held in Mexico and the one that was held in Nairobi in July 1985, Tinker (1985: 360) reiterated the view that capitalist development tends to intensify female subordination:

> Now, ten years later, we have facts and figures to support our basic argument that development tends to have an adverse impact on the lives of poor women - both rural and urban. The major cause of this negative impact was the tendency of development planners to ignore the economic roles that women play in near-subsistence economies; as a result, women's food producing and processing activities have been undermined or bypassed, though her family support responsibilities remain the same. Development programmes have tended to focus on men and to be based on the assumption that the household is a cohesive unit in which all members work for the best interests of all.

Female subordination in Western Kenya cannot be exclusively attributed to the extension of capitalist relations into the domestic sphere, although these relations have undoubtedly had a profound influence. The overall situation, however, is a product of a dialectical interplay between patriarchy and capitalism. Existing patriarchal structures in these patrilineal communities impose certain constraints on women. The contradictory nature of this process becomes more comprehensible when the fact that rather than undermine, transform or dissolve the pre-existing social relations of production in the household, capitalist development not only co-exists with them but also reinforces and perpetuates them. In the survey area, what constitutes an appropriate gender or marital relationship is usually defined in terms which bestow disproportionate power to men at the expense of women. Women do most of the work and men control the decision-making process. From observations it became apparent that, in some households, the relationship between husband and wife (or wives) was one of paternalistic control in one direction and fear-inspired respect in the other; and all of that is culturally legitimated and sanctioned. This structure of gender relations has been documented:

> Research to date suggests that patrilineal and ethnic-group ties among Luo and Luhya men are much stronger and provide a more powerful social control over women's behaviour than those of the Kikuyu do. Even Luo women working in the formal sector more passively accept their husbands' decisions than do Kikuyu women (Clark, 1984: 347-348, also cited in Buzzard, 1982: 98).

Capitalist development efforts have tended to draw upon the existing patriarchal structures of male dominance to further relations of gender inequality which in turn has engendered and reinforced class relations outside of the household (Beneria and Sen, 1981). As Fernandez Kelly (1981: 271) has aptly put it:

> Such "public" reflection of women's "private" status is clearly seen in the fact that women often perform agricultural activities that are extensions of their domestic work - a fact that in the labour market translates into lower - than - average wages.

This statement reflects and reinforces the view that women's reproductive and productive roles, or what is commonly referred to as their domestic and public spheres, are closely articulated (Pine, 1982). In the case of women in Western Kenya, articulation between the two spheres was exemplified by instances where some women were found working in the fields or performing household chores with babies on their backs because the older children were at school and there were no child care facilities in the area. Another example of the connection between women's reproductive and productive roles is when women prepared food which they themselves had produced or provided meals to agricultural workers to contribute to the reproduction of the labour force.

A World Bank study of poverty in Kenya indicated that small farmers are the poorest group among the rural population and among them women are the poorest sub-group (Collier and Lal, 1980; Clark, 1984: 353). Virtually all policy research programmes that have been undertaken with the intention of improving agricultural production or contributing to rural development in Kenya have directly or indirectly addressed the substantive issue of the need to integrate women into the development process. However, given the range of women's responsibilities and the fact that they are already making a vital contribution to agriculture, one may ask why yet another call for greater female participation? It is clear that the call to incorporate women into the development process is precisely because of their vital role in agricultural production, not in spite of it.

Integrating Women into the Development Process: Some Contradictions

In order to translate all the rhetoric and intentions into concrete accomplishments, women's contributions, potentials, needs, concerns, interests and competing priorities need to be understood both from the standpoint of their cultural and structural contexts and in a broader perspective. The point has frequently been made that structural barriers in the form of gender and social inequalities inhibit women's full integration into the development process. Despite their significant contributions, women lack adequate access to the key resources and services such as land, the products of their labour, extension and credit facilities that could enhance their capabilities and facilitate their involvement in agricultural development. But those who approach this issue from a more radical perspective tend to discount the notion that the problem for women is one of lack of participation in the development process on an equal footing with men. Rather, they argue, as Feldman has pointed out in the case of rural women in Kenya, that:

> the problem for women, and in particular rural women, is not one of lack of involvement in development; it is rather a combination of a development emphasis which both confined them to poverty and their general subordination as women (Feldman, 1984: 70).

From this standpoint, then, efforts to integrate women into the development process would necessarily involve a change in the development approach and a restructuring of the system which generates and reproduces inequalities and poverty.

With respect to the role and status of women, there are several contradictory tendencies in the social organization of household production in Western Kenya. First, production is organized in such a

way that women make the largest contribution and yet they have limited access to productive resources, particularly land, and limited decision-making power. Secondly, women's labour contribution is concentrated in crop production which is the predominant enterprise in the system. A subordinate group thus supports and sustains a vital sector in the smallholder economy. On the other hand, male roles are culturally considered suited for livestock production which is a secondary enterprise but one which is nevertheless associated with status enhancement. Livestock production is ancillary to crop production because, in these communities, meat and milk are not the basic staples but maize and other grains are. So in the interest of subsistence, the cultivation of staple crops takes priority over livestock production. Moreover, as Nolan (1985) has noted, livestock production requires constant labour supply. This explains why, in both Siaya and Kakamega, this study found that households with the largest number of livestock were most likely to hire labour.

Livestock Production and Resource Control

Many (62.2%) of the surveyed households had livestock. The distributional pattern indicates, at least, that livestock production is much less predominant in the area than crop production. Moreover, households which engage in livestock production are relatively wealthy. The data showed that livestock farms were larger in terms of the size of land holdings and the amount of labour available. In fact, the number of livestock per household in each community increased with land and labour

availability. Many of the animals kept on these farms were cattle which are overwhelmingly preferred to small ruminants, particularly goats.

Goats were largely perceived as low status animals relative to sheep and cattle and also as being difficult to care for. These perceptions about goats were more distinct and widely held in Siaya than Kakamega. The disposition towards goats in Siaya, but also in much of Western Kenya, is based upon strong cultural beliefs that have defined the role of goats and prescribed the consumption of their products. Few people in the area considered goat production as an important undertaking. Fewer would be willing to invest their scarce resources in the enterprise. Generally, goats were kept as a source of meat and cash. There were several taboos against the consumption of goat meat most of which restricted female consumption of goat products. When goats were sold, especially in Siaya, it was mainly to meet household expenses but it was also common to see a farmer sell several goats to generate cash to purchase cattle, which is a traditional form of wealth and a major status symbol.

The organization of livestock production and the management priority both reflect a distinct cattle bias. It is evident from the data that various production enterprises in the area are hierarchically ranked. Crop production is a basic preoccupation and a higher priority enterprise. Livestock production is a secondary undertaking but it confers status primarily because its activities are discretionary. Within the livestock sector, cattle have the highest status followed by sheep and goats. Such a priority rating has several important implications for goat production in Western Kenya. (See Appendix A for some of the implications).

The Connection Between Labour and Farm Production

One of the objectives of this study was to examine the effect of family labour on farm production, and to determine the extent to which labour was a limiting factor in production. Typically, most of the subsistence activities were labour-intensive and a great majority of households relied solely on family labour resources. Availability of family labour was critical though not entirely decisive in terms of the number of livestock per household and the amount of land under cultivation.

The seasonality of labour demands for cropping activities underscores the importance of labour as a factor of production. Operations such as planting, weeding and harvesting were all highly labour-intensive. Timeliness in each of these seasonal activities was taken very seriously as it could make the difference between a good year (other factors being favourable) and starvation. In the absence of many other alternative sources of livelihood, this was a chance no one was willing to take. So members of the households worked long hours in the fields tending livestock and raising crops. Both labour and land had a significant positive effect on the area of maize and beans cultivated and the number of animals kept per household in Siaya and Kakamega. But crop yields were generally low and decreased with increases in family and farm sizes. Part of the explanation for this could be in the utilization patterns of land, but it also reflects the fact that yields are usually determined by a wide range of factors most of which the farmers have no control over.

Households which were involved in the migration process in Siaya cultivated limited amount of land. In Kakamega, the opposite was the case. But in both communities, those with off-farm incomes cultivated more land although the returns were low. This may sound somewhat contradictory considering the fact that land shortage is one of the major structural "push" factors which influence migration and off-farm employment. However, based on the survey data and field observations, it might be appropriate to conclude that off-farm income or remittances sent by migrants had become an important element in the expansion of farm production as well as a vehicle of rural transformation and an instrument of social differentiation in Kakamega. Off-farm incomes were often used to buy an extra piece of land and some cattle or to hire labour. Some of the land and labour were purchased from poorer farmers who eventually sold out and moved to the urban slums. Those who bought their land hired labour to develop it and built permanent houses where they could retire. The results indicate that participation in the cash economy has not had similar effects on the two communities. In Siaya, the households are linked to the market through exchange of labour and a small surplus produce but this linkage has resulted into greater impoverishment and further deprivation on the part of a segment of the community. Some producers in Siaya are separated from their means of production. They are landless because they have sold their land and labour to the more affluent groups and individuals. In Kakamega, landlessness or the separation of the producer from the means of production appears only to be partial and temporary. They sell their labour but use the incomes and remittances to invest in agriculture for further accumulation of capital.

Theoretical Implications of the Empirical Findings

The purpose of this section is to interpret the data presented and discussed in this study in terms of their theoretical implications. It is intended to call attention to the similarities and differences between the theoretical perspectives discussed in Chapter 3 and also to determine the relative adequacy of each framework for understanding the changing trends and development processes in Western Kenya.

The Modernization Interpretation of the Data

Several new trends have occurred in Western Kenya. The indigenous economy has undergone major changes as a result of the external market influence. One of the most dominant current trends in the survey area is the migration of labour from subsistence households in both communities to the urban areas in search of wage employment. Another recent trend is the increasing involvement of the households in Kakamega in local off-farm activities as a supplementary source of income.

The need for additional income has been created to meet the cost of increased school participation and to generate capital resources necessary for rural investment and agricultural development. Although migration, urban employment, rural off-farm employment and school participation are processes which withdraw labour from the farm households, the modernization theory regards these changes as constituting rural and agricultural development. These processes are viewed as inevitable consequences of the capitalist penetration into the indigenous economy and as desirable ends in themselves.

Some of the intricate details in the differences between Siaya and Kakamega that have systematically been identified and dealt with throughout this dissertation can be interpreted in ways that reinforce the modernization theory. For example, the study found that, in contrast with Siaya, young people in Kakamega were more likely to migrate, and that farmers with relatively large amount of land and labour were more likely to migrate, seek off-farm employment, hire labour, cultivate more land and expand livestock production. The modernization perspective would argue that although both communities are in the process of social and economic change, some cultural and structural features in Siaya still represent a classic example of a traditional society in terms of the ways in which household labour and production are organized and the prevalence of cultural elements which influence the production relations. At the cultural level, the data show fundamental differences in the attitudes, perceptions and aspirations between the two communities regarding the status of animals in general and goats in particular. Within the modernization framework, small farmers in Siaya can therefore be characterized as being more inimical to new ideas than their counterparts in Kakamega.

The farmers in Kakamega exhibit a greater degree of modernization primarily because of their relative exposure to outside influence that has been accelerated through improvements in rural roads, public schools and rural employment opportunities. There are other factors that could contribute to the relative development (real or apparent) in Kakamega as interpreted in terms of the modernization theory. Kakamega has a higher potential agricultural land and a higher population density than Siaya. The data indicate remarkable differences in family sizes between the two

districts. The people in Kakamega also display some amount of linguistic variety. More people in Kakamega speak Swahili as a second language than those in Siaya who mostly speak their vernacular.

All these factors contribute to an overall situation of comparative advantage of one community over another. Because of their endowments in terms of social, cultural and economic resources, the farmers in Kakamega are more exposed to external influence because of improvements in rural services and communication system. As a result, they appear to be more readily inclined to take advantage of new employment opportunities away from the household and to use the remittances to improve the level of agricultural development. The patterns of differentiation that emerge from this articulation process are viewed by modernization theory as a result of increased incomes between households. Modernization they regards these inequalities as a normal outcome in the initial stage of capitalist development. The diffusion model would argue that early adoption enhances social mobility but after sometime, the trickle down effect narrows the gap between the early adopters and the laggards.

Implications of the Data for the Modes of Production Theory

The empirical analysis of household production in Western Kenya, which has been explored in this study, reinforces some of the basic assumptions of the modes of production theory. According to the data, household production is predominantly organized through a traditional form of the division of family labour. The smallholders in Western Kenya are, however, difficult to locate conceptually. Strictly speaking, they

cannot be considered as peasants because, prior to the imposition of colonial capitalism, the mode of production was communal (not feudal). Now they are freeholders and predominantly subsistence in orientation although some of the households have been articulated with the market economy in ways that approximate simple commodity production. This is particularly the case in Kakamega where smallholder cash crop production is becoming a major enterprise in a few households. What is certain, however, is that the indigenous household production in Western Kenya is articulated with the capitalist mode of production although the form of production is still predominantly structured by non-capitalist forces.

This articulation is marked by the emergence and development of land and labour markets. However, these productive forces have only been partially commoditized since many households still rely on family labour as a dominant form of organizing production. Some aspects of the social relations of production are also constituted according to specific arrangements internal to the household and not necessarily determined by the market influence. Examples include reciprocal forms of labour exchange between households during periods of peak demand and the acquisition of land through inheritance. This process of organizing labour and household production is largely determined by familial relationships and the kinship structure in which the household unit is embedded.

The organization of family labour and wage labour represents two different labour processes, each defined by a different logic. Much of the production is geared towards household consumption, but when wage labour is utilized, it is often concentrated in commodity production for exchange. Rather than look at the household unit as being totally deter-

mined by capitalist penetration, as the world system analysis is apt to do, this study has shown that a more useful way to conceptualize the relationship between the subsistence economy and market economy is to recognize in each some measure of relative autonomy and rigorously analyze the nature of their articulation. The facts that some land and labour are still held outside the market and that production for consumption takes precedence over accumulation and profit raises some questions about the progressive nature of capitalist expansion.

It is evident from the empirical analysis that capitalist penetration of the household production is somewhat uneven. Although the household economy is linked to the market, the transition from the pre-capitalist mode of production to the capitalist mode appears to be hampered or "blocked" by the pre-existing cultural and structural conditions in Siaya but enhanced by the conditions in Kakamega. Fewer opportunities for capitalist investment and accumulation exist in Siaya than in Kakamega; so while the articulation with the market may be associated with more prosperous farms in Kakamega the opposite is true in Siaya.

> Capital created underdevelopment not because it exploited the underdeveloped world, but because it did not exploit it enough (Kay, 1975 quoted in Foster-Carter, 1978:48).

But to analyse the relationship between the household and the market system in a purely deterministic fashion also obscures the very internal processes and realities which themselves need to be explained and understood. The important differences that exist between the two communities simply become minor details when the issues are examined within the context of the capitalist world economy. Because of their holistic view, their choice of the capitalist world economy as the

appropriate unit of analysis, their emphasis on the hegemony of capitalism and the relations of exchange rather than production the dependency perspective and world system theory both tend to regard the internal organization of household production as epiphenomenal. It is almost viewed primarily as another variant of capitalism whose specific character and internal dynamics are determined defined and specified by the logic of the larger market economy. This holistic view and macro-level focus limit and even preclude a detailed analysis and adequate understanding of the local processes, particularly the social relations of production in the household. Most of these processes can be understood in terms of the modes of production approach but some are more readily amenable to the modernization interpretation.

Both the modernization perspective and the modes of production theory recognize that the household economy is articulated with the capitalist mode of production through such processes as school participation, labour migration, off-farm employment, the sale of surplus produce, the transfer of remittances and the development of land market. But this is almost where the similarities of the two approaches end. Their major differences pertain to their interpretations of what these change processes mean for the household economy and the nature of the relationship between the household and the larger market economy.

Whereas the modernization perspective is more apt to conceive of these trends and processes as successive stages of development, the modes of production theory would dialectically argue that the articulation process has undermined development in Siaya because it tends to reinforce pre-captialist forms of production but increased capitalist accumulation in Kakamega because it negates the traditional

forms of organizing production. These differences indicate that certain cultural and structural conditions yield different kinds of articulation. But once the process is underway, these very same conditions reinforce and are reinforced by capitalist penetration in a dynamic and complex way. The farmers in Kakamega are relatively better off than those in Siaya because even though the rate of migration in the areas is the same, migration from Kakamega is not attributed to land shortage because the data show that those who migrated had larger holdings than those who did not. Nor is off-farm employment. Households that employ wage labour and are involved in the migration process also have relatively large land holdings and a sizeable amount of labour. Despite the fact that both communities are articulated with the market system, this study has shown an opposite trend in Siaya. Thus, capitalist penetration has accelerated the level of poverty and servitude in Siaya, intensified female subordination in both areas, created inequalities within and among the communities, and established conditions for further extension of capitalist relations.

Since some household units were not involved in migration, hired no labour, and did not work off the farm, the modes of production perspective could argue that capitalist penetration into subsistence household is extensive but not pervasive. This reinforces the view that the household is relatively autonomous even though the organization of its production might be determined in the last instance by the capitalist mode of production (Althusser, 1969, 1977). But the data from Western Kenya indicate that, for the moment, the two modes of production are articulated with each other through various processes and co-exist relatively autonomously within a complex whole. The exact specification

of the factors facilitating or inhibiting the articulation process and its consequences can be the subject of further investigation.

Suggestions for Further Research

This study has examined the process of labour organization in smallholder agricultural production and determined the crucial role of women in household production and reproduction. Changes in the organizational structure of the division of labour in the household have been analyzed within the context of a growing capitalist influence and reflect the nature of the articulation between the capitalist mode of production and the subsistence mode of production based on the household as the unit of labour organization.

In the formulation of this thesis, some issues have been raised which could not be resolved because of a paucity of data. Further research in this substantive field will need to develop more precise measures of migration and off-farm labour market participation. Such measures should include the actual number of migrants and off-farm workers from each household. Attempts should also be made to identify the various types of labour migration and specify some of their salient features in an effort to try to reach a better understanding of how the organization of household production has been shaped by changes in the rural and urban labour markets. The question which needs to be asked is that if migration withdraws male labour, school participation has taken up much of child labour and the women left behind are overworked and only minimally involved in livestock production, who will provide extra labour needed to expand goat production?

Other important issues which require further exploration and more attention are some determination of how much is remitted and the extent to which remittances are used to improve farm production. The issue of articulation between the indigenous economy and the wider market system merits a further investigation. Research in this area might proceed to spell out the conditions under which articulation occurs and to deal with the fundamental question of why the extension of the market has accelerated poverty in Siaya but enhanced capital accumulation in Kakamega. The modes of production perspective can benefit substantially from such further inquiry. Despite the limits of academic knowledge, concrete empirical understanding of the development processes at the local level would perhaps resolve what currently appears to be a tautological argument that farmers in Siaya are poor because they are poor and are therefore locked up in a vicious cycle of underdevelopment.

Although a general consensus has already been established within the academia regarding the linkage between women's productive and reproductive roles and the contradictions thereof, more research is needed to try to determine the exact nature of that relationship. When such a study is designed to compare the range of women's roles in female - and male-headed households on a larger sample than the one on which the present study is based, it would illuminate the issue of double duty and further clarify the labour situation in small farms in Western Kenya.

APPENDIX A

IMPLICATIONS OF THE STUDY FINDINGS FOR INCORPORATING DUAL PURPOSE GOATS INTO THE EXISTING PRODUCTION SYSTEM IN WESTERN KENYA

Implications of the Findings for the Introduction of Dual Purpose Goats in Smallholder Production in Western Kenya

This dissertation is based on the survey research that was undertaken by Small Ruminant Collaborative Research Support Programme (SR-CRSP) on small farms in Western Kenya. The Small Ruminant-CRSP is a multidisciplinary research project which seeks to determine the possibilitiy of introducing dual purpose goats, for meat and milk production, into the small farm system. In Western Kenya, the long-term objective of the project is to improve the nutritional status of small farm families. The research goal of the sociology survey was to identify the major social, cultural and structural endowments and constraints in the system that would influence the expansion of goat production. Some of the implications that are discussed here are based on the survey and observation data. Others are derived from ethnographic materials and the author's familiarity with the survey area. They are intended to serve as a guide for those who fund research, formulate agricultural policies and set the agenda for development in Kenya.

Goats play important social and economic roles in the lives of small farmers in Western Kenya. They produce, consume and sell them. But goats are perceived as low status animals, their production is considered to be ancillary and the consumption of their products is restricted by cultural beliefs and taboos.

There are two broad issues which represent a major potential constraint to the introduction of dual purpose goats for meat and milk production. One of them relates to production priority and the allocation of resources. In these smallholder farms, crop production is a more dominant enterprise than livestock production. And within the

livestock enterprise, cattle are preferred to goats. This kind of hierarchical categorization implies that changes in the production system would perhaps have a better chance of being adopted if they involved a new crop rather than livestock variety; or cattle rather than goats.

From the point of view of the smallholders interviewed, a dual purpose goat is a new and complex technology. It is new because the idea of raising goats for milk production is relatively unfamiliar. Only cows are milked and consumed by everyone in the household. The new enterprise is also viewed as a complex one to the extent that it might make new demands on and require several adjustments in the allocation of land, labour and other productive resources which are already in limited supply.

Labour Constraints

The data on perceptions have shown that goat production is not only a low priority enterprise but also a difficult undertaking. Goats are generally thought of as being difficult to raise. This could mean that they are more likely than other animals to make extra demands on labour. A dual purpose goat is a new technology that comes in a package of different but complementary components. Additional labor will be required for milking goats. Traditionally, milking is a male responsibility and male labour migration could have an adverse influence on a new enterprise which makes a selective demand on labour. Moreover, women's labour is already so heavily devoted to crop production and household chores that even if it were culturally permissible for them to participate in goat production, it could simply exacerbate their double

duty situation because the range of their responsibilities has greatly expanded.

Child labour is already taken up by massive involvement in schooling. This means that children will not always be available to help with tending livestock. But even if dual purpose goats are tethered, forages will have to be cut and carried to them. This zero-grazing method is uncommon in the area and, in terms of labour requirements, it is considered relatively more exacting than the traditional grazing practice. It could be more time-consuming particularly if the farmers have to grow the forages and cut and carry them to the confined animals on a regular basis. Improved dual purpose goats could also be more susceptible to local diseases than the local varieties. This could require building a dip and having the animals dipped every so often. But more importantly, the introduction of improved goats would necessitate a much closer contact between the farmers and the veterinary services which would inevitably involve more frequent visits to the nearest veterinary office. Given the spatial distribution of veterinary services in these communities, a single visit could take almost a day. Many cannot afford it, both in terms of time and money.

If the labour requirements of a new enterprise exceed the household's capacity and hired labour is inaccessible, the chances of its success may be severely limited. This may be the case in Western Kenya where women who constitute the bulk of the labour force only play a limited role in cattle production, much less goat production. And since women are usually not involved in the decision-making process concerning livestock production, it is questionable whether or not they might be willing to contribute their labour to produce goats which they are not

supposed to sell, let alone consume. Goat production is a male enterprise in every sense; it is the men who raise them, sell them and use them for ritual purposes. And for ritual as well as other purposes, the quality of the animal is usually a secondary consideration. The primary emphasis is always on quantity. If the perceptions about the role of goats persist and the structure of the division of labour within the household remains essentially the same, then family labour will continue to be disproportionately devoted to crop production.

Land Constraints

The problem is not only one of labour shortage but also of land scarcity or even landlessness. Many smallholders in Western Kenya have inadequate access to land and cannot afford to acquire more than what they already own. This situation is often blamed on high population pressure. But it has a lot more to do with the individualization of the land tenure system, the fragmentation of land holdings, the development of a land market, and the inequalities in the distribution patterns.

The largest farm in the survey area was about nine acres, the smallest was under one acre and the average was about two and a half acres. Obviously, there is a limit to what can be done on farms of that size range, regardless of the level of technology. Land shortage also precludes access to credit facilities the provisions of which are contingent upon land ownership as a collateral for farm production loans. Such a structural arrangement translates into a vicious cycle of poverty in that without land there is no credit and without credit small farmers cannot purchase land or any other input. It is a system which serves the

interest of the progressive farmers who own relatively large holdings and control the basic infrastructure which goes with the development of commercial agriculture.

Except for the use of oxen to provide draft power for ploughing and animal manure as a form of fertilizer, crop/livestock interaction is generally limited. The limited nature of the interaction between crop and livestock enterprises coupled with land shortage and the predominance of crop production all suggest that the introduction of a new livestock enterprise could create extra demands on land or require major adjustments in land use patterns. Even if such adjustments were possible and considered necessary by the small farmers in Western Kenya, they would more likely be undertaken to expand cattle rather than goat production.

If the intention is to help the small farmers and the underlying objective is to improve the quality of their life, then several questions need to be raised, one of which pertains to the appropriateness of the technologies that are transferred mainly from the advanced capitalist nations to the smallholder agriculture in underdeveloped nations. The potential for a new enterprise such as a dual purpose goat lies in its appropriateness to the social cultural and structural conditions which together constitute the total environment in which the production process is organized. But potential alone is not sufficient. The contribution of this kind of change programme should be viewed not only in terms of its suitability for or adaptability to local conditions but its overall impact should also be examined in relation to the broader questions of what constitutes help, what development consists of, and what the full range of consequences are likely to be. Rather than change the social

relations of production in the household and eliminate female subordination, the incorporation of a dual purpose goat into the existing production system might enhance male dominance and reduce female control of resources, including their own labour. This possibility stems from the fact that the proposed technical change is one that seeks to expand the livestock enterprise which is dominated by men and in which women's role and control are significantly marginal.

APPENDIX B

MLD/SMALL RUMINANT-CRSP RURAL SOCIOLOGY SURVEY

CONFIDENTIAL

MLD/SR-CRSP SURVEY

ENUMERATOR _____

LOC.	SUB-LOC.	FARM

GENERAL ATTITUDES AND VALUES

We would like to ask you some questions about how you think. For each question, please tell me whether you (1) agree very much, (2) agree a little, (3) disagree a little or (4) disagree very much.

	Agree Very Much	Agree A Little	Disagree A Little	Disagree Very Much
1. MAKING PLANS ONLY BRINGS UNHAPPINESS BECAUSE THE PLANS ARE HARD TO FULFIL.				
2. WITH THINGS AS THEY ARE TODAY, AN INTELLIGENT PERSON OUGHT TO THINK ONLY ABOUT THE PRESENT, WITHOUT WORRYING ABOUT WHAT IS GOING TO HAPPEN TOMORROW.				
3. THE SECRET OF HAPPINESS IS NOT EXPECTING TOO MUCH OUT OF LIFE, AND BEING CONTENT WITH WHAT COMES YOUR WAY.				
4. IT IS IMPORTANT TO MAKE PLANS FOR ONE'S LIFE AND NOT JUST ACCEPT WHAT COMES.				
5. A PERSON NEEDS GOOD CONNECTIONS TO GET AHEAD IN THE WORLD.				
6. THE SON OF A FARMER DOES NOT HAVE A VERY GOOD CHANCE OF BECOMING WEALTHY.				
7. BUSINESSMEN HAVE GOOD CONNECTIONS THAT MAKE IT EASY FOR THEIR SONS TO BECOME SUCCESSFUL.				

LOC.	SUB-LOC.	FARM

Agree Very Much	Agree A Little	Disagree A Little	Disagree Very Much

8. THE CONTROL OF THIS COMMUNITY IS IN THE HANDS OF A SMALL GROUP OF PEOPLE, AND AN ORDINARY CITIZEN HAS NOT GOT MUCH TO SAY ABOUT THE WAY THINGS HAPPEN.

9. THE BEST WAY TO JUDGE A MAN IS BY HIS SUCCESS IN HIS WEALTH.

10. THE MOST IMPORTANT QUALITIES OF A REAL MAN ARE DETERMINATION AND DRIVING AMBITION.

11. THE MOST IMPORTANT THING FOR A PARENT TO DO IS TO HELP HIS CHILDREN GET FURTHER AHEAD IN LIFE THAN HE DID.

12. WHEN LOOKING FOR A JOB OFF THE FARM, A PERSON OUGHT TO FIND A POSITION IN A PLACE LOCATED NEAR HIS FAMILY EVEN IF THAT MEANS LOSING A GOOD OPPORTUNITY ELSEWHERE.

13. WHEN YOU ARE IN TROUBLE, ONLY A RELATIVE CAN BE DEPENDED ON TO HELP YOU OUT.

14. IF YOU HAVE THE CHANCE TO HIRE SOMEBODY TO WORK ON YOUR FARM, IT IS ALWAYS BETTER TO HIRE A RELATIVE INSTEAD OF A STRANGER

15. IT IS NOT GOOD TO LET YOUR RELATIVES KNOW EVERYTHING ABOUT YOUR LIFE, FOR THEY MIGHT TAKE ADVANTAGE OF YOU.

	LOC.	SUB-LOC.	FARM

(Tick)

	Agree Very Much	Agree A Little	Disagree A Little	Disagree Very Much
16. IT IS NOT GOOD TO LET YOUR FRIENDS KNOW EVERYTHING ABOUT YOUR LIFE, FOR THEY MIGHT TAKE ADVANTAGE OF YOU.				
17. PEOPLE HELP PERSONS WHO HAVE HELPED THEM NOT SO MUCH BECAUSE IT IS RIGHT BUT BECAUSE IT IS GOOD BUSINESS.				
18. YOU CAN TRUST ONLY PEOPLE WHOM YOU KNOW WELL.				
19. IN GENERAL, LIFE IS BETTER IN SMALL COMMUNITIES WHERE YOU KNOW EVERYBODY.				
20. PEOPLE IN A BIG CITY ARE COLD AND IMPERSONAL; IT IS HARD TO MAKE NEW FRIENDS.				
21. ARE YOU INTERESTED IN FOLLOWING NATIONAL NEWS IN THE NEWSPAPERS AND ON THE RADIO?				
22. ARE YOU INTERESTED IN FOLLOWING INTERNATIONAL NEWS IN THE NEWSPAPERS AND ON THE RADIO?				
23. ARE YOU INTERESTED IN FOLLOWING LOCAL NEWS IN THE NEWSPAPERS AND ON THE RADIO?				

24. DO YOU OFTEN DISCUSS POLITICAL PROBLEMS WITH YOUR FRIENDS?

A) Often = 1 B) Sometime = 2 C) Seldom = 3 D) Never = 4

(CHECK ONLY ONE YES FOR EACH INDIVIDUAL)

LOC.	SUB-LOC.	FARM

25. ARE YOU A CHRISTIAN? Yes __ = 1 No ___ = 2
OR
26. ARE YOU MOSLEM? Yes __ = 1 No ___ = 2
OR
27. ARE YOU A BELIEVER IN ANOTHER ACTIVE RELIGION? Yes __ = 1 No ___ = 2

28. DO YOU AND YOUR SPOUSE BELONG TO THE SAME RELIGION? Yes __ = 1 No __ = 2
If yes, specify _____

29. IF NO, SPECIFY YOUR SPOUSE'S RELIGION: Christian = 1 Moslem = 2 Other = 3

30. DO YOU CONSIDER YOURSELF MORE RELIGIOUS OR LESS RELIGIOUS THAN YOUR PARENTS? _____ More Religious = 1 _____ Less Religious = 2

31. DO YOU CONSIDER YOURSELF TO BE A DEVOUT MEMBER OF YOUR CHURCH? (circle one)

A) Very Much = 1 B) Some = 2 C) A little = 3 D) Not at all = 4

	(Tick)			
	Agree Very Much	Agree A Little	Disagree A Little	Disagree Very Much
1. IS IT BETTER TO GROW THE TRADITIONAL VARIETIES OF MAIZE, RATHER THAN TAKE A CHANCE ON AN UNKNOWN NEW VARIETY EVEN THOUGH THE NEW VARIETY MAY YIELD MORE?				
2. IF A PERSON IS TO GET AHEAD IN FARMING THEY MUST TAKE CHANCES.				
3. THE WAY MY FATHER DID IT (FARMING PRACTICES) IS BETTER THAN ANY GOVERNMENT AGENT CAN TELL ME.				
4. I DON'T TRUST GOVERNMENT EXTENSION AGENTS.				
5. NEW FARMING IDEAS ARE OK FOR BIG FARMERS, BUT NOT FOR SMALL FARMERS.				

LOC. SUB-LOC. FARM

(Tick)

	Agree Very Much	Agree A Little	Disagree A Little	Disagree Very Much
6. THE REASON I DON'T TRY MORE NEW IDEAS IS:				
THEY COST TOO MUCH AND NO MONEY IS AVAILABLE TO PAY FOR THEM = 1				
NONE ARE AVAILABLE = 2				
I DON'T SEE ANY REASONS TO CHANGE = 3				
7. SUCCESS IN FARMING IS MORE DEPENDENT ON GOD THAN ON THE EFFORTS OF MAN.				
8. THE BEST PERSON TO ASK ABOUT WHAT TO DO IN FARMING IS THE VILLAGE RELIGIOUS LEADER.				
9. THE BEST PERSON TO ASK ABOUT WHAT TO DO IN FARMING IS THE VILLAGE CHIEF.				
10. METHODS OF FARMING ARE CHANGING RAPIDLY AROUND HERE.				
11. NEW VARIETIES ARE GENERALLY BETTER THAN OLD ONES.				
12. FARMING IS CHANGING IN THIS AREA AND I SHOULD CHANGE THE WAY I FARM.				

LOC.	SUB-LOC.	FARM

ATTITUDES TOWARDS AGRICULTURE

1. THERE ARE THREE POSSIBLE ANSWERS TO THE FOLLOWING STATEMENTS. AFTER I READ EACH STATEMENT, WOULD YOU PLEASE TELL ME WHETHER YOU (1) PLAN TO DO SO, (2) DO NOT PLAN TO DO SO, (3) WOULD LIKE TO DO SO BUT PROBABLY WILL NOT BE ABLE TO DO SO.

	Plan To	Do Not Plan To	Would Like to But Will Not Be Able To
a. BUY MORE LAND FOR MY FARM IN THE NEXT THREE YEARS?			
b. INTENSIFY MY FARM OPERATIONS BY MORE (DOUBLE CROPPING IN THE NEXT THREE YEARS?			
c. HOLD ON TO MY FARM FOR MY CHILDREN?			
d. USE MORE CHEMICAL FERTILIZERS, HERBICIDES, AND INSECTICIDES IN THE NEXT THREE YEARS?			
e. BUY MACHINERY IN THE NEXT THREE YEARS?			
f. RENT MORE LAND IN THE NEXT THREE YEARS?			
g. PUT UP MORE BUILDINGS IN MY FARM?			
h. GROW MORE CASH CROPS IN THE NEXT THREE YEARS?			
i. RAISE MORE LIVESTOCK IN THE NEXT THREE YEARS?			
j. SEEK OFF-FARM EMPLOYMENT IN THE NEXT THREE YEARS?			
k. WORK MORE HOURS ON THE FARM IN THE NEXT THREE YEARS?			
l. RETIRE FROM FARMING IN THE NEXT THREE TO TEN YEARS?			

LOC.	SUB-LOC.	FARM

2. IF YOU WERE ABLE TO INCREASE YOUR NET FARM INCOME BY AS MUCH AS SAY KSH 500, THROUGH CHANGES IN YOUR OPERATION OR THE ADOPTION OF NEW TECHNOLOGY WHAT TYPES OF CHANGES WOULD YOU BE WILLING TO MAKE? (Check all that apply)

IF THE CHANGE INVOLVED	WILLING TO DO	MAY BE	NOT WILLING TO DO
a. OBTAINING MORE CREDIT?			
b. FARMING MORE LAND THAN NOW?			
c. USING SUBSTANTIALLY MORE LABOUR THAN NOW?			
d. EXPANDING SOME TYPE OF CATTLE PRODUCTION?			
e. EXPANDING SHEEP PRODUCTION?			
f. EXPANDING GOAT PRODUCITON?			
g. EXPANDING POULTRY PRODUCTION?			
h. EXPANDING CROP OR GRAIN PRODUCTION?			

3. WOULD YOU LIKE YOUR CHILDREN TO BECOME FARMERS (OR FARM WIVES)?

____ Yes = 1 ____ No = 2

HOW MANY?

___ one child only = 1
___ most of the children = 2
___ all of the children = 3

DO THEY WANT TO BECOME FARMERS? ___ Yes = 1 ___ No = 2

DO YOU THINK THEY WILL BE ABLE TO BECOME FARMERS (OR FARM WIVES)?

____ Yes = 1 ____ No = 2

LOC. SUB-LOC. FARM

HOW MANY?

___ one child only = 1
___ most children = 2
___ all children = 3

WHY NOT? _____

4. WILL YOU BE ABLE TO HELP YOUR CHILDREN GET STARTED IN FARMING?

___ Yes = 1 ___ No = 2

a. HOW? (Tick all that apply)

___ Teach them how to farm = 1
___ Inherit land = 2
___ Inherit tools, etc. = 3
___ Help them get credit = 4
___ Buy farm for them = 5
___ Other (specify) = 6 _____

5. DO MOST YOUNG PEOPLE IN THIS VILLAGE STAY OR DO THEY MOVE AWAY?

___ Stay = 1 ___ Move Away = 2

DO THEY OPERATE THEIR OWN FARMS:
___ Yes = 1 ___ No = 2
OR
DO THEY WORK OFF THE FARM?
___ Yes = 1 ___ No = 2
OR
DO THEY WORK FOR OTHER FARMERS?
___ Yes = 1 ___ No = 2

6. IF THEY MOVE AWAY, WHERE DO THEY USUALLY MOVE TO? _____

7. WHY DO THEY MOVE AWAY? _____

_____

LOC. _____ SUB-LOC. _____ FARM _____

MIGRATION

1. HAS ANY MEMBER OF THIS HOUSEHOLD (BROTHER, SISTER, SON, DAUGHTER) MOVED PERMANENTLY TO A PLACE MORE THAN 10 KILOMETERS AWAY?

___ Yes = 1
___ No have not moved, Or = 2 (skip to 2)
___ No other adult household members = 3 (skip to next section)

If Yes to question 1: _____

a) WHERE DID THEY MOVE (specify)? _____

b) IS IT A SMALL COMMUNITY OR A LARGE CITY?
___ Small community = 1 ___ Large city = 2

c) WHY DID THEY MOVE?

___ Marriage = 1
___ Job = 2
___ Schools = 3
___ Health reasons = 4
___ Other (specify) = 5 _____

WHAT TYPE OF JOB DO THEY HAVE? _____
_____

IS IT FULL TIME OR PART TIME?
___ full time = 1 ___ part time = 2

d) DO THEY COME BACK TO VISIT? ___ Yes = 1 ___ No = 2 (skip to 2)

a) HOW OFTEN? (Check as many as appropriate)

___ Weekly
___ Monthly
___ Seasonally (such as to help with planting, harvesting,etc.) Specify: _____
___ For holidays and special events (specify)

b) DO THEY BRING OR SEND ITEMS FROM WHERE THEY LIVE NOW?

___ Yes = 1 ___ No = 2

WHAT ITEMS? _____

LOC.	SUB-LOC.	FARM

2. ARE ANY OTHER MEMBERS OF THIS HOUSEHOLD PLANNING TO MOVE WITHIN THE NEXT YEAR? ___ Yes = 1 ___ No = 2

   WHO? _____

3. ARE LARGE CITIES A GOOD OR BAD PLACE FOR PEOPLE FROM THIS VILLAGE TO LIVE? ___ Good = 1 ___ Bad = 2 ___ Neither = 3 ___ Both = 4

ATTITUDES TOWARDS CHANGES

DO YOU THINK THAT YOU COULD IMPROVE ON:

WHAT YOU FEED YOUR LIVESTOCK (Tick Yes or No, for each type of animal)

(Ask about each type of livestock which the farmer has)

Cattle		Sheep		Goats		Pigs		Poultry	
Yes	No	Yes	No	Yes	No	Yes	No	Yes	No

If Yes:

a) _____
b) _____
c) _____
d) _____

HAVE THERE BEEN ANY CHANGES IN THE KIND OF FEED YOUR ANIMALS ARE FED IN THE LAST TWO SEASONS? Yes = No =

If Yes,

a) WHAT
b) HOW MUCH DID IT COST?
c) DID YOU BORROW THE MONEY TO DO IT?
d) Yes = 1 No = 2
e) WERE YOU SATISFIED WITH THE RESULTS?
   Yes = 1 No = 2

g) IF NO, HAVE YOU CONSIDERED MAKING ANY CHANGES? ___ Yes ___ No

LOC.	SUB-LOC.	FARM

(Ask about each type of livestock which the farmer has)

Cattle		Sheep		Goats		Pigs		Poultry	
Yes	No	Yes	No	Yes	No	Yes	No	Yes	No

If Yes

a) _____

b) _____

c) _____

d) _____

11.3 HAVE THERE BEEN ANY OTHER CHANGES IN THE CARE OF YOUR ANIMALS IN THE LAST TWO SEASONS? Yes No

If Yes,

a) HOW?
b) HOW MUCH DID IT COST?
c) DID YOU BORROW THE MONEY TO DO IT?
Yes = 1 No = 2
d) WERE YOU SATISFIED WITH THE RESULTS?
Yes = 1 No = 2

g. If No, HAVE YOU CONSIDERED MAKING ANY CHANGES? Yes = 1 No = 2

11.4. HAVE THERE BEEN ANY CHANGES IN THE KIND OF ANIMALS YOU OWN IN THE LAST TWO SEASONS? Yes = 1 No = 2

If Yes,

a) WHAT KIND
b) HOW MUCH DID IT COST?
c) DID YOU BORROW THE MONEY TO DO IT?
d) WERE YOU SATISFIED WITH THE RESULTS?
Yes = 1 No = 2

g) If no, HAVE YOU CONSIDERED MAKING ANY CHANGES? Yes = 1 No = 2

LOC.	SUB-LOC.	FARM

(Ask about each type of livestock which the farmer has)

Cattle		Sheep		Goats		Pigs		Poultry	
Yes	No	Yes	No	Yes	No	Yes	No	Yes	No

If Yes

a) _____
b) _____
c) _____
d) _____

11.5 a. IF YOU WANTED SOME INFORMATION ABOUT WHAT TO FEED YOUR ANIMALS OTHER THAN THE WAY YOU NOW FEED THEM, WHO WOULD YOU ASK FOR SUCH INFORMATION?

b. IF, AFTER YOU GOT THIS INFORAMTION YOU WERE INTERESTED IN MAKING A CHANGE IN FEEDS WHO WOULD YOU TALK TO BEFORE FINALLY DECIDING TO MAKE A CHANGE?

11.6 a. IF YOU WANTED SOME INFORMATION ON OTHER ASPECTS OF ANIMAL CARE, WHO WOULD YOU ASK FOR INFORMATION ON HOW TO CARE FOR THEM?

b. IF AFTER YOU GOT THIS INFORMATION YOU WERE INTERESTED IN MAKING A CHANGE IN HOW YOU CARE FOR YOUR ANIMALS, WHO DO YOU ASK BEFORE FINALLY DECIDING TO MAKE A CHANGE?

11.7 a. IF YOU WANTED INFORMATION ABOUT KINDS OF ANIMALS OTHER THAN THE TYPE YOU KEEP, WHO WOULD YOU ASK FOR INFORMATION ABOUT THE OTHER KINDS OF ANIMALS?

b. IF YOU WERE TO MAKE A CHANGE IN THE KIND OF ANIMALS? WHO WOULD YOU TALK TO BEFORE DECIDING TO MAKE THE CHANGE?

LOC. SUB-LOC. FARM

III.1 HOW IS MILK FROM YOUR LIVESTOCK USED IN THE HOUSEHOLD

	CATTLE	GOATS
a) Not used at all		
b) Drank by:		
Young children		
Pregnant or nursing mothers		
Old people		
Adults (condiment use)		
III people		
Everyone (if available)		
c) Processed into butter or sour milk		

III.2 (If used) WHICH USE HAS THE HIGHEST PRIORITY?

Young children = 1	
Pregnant or nursing mothers = 2	
Adults (condiment use) = 3	
Old people = 4	
Sick people = 5	
No priority = 6	
Processed into butter or sour milk	

III.3 HOW IS MEAT FROM YOUR LIVESTOCK USED (non-market usage): (Tick appropriate boxes)

	Cattle	Sheep	Goats	Pigs	Poultry
1. Not used at all					
2. Given to friends and neighbours					
3. Eaten by family members					
4. Eaten for rituals:					
a) engagements					
b) marriages					
c) births					
d) circumsisions					
e) religion					
f) funerals					
5. Presents and gifts for gu					

LOC.	SUB-LOC.	FARM

III.4 HOW IMPORTANT IS (Fill in box)

1. Giving meat to friends and neighbors
2. Eaten several times each week

III.5 WHAT ARE THE MOST IMPORTANT REASONS FOR RAISING YOUR:
(Do not suggest categories)

a) Means of cash income (sales of meat, milk, wool, skin) = 1
b) Provides milk, meat, etc. for own consumption = 2
c) Prestige (in terms of social status and wealth) = 3
d) Sacrificial reasons = 4
e) Inheritance = 5
f) Manure = 6
g) Means of storing wealth = 7
h) Other (specify) _____ = 8

	Cattle	Sheep	Goats	Pigs	Poultry
1					
2					
3					
4					
5					
6					
7					
8					

III. 6 WHO ARE THE PEOPLE WHO NOW RAISE LIVESTOCK IN THIS COUNTRY?

a) WHAT SIZE OF FARM DO THEY USUALLY HAVE:

- larger = 1
- smaller = 2
- landless = 3
- nonfarmers (work at other occupations) = 4
- all sizes = 5

b) WHAT ABOUT THEIR WEALTH?

- more wealthy = 1
- average wealth = 2
- low wealth = 3
- all types = 4

LOC. _____ SUB-LOC. _____ FARM _____

III.7 WHO MAKES THE DECISIONS ABOUT THE:

	Cattle	Sheep	Goats	Pigs	Poultry
a) feeding of					
b) care of					
c) selling of					
d) buying of					
e) slaughtering of					

III.8 WHICH ANIMALS ARE MORE VALUED IN THIS COUNTRY? (rank the animals)

1. Most important _____
2. Least important _____

III.9 HOW EASY IS IT TO CARE FOR:

1 = easy to care for _____
2 = average to care for _____
3 = hard to care for _____

NON-FORMAL EDUCATION

1. ARE THERE GOVERNMENT AGRICULTURAL OR VETERINARY AGENT(S) WHO WORK IN THIS SUBLOCATION? ___ Yes = 1 ___ No = 2 (skip to g)

If Yes:

a. DO YOU KNOW THEIR (HIS) NAME(S)?
___ Yes = 1 ___ No = 2

If Yes, Name(s) _____

b. WHAT ARE THEIR (HIS) JOB(S) (Describe briefly):
_____
_____
_____

c. HOW LONG HAVE THEY (HE) WORKED IN THIS SUBLOCATION?
_____
_____

d. DO THEY (HE) WORK WITH MOST FARMERS IN THIS SUBLOCATION? ___ Yes = 1 ___ No = 2

LOC.	SUB-LOC.	FARM

e. IS THE ADVICE THEY (HE) GIVE(S) OF MUCH HELP TO MOST OF THE FARMERS IN THIS SUBLOCATION?

___ Great help = 1 ___ Some help = 2
___ Not much help = 3 ___ No help = 4
___ Harmful = 5

f. WHO DOES HE MAINLY WORK WITH IN THIS SUBLOCATION?

___ Big farmers = 1 ___ Small farmers = 2
___ Everyone = 3

g. (IF NO) HAS THERE BEEN ANY SUCH GOVERNMENT AGRICULTURAL AGENTS IN THE PAST FIVE YEARS WORKING IN THIS SUBLOCATION? __ Yes = 1 __ No = 2

2. HAVE YOU EVER ATTENDED A COURSE AT A FARMERS' TRAINING CENTRE?
___ Yes = 1 ___ No = 2 (skip to 3)

a) WHAT TYPE OR TYPES OF COURSES WERE THEY (OR WHAT DID THE COURSE TEACH YOU ABOUT? (tick)

General agriculture (cultivating many crops)? ___ = 1
One type of crop? ___ = 2
Animal husbandry (raising animals)? ___ = 3
Home economic (care of home and family)? ___ = 4
Co-operative management? ___ = 5
Crop storage? ___ = 6

b) HOW MANY TIMES HAVE YOU ATTENDED COURSE?

One ___ = 1 Four ___ = 4
Two ___ = 2 Five or
Three ___ = 3 more ___ = 5

c) WHEN DID YOU LAST ATTEND A COURSE?

1980 ___ = 1 Before 1978? ___ = 4
1979 ___ = 2 Can't remember? ___ = 5
1978 ___ = 3

LOC.	SUB-LOC.	FARM

3. WERE YOU OR YOUR FAMILY VISITED AT HOME LAST YEAR (1980) OR THE YEAR BEFORE (1979) BY ANY OF THE FOLLOWING PEOPLE?

	1980		1979	
	Yes=1	No=2	Yes=1	No=2
- Junior agricultural assistant?				
- Junior animal health/husbandry assistant?				
- Agricultural assistant?				
- District agricultural officer?				
- Veterinary officer?				
- Community development assistant?				
- Community development officer?				

4. WERE YOU OR YOUR FAMILY VISITED AT HOME ANY TIME DURING (1980) (LAST YEAR) BY ANY OF THE FOLLOWING PEOPLE?

- An agricultural officer about crops?	___ Yes = 1	___ No = 2
- Animal production or veterinary officer	___ Yes = 1	___ No = 2
- A health officer?	___ Yes = 1	___ No = 2
- A family planning officer?	___ Yes = 1	___ No = 2
- A community development officer/social worker?	___ Yes = 1	___ No = 2

5. HAVE YOU ATTENDED DEMONSTRATIONS BY THE MINISTRY OF AGRICULTURE ABOUT CULTIVATING CROPS? ___ Yes = 1 ___ No = 2 (skip to 6)

a) HOW MANY TIMES HAVE YOU GONE TO A DEMONSTRATION IN THE LAST 12 MONTHS?

None	= 1
One time	= 2
Two times	= 3
Three times	= 4
Four or more times	= 5

LOC.	SUB-LOC.	FARM

6. HAVE YOU ATTENDED DEMONSTRATIONS BY THE MINISTRY OF LIVESTOCK DEVELOPMENT ABOUT THE CARE OF ANIMALS? ___ Yes = 1 ___ No = 2 (skip to 7)

a) HOW MANY TIMES HAVE YOU GONE TO A DEMONSTRATION IN THE LAST 12 MONTHS?

None = 1
One time = 2
Two times = 3
Three times = 4
Four or more times = 5

7. HAVE YOU EVER ATTENDED A FAMILY PLANNING TRAINING PROGRAMME, A HOMECRAFT OR HOME ECONOMICS COURSE, OR A MAENDELEO YA WANAWAKE TRAINING PROGRAMME?
___ Yes = 1 ___ No = 2 (skip to 8)

a) HOW MANY OF THESE COURSES HAVE YOU ATTENDED?

One = 1
One time = 2
Two times = 3
Three times = 4
Four or more times = 5

b) WHEN DID YOU LAST ATTEND ONE OF THESE COURSES?

1980 (last year) ___ = 1
1979 (last year) ___ = 2
Before 1979 ___ = 3

8. HAVE YOU EVER ATTENDED A VILLAGE POLYTECHNIC COURSE? __ Yes = 1 __ No = 2

a) WHAT TYPE OF COURSE WAS IT?

Agricultural ___ = 1
Beekeeping ___ = 2
Carpentry ___ = 3
Plumbing ___ = 4
Tailoring ___ = 5
Motor vehicle ___ = 6
Home economics or demestic science ___ = 7
Animal husbandry ___ = 8
Other (specify) ___ = 9
_____

LOC.	SUB-LOC.	FARM

10. HAVE YOU EVER TAKEN AN ADULT EDUCATION COURSE?
___ Yes = 1 __ No = 2 (skip to 11)

a) WHAT TYPE OF COURSE WAS IT?

Vocational training		___ = 1
Training for day care centre teachers		___ = 2
Co-operative management		___ = 3
Correspondence		___ = 4
Adult education std. 1-7	Form I-II	___ = 5
	Form III-VI	___ = 6

11. IS THERE A RADIO IN THE HOUSEHOLD?
___ Yes = 1 ___ No = 2

If no, a) DO YOU OR ANYONE IN YOUR HOUSEHOLD LISTEN REGULARLY TO SOMEONE ELSE'S RADIO?
___ Yes = 1 ___ No = 2 (skip to next section)

b) WHERE DO YOU LISTEN?

Neighbor's house	___ = 1
Community/Social Hall	___ = 2
Shop/bar	___ = 3
Other (specify) _____	___ = 4

IF YES, IS THE RADIO WORKING?
___ Yes = 1 ___ No = 2

If no, a) WHY IS IT NOT WORKING?
No batteries ___ = 1 Broken ___ = 2

b) HOW LONG HAS IT NOT BEEN WORKING?

1 week	___ = 1
1-3 weeks	___ = 2
4 or more weeks	___ = 3

LOC.	SUB-LOC.	FARM

If yes, a) WHEN DO YOU LISTEN TO THE RADIO?

Mornings ___ = 1
Mid-days ___ = 2
Afternoons ___ = 3
Evenings ___ = 4

b) DO YOU LISTEN TO AGRICULTURAL PROGRAMS?
___ Yes = 1 ___ No = 2

c) WHICH OF THE FOLLOWING PROGRAMMES DO YOU NORMALLY LISTEN TO?

- Zaa ne Uwaturize (Kiroboto Show) ___ = 1
- Sauti ya Mkulima ___ = 2
- Jembe Today ___ = 3

d) DO YOU UNDERSTAND THE PROGRAMME(S)?
___ Yes = 1 ___ No = 2 (skip to g)

e) DO YOU FIND THE PROGRAMME(S) USEFUL? ___ Yes = 1 ___ No = 2

g) IN WHAT LANGUAGE(S) WOULD YOU PREFER THE PROGRAMME(S) TO BE BROUGHT TO YOU?

Own language (vernacular) ___ = 1
Kiswahili ___ = 2
English ___ = 3

h) WHAT TIMES OF THE DAY WOULD YOU LIKE THESE PROGRAMMES TO BE BROUGHT TO YOU?

Early morning ___ = 1
Around mid-day ___ = 2
Afternoons ___ = 3
Early evening ___ = 4
Late evening ___ = 5

i) WHAT AGRICLTURAL SUBJECTS WOULD YOU LIKE TO HEAR ON THE RADIO?

Animal husbandry ___ = 1
Crop care ___ = 2
Marketing ___ = 3
Co-operative movement ___ = 4

j) DO YOU THINK AGRICULTURAL PROGRAMMES ARE GIVEN ENOUGH TIME ON THE RADIO? ___ Yes = 1 ___ No = 2

LOC.	SUB-LOC.	FARM

EXTENSION EDUCATION

Farm Visits

If you have been visited or you have yourself called on the following agricultural workers show:

Rank of Agricultural Worker	Number of times Farmer visited by agric. staff		Number of times farmer called on extension staff	
	1979	1980	1979	1980
- Sublocational workers concerned with: Crops Livestock				
- Locational workers concerned with: Crops Livestock				
- Divisional field workers concerned with: Crops Livestock				
- District and higher level agricultural officers				

LOC.	SUB-LOC.	FARM

2. Farm Courses

If you have attended Agricultural Courses indicate:

Type of Course	Duration	Year Attended	Place Attended
i)			
ii)			
iii)			
iv)			
v)			

3. Farm Demonstrations

a) If you have attended farm demonstrations indicate:

Type of Demonstration	Year Attended	If result of demonstration was good whether went back at all stages
i)		
ii)		
iii)		
iv)		
v)		

b) Have you served as farmer domonstrator? ___ Yes ___ No

c) If yes, which types of demonstrations were held on your farm and when?

LOC.	SUB-LOC.	FARM

Type of Demonstration	Year Held
i)	
ii)	
iii)	
iv)	
v)	

4. Tours to Other Agricultural Areas

a) If you have gone on an agricultural tour show:

Type of Tour	By Whom Organized	To Which Place	How Long Did You Stay There
i)			
ii)			
iii)			
iv)			
v)			

b) Is there anything you particularly learned from these tours that interested you? Yes = 1 No = 2

If yes, what was it? _____

LOC. SUB-LOC. FARM

5. Agricultural Shows

a) If you have attended agricultural shows indicate:

Place Show Held	Year

b) Have you had a chance to display your farm products at an agricultural show? Yes = 1 No = 2

c) If yes, did you win any prize? Yes = 1 No = 2

6. Other Media (cross-check)

In which other ways could you obtain information about:

a) Time of land preparation _____
b) An increase or fall in price _____
c) Where you can get fertilizers _____
d) How to overcome army worms, locusts, animal diseases, etc. _____
e) Whether your field is well weeded _____
f) How to space your crop _____
g) How to look after your animals _____
h) If there is going to be an agricultural show _____

7. History of Adoption of Agricultural Innovations

a) When did you first adopt the following?

i) Grade cattle _____
ii) Improved goats _____
iii) Improved sheep _____
iv) Improved maize seed _____
v) Artificial fertilizers _____
vi) Cotton _____

Would you say you are ahead of most farmers in this village in farming? Yes = 1 No = 2

LOC. SUB-LOC. FARM

b) If Yes, Why? _____

c) Do you face any problems from your neighbours in attempting to improve the state of your farming? Yes = 1 No = 2
If yes, which _____

8. Knowledge in Improved Farming

Give as many names of different types of the following as you can:

	Names of Types		
	First	Second	Third
Improved cattle			
Improved goats			
Improved sheep			
Improved poultry			
Pesticides/sprays			
Animal feeds			
fertilizers			
Spacing for maize			
Spacing for cotton			

9. Farm Newspapers

a) Do you buy or obtain farm newspapers? ___ Yes ___ No

b) If yes, which one and how often do you obtain them?

Type of Farm Papers	Frequency with which bought or received

LOC.	SUB-LOC.	FARM

c) If you do not buy, but receive them from whom do you receive them?

d) In which way have you found these farm newspapers useful? _____

e) Is there anything you can say about farm newspapers? _____

LOC.	SUB-LOC.	FARM

LABOUR UTILIZATION

HOUSEHOLD ACTIVITIES

Code: Does not do work = 0 Works regularly = 1 Works sometimes = 2

Household Members	Number of People	Food Preparation and Cooking	House Cleaning	Child Care	Buying Food	Fetch Water	Fetch Firewood	Washing Clothes	Maintenance on Housing & Building
Head of Household									
Wife or Female Head									
Other Females 15 and over									
Other Males 15 and over									
Females 6-14 not at school									
Males 6-14 not at school									
Resident-hired labour (non-family)									
Other non-resident hired labour									

LOC.	SUB-LOC.	FARM

OFF FARM EMPLOYMENT

DOES ANY MEMBER OF THIS HOUSEHOLD WORK OFF THE FARM AT ANY TIME IN THE YEAR? ___ Yes = 1 ___ No = 2
If yes, anwer the following:

Persons	Relation-ship to House-holder	Approximate Number of Days Worked Per Month	For Whom Work Done	Whether Work Done for Full Day or Part Day Full Day = 1 Part Day = 2	Kind of Work Done Part Day = 2	Cash/Kind Cash = 1 Kind = 2	Place at Which Work Is Done Kind = 2	Days Stayed Away From Doing This Work	On Farm Changes
		Code A-1	Code A-2		Code A-3		Code A-4	Code A-5	Code A-6
1									
2									
3									
4									
5									
6									

Code A-1

1-2 Days = 1
3-4 Days = 2
5-7 Days = 3
8+ Days = 4

Code A-2

Self = 1
Neighbour = 2
Community Firm = 3

Code A-3

Agricultural = 1
Non-Agri. on farm = 2
Non-Agri. off farm = 3

Code A-4

On farm = 1
Off farm but in same community = 2
Off farm & more than 5 miles away = 3

Code A-5

0 = 1
1-2 = 2
3-4 = 3
5-6 = 4

Code A-6

No changes = 1
Who makes decision = 2
Field labour = 3
Help in house = 4
Other (specify) = 5

LOC.	SUB-LOC.	FARM

LABOUR ON FIELD CROPS

Codes: Does not do work = 0 Works regularly = 1 Works sometimes = 2

P = Planting
W = Weeding
H = Harvesting
M = Marketing

	Number of People	Maize	Millet and Sorghum	Rice	Sugar Cane	Beans Cowpeas	Cotton	Potatoes	Tomatoes, Sukumawiki Cabbage & Other Veg.
Household Members	P W H M	P W H M	P W H M	P W H M	P W H M	P W H M	P W H M	P W H M	P W H M
Head of Household									
Wife									
Other females 15 and over									
Other males 15 and over									
Females 6-14 not at school									
Females 6-14 at school									
Males 6-14 not at school									
Males 6-14 at school									
Resident-hired labour (non-family)									
Other non-resident									

LOC.	SUB-LOC.	FARM

LABOUR ON FIELD CROPS, (cont.)

Codes: Does not do work = 0 Works regularly = 1 Works sometimes = 2

P = Planting
W = Weeding
H = Harvesting
M = Marketing

	Number of People	Banana	Potatoes	Cassava	Forages Napier Grass
Household Members		P W H M	P W H M	P W H M	P W H M
Head of Household					
Wife					
Other females 15 and over					
Other males 15 and over					
Females 6-14 not at school					
Females 6-14 at school					
Males 6-14 not at school					
Males 6-14 at school					
Resident-hired labour (non-family)					
Other non-resident hired labour					

LOC. SUB-LOC. FARM

LABOUR ON ANIMAL CARE

Household Members	Number of People	CATTLE						
		Fodder Cutting	Stall Feeding	Herding	Manure Collection	Milking	Marketing of Products (milk, hides)	Marketing of Animals
Head of Household								
Wife								
Other females 15 and over								
Other males 15 and over								
Females 6-14 not at school								
Females 6-14 at school								
Males 6-14 not at school								
Resident-hired labour (non-family)								
Other non-resident hired labour								

LOC.	SUB-LOC.	FARM

LABOUR ON ANIMAL CARE, (cont.)

Household Members	Number of People	CATTLE		GOATS & SHEEP				
		Slaughter	Preparation for Religous Rituals	Fodder Cutting	Stall Feeding	Herding	Manure Collection	Shearing
Head of Household								
Wife								
Other females 15 and over								
Other males 15 and over								
Females 6-14 not at school								
Females 6-14 at school								
Males 6-14 not at school								
Resident-hired labour (non-family)								
Other non-resident hired labour								

LOC.	SUB-LOC.	FARM

LABOUR ON ANIMAL CARE, (cont.)

		GOATS & SHEEP				FISH PONDS	
Household Members	Number of People	Marketing Of Products	Marketing Of Animals	Slaughter	Preparation for Religious Rituals	Care	Marketing
Head of Household							
Wife							
Other females 15 and over							
Other males 15 and over							
Females 6-14 not at school							
Females 6-14 at school							
Males 6-14 not at school							
Resident-hired labour (non-family)							
Other non-resident hired labour							

LOC.	SUB-LOC.	FARM

LABOUR ON ANIMAL CARE, (cont.)

Household Members	Number of People	FISH PONDS				
		Marketing Of Products	Slaughter	Donkey	Poultry	Pigs
Head of Household						
Wife						
Other females 15 and over						
Other males 15 and over						
Females 6-14 not at school						
Females 6-14 at school						
Males 6-14 not at school						
Resident-hired labour (non-family)						
Other non-resident hired labour						

APPENDIX C
MLD/SMALL RUMINANT-CRSP BASELINE SURVEY
UNIT 1

CONFIDENTIAL

E.A.	LOC.	SUB-LOC.	FARM

ENUMERATOR _____

BASELINE SURVEY QUESTIONNAIRE - UNIT 1

INTRODUCTION - PART 1

DAY MONTH YEAR

Date of Interview _____

Question Number		Code
1.1	FARMER'S NAME _____	____
1.2	FARMER I.D. NUMBER _____	____
1.3	VILLAGE NAME _____	____
1.4	CLUSTER I.D. NUMBER _____	____
1.5	ENUMERATION AREA _____	____
1.6	PROVINCE _____	____
1.7	AGRO-ECONOMIC ZONE _____	____
	Social-cultural characteristics of family	
1.8	TRIBE _____	____
1.9	PRIMARY LANGUAGE OF FARMER _____	____
1.10	SECOND LANGUAGE _____	____
1.11	THIRD LANGUAGE _____	____

ENUMERATION AREA (E.A.) CODE

NON-REGISTERED = 1

REGISTERED = 2

SETTLEMENT SCHEME = 3

CONFIDENTIAL

LOC.	SUB-LOC.	FARM
1 2	3 4	5 6 7 8 9 10

1.12. DESCRIPTION OF PEOPLE IN HOUSEHOLD

ENUMERATOR: _____

NAME	ID	AGE	SEX (Male = 1, Female = 2)	MARITAL STATUS	RELATIONSHIP TO HEAD OF HOUSEHOLD	CURRENTLY ATTENDING SCHOOL	HIGHEST STANDARD OR FORM REACHED IN SCHOOL	OCCUPATION
	01							
	02							
	03							
	04							
	05							
	06							
	07							
	08							
	09							
	10							
	11							
	12							
	13							
	14							
	15							

1 = married 2 = single 3 = divorced 4 = widowed 5 = separated

LOC.	SUB-LOC.	FARM
1 2	3 4	5 6 7 8 9 10

1.12. DESCRIPTION OF PEOPLE IN HOUSEHOLD (cont.)

ENUMERATOR: _____

NAME	ID	AGE	MALE = 1 FEMALE = 2 SEX	MARITAL STATUS	HELP WITH LIVESTOCK	OFF SHAMBA WORK	LABOUR EQUIV. OF A FARMER (to be filled out later	Comments
		01						
		02						
		03						
		04						
		05						
		06						
		07						
		08						
		09						
		10						
		11						
		12						
		13						
		14						
		15						

1 = married 2 = single 3 = divorced 4 = widowed 5 = separated

CONFIDENTIAL

LOC.	SUB-LOC.	FARM
1 2	3 4	5 6 7 8 9 10

ENUMERATOR: _____

1.13. DESCRIPTION OF HOUSEHOLD

(1) HOW MANY BUILDINGS ON THE FARMSTEAD ARE USED AS PLACES OF RESIDENCE BY FAMILY MEMBERS?

(2) WHAT ARE THE BUILDINGS MADE OF?

	ROOF	USE	THATCH	THATCH	TIN	TIN	TIN	TIN	TIN	SHAPE OF	SQUARE METERS	NUMBER OF
	WALLS	CODE	MUD	WOOD	CEMENT	MUD	WOOD	CEMENT	TIN	BUILDING	M X M + A	ROOMS
Bldg. 1												
Bldg. 2												
Bldg. 3												
Bldg. 4												
Bldg. 5												
Bldg. 6												

CODE

Residential = 1
Livestock = 2
Milking Shed = 3
Grain Storage = 4
Other Use = 5

HOW FAR IS IT TO THE NEAREST (pick one for each column)

DISTANCE	DRINKING WATER		ROADS			LIVESTOCK WATER	
			ALL WEATHER				
	WET SEASON	DRY SEASON	DIRT	ROADS	TARMAC	WET SEASON	DRY SEASON
ON FARM							
.9 miles							
1-1.9 miles							
OFF FARM 2-5 miles							
5 miles							

CONFIDENTIAL

LOC.	SUB-LOC.	FARM

1 2 3 4 5 6 7 8 9 10

ENUMERATOR _____

LAND RESOURCE INVENTORY

PART IV

TOTAL LAND OWNED BY FARMER IN THIS SUBLOCATION: _____ ACRES

PLOT ID	FARMERS ESTIMATE OF AREA	LAND TENURE 1 = Owned 2 = Rented 3 = Squatted	HOW PLOT WAS ACQUIRED (USE CODE)	IF RENTED RENTAL COST	PLOT BEEN USED BY H.H. (YEARS)	TOPOGRAPHY
01						
02						
03						
04						
05						
06						
07						
08						

AREA TOTAL

DOES FARMER OWN ANY OTHER LAND IN ANOTHER SUBLOCATION? _____
DOES HE FARM THE LAND HIMSELF? _____
IS THE LAND RENTED OR FARMED BY SOMEONE ELSE? _____ A RELATIVE? _____

TOPOGRAPHY CODE		SOIL CODE			
Flat	= 1	Clay	= 1	Sandy	= 4
Gentle Slope	= 2	Loam	= 2	Sandy Loam	= 5

CONFIDENTIAL

LOC.	SUB-LOC.	FARM

1 2 3 4 5 6 7 8 9 10

ENUMERATOR _____

LAND RESOURCE INVENTORY, (cont.)

PART IV

TOTAL LAND OWNED BY FARMER IN THIS SUBLOCATION: _____ ACRES

PLOT ID	SOIL	IRRIGATED (1 = Yes) (2 = No)	DISTANCE TO HOMESTEAD	TYPE OF ACCESS TO PLOT
01				
02				
03				
04				
05				
06				
07				
08				

AREA TOTAL

DOES FARMER OWN ANY OTHER LAND IN ANOTHER SUBLOCATION? _____
DOES HE FARM THE LAND HIMSELF? _____
IS THE LAND RENTED OR FARMED BY SOMEONE ELSE? _____ A RELATIVE? _____

TOPOGRAPHY CODE		SOIL CODE			
Flat	= 1	Clay	= 1	Sandy	= 4
Gentle Slope	= 2	Loam	= 2	Sandy Loam	= 5
Steep slope	= 3	Silt	= 3		

CONFIDENTIAL

LOC.	SUB-LOC.	FARM
1 2	3 4	5 6 7 8 9 10

ENUMERATOR: _____

CAPITAL RESOURCE INVENTORY

DO YOU HAVE: (Ask about each item)

ITEM	NUMBER	AGE	CURRENT VALUE KSH TOTAL OF ALL ITEMS
PANGA?			
JEMBE?			
FORK JEMBE?			
GRASS CUTTER			
AXE?			
BUCKET? (metal & plastic)		value when new	
SHOVEL?			
SPRAY PUMP (for crop or livestock use)?			
WATER PUMP?			
HAND MAIZE MILL?			
PLOUGH?			
HARROW?			
HAND DRAWN CART?			
WHEELBARROW?			
ANIMAL DRAWN CART?			
WATER TANK?			
FENCING?			
FEEDERS FOR CONCENTRATES OR FORAGES?			
ANIMAL CRUSH?			
MILKING EQUIPMENT?			
BICYCLE?			
OTHER VEHICLE?			

ASK ABOUT ANY OTHER TOOLS/EQUIPMENT USED ON THE FARM BUT NOT MENTIONED (use above blanks)

APPENDIX D

MLD/SMALL RUMINANT-CRSP BASELINE SURVEY

Unit 2

CONFIDENTIAL

LOC.	SUB-LOC.	FARM
1 2	3 4	5 6 7 8 9 10

ENUMERATOR: _____

BASELINE SURVEY QUESTIONNAIRE UNIT 2
MLD/SR-CRSP SURVEY INITIAL LIVESTOCK INVENTORY

NUMBER OF CATTLE, SHEEP AND GOATS ON FARM OWNED BY MEMBERS OF HOUSEHOLD & KEPT ON SHAMBA

ANIMAL ID#	BREED CODE	AGE CODE	SEX Male = 1 Female = 2 3 = castr.	ENUMERATION ESTIMATED VALUE (KSH)	NUMBER OF LIVE BIRTHS	DATE OF LAST BIRTH (Mo/Yr)	COND. CODE
CATTLE							
GOATS							
SHEEP							

Breed Code

11 Zebu Cattle
12 Cross Bred Cattle
13 Grade Cattle
31 E. African Goats
32 Galla Goats
33 Improved Goats
41 Native Hairsheep
42 Improved Sheep

Age Code

1. 0-6 Mon.
2. 7 Mon.-1 Yr.
3. 1.1 Yr.-2 Yr.
4. 2.1 Yr.-5.0 Yr.
5. 7.5 Yr. or Older

HOW MANY LIVESTOCK OWNED BY NONMEMBERS OF THE HOUSEHOLD ARE KEPT ON THE HOLDING?

CATTLE _____
GOATS _____
SHEEP _____

CONFIDENTIAL

LOC.	SUB-LOC.	FARM
1 2	3 4	5 6 7 8 9 10

ENUMERATOR: _____

SUMMARY OF LIVESTOCK ON FARM OWNED BY MEMBERS OF HOUSEHOLD BY INTERVIEWER

TYPE OF LIVESTOCK		ANIMALS	X LIVESTOCK UNIT EQUIV. =	LU	COMMENTS
Cows	Zebu		0.6		
	Crossbred		0.8		
	Grade		1.0		
Heifers (not yet calved)	Zebu		0.4		
	Crossbred		0.5		
	Grade		0.6		
Calves (not yet weaned)	Zebu		0.2		
	Crossbred		0.26		
	Grade		0.3		
Breeding Bulls			1.0		
Oxen/Beef Cattle (over 2 years)			1.0		
Oxen/Beef Cattle (under 2 years)			0.5		
Mature Sheep, Goats			0.2		
ASK ABOUT:					
Donkey			0.4		

TOTAL LIVESTOCK UNITS / / (sum of LU above)

Poultry _____ Pigs _____
Other _____ Bees (hives) _____

HOW MANY ANIMALS ARE OWNED BY MEMBERS OF THE HOUSEHOLD BUT ARE KEPT SOMEWHERE ELSE OFF THE HOLDING?

CATTLE _____
GOATS _____
SHEEP _____

CONFIDENTIAL

LOC.		LOC.		FARM
1 2	3 4	5 6	7 8	9 10

ENUMERATOR: _____

LIVESTOCK MANAGEMENT

	Cattle				
	Zebu	Grade of Crossbred	Sheep	Goats	Poultry
1. Do you regularly dip or spray for ticks? (1 = Yes, 2 = No)					
2. Do you regularly treat your animals for internal parasites? (1 = Yes, 2 = No)					
3. Do you regularly vaccinate young animals? (1 = Yes, 2 = No)					
4. How do you feed the unweaned animals? 1 = Suckle? or 2 = Bucket Fed? or 3 = both?					
5. Do you buy and feed any concentrates to your animals-? 1 = yes to young stock; 2 = yes to lactating animals; 3 = yes to all; 4 = no					
6. How do you get your animals bred? (1 = own males; 2 = other males; 3 = A.I.)					
7. How long do you keep young males before slaughtering? (1 = Under 4 mon.; 2 = 4-11 mon.; 3 = 12 mon. or more)					
8. Do you use zero grazing for any of your animals? (at any time of the year?) (1 = Yes, 2 = No)					
9. Are your animals kept in a boma or shed at night? (1 = Yes, 2 = No)					
10. (If #9 is Yes, How many hours each night?					
11. (If #9 is Yes, How big is the animal Boma ___ m x ___ m = ___ m^2					

CONFIDENTIAL

LOC.	SUB-LOC.	FARM
1 2	3 4	5 6 7 8 9 10

ENUMERATOR: _____

CROP USE
PART VI

These questions are to be asked about crops harvested so far this year. Grains and beans will be from the long rains harvest. Sweet potato, cassava, and banana should be calculated from how much was picked in last week.

	GRAIN/TUBER/FRUIT						By Products
CROP CODE	ESTIMATED FARM YIELD (BAGS)	ESTIMATED AMOUNT MARKETED (BAGS)	ESTIMATED AMOUNT FED TO LIVE-STOCK (BAGS)	HOW MUCH DO YOU HAVE STORED (BAGS)	AMOUNT CONSUMED AMOUNT CONSUMED/ GIVEN AS GIFTS (BY DIFFERENCE) (BAGS)	PRICE PAID AT THE FARM (KSH.)	BYPRODUCT TYPE
Maize							
Millet							
Sorghum							
Beans							
Sweet Potato							
Cassava							
Banana							

By Product Type Code

Vines = 1
Stover/stalks = 2
Leaves = 3
Rotten grain, = 4

CONFIDENTIAL

LOC.	SUB-LOC.	FARM
1 2	3 4	5 6 7 8 9 10

ENUMERATOR: _____

MARKETS

FOR EACH TYPE OF LIVESTOCK AND OTHER PRODUCTS)	DO YOU OR MEMBERS OF YOUR HOUSEHOLD SELL ANY AT LOCAL MARKETS? YES = 1 NO = 2	IF YES, WHO TAKES IT TO THE MARKET?	METHOD OF TRANS-PORTATION TO MARKET	DO YOU OR ANY MEMBER OF YOUR HOUSEHOLD SELL TO TRADERS WHO COME TO THE FARM?	COMMENTS
Cattle, Sheep Goats, Donkeys					
Pigs					
Poultry					
Vegetables Crops (Cabbage, Tomatoes, etc.)					
Fruit Crops (Bananas, Mangoes Papayes, etc.)					
Sugar cane					

Code:

Walk = 1
Bus = 2
Matatu = 3
Truck = 4
Cart/Wagon = 5
Donkey = 6

Code:

Head of Household = 1
Senior or Only Wife = 2
Other Wife = 3
Children = 4
Others = 5
(including hired labour)

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VITA

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