

**SMALLHOLDER HOUSEHOLD LABOUR CHARACTERISTICS, ITS AVAILABILITY  
AND UTILIZATION IN THREE SETTLEMENTS OF LAIKIPIA DISTRICT,  
KENYA.**

BY

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A thesis submitted in partial fulfillment of the requirement  
of the degree of Master of Arts (Anthropology) at, the  
Institute of African studies, University of Nairobi.

**DECLARATION**

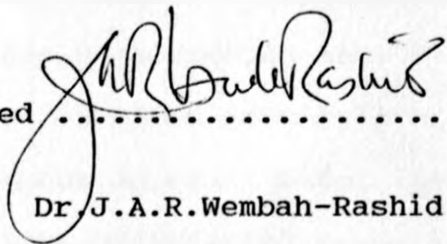
This is my original work and has not been presented at any other University for the award of a degree.

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This work has been presented with my approval as University Supervisor.

signed  .....

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Date: 13/01/95

**DEDICATION**

To my parents **Cosmas** and **Sylvia Opondo** for their love,  
incessant  
support and encouragement in my studies.

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## ABSTRACT

This study examined household labour characteristics in smallholder farms in Arid and Semi-Arid areas (ASAL) in Laikipia district. The focus was on the assessment of the extent to which labour availability is a constraint in farm operations. The study sought to establish the size, sources and types of labour used, the factors that influence its availability, or its withdrawal as well as its use patterns. It investigated and documented traditional labour exchange or reciprocal institutions, i.e., *ngwatio* and *gutukania ruuru*.

The units for investigation to which a standard questionnaire was administered comprised 135 female and male headed households. Informal discussions, case studies and observations were conducted with some selected informants from this pool.

The findings of this study show that household labour availability is influenced by three factors. One, rural to urban migration of some of the household members who at some time in the past were part of the household labour supply, namely, husbands and school-leaving youths. Two, available on-farm labour is sometimes withdrawn because of off-farm social or economic pursuits. Three, when children are enrolled in schools, their contribution to household labour is reduced.

Labour shortage is a common problem for both livestock and crop husbandry. There is therefore need to hire labour from both within and outside the settlements studied. However, the need for hired labour is occasionally hampered by the inability of some farmers to pay for it. Reciprocal labour

between farmers is still an important element in household labour supply. In traditionally settled areas, reciprocal labour is usually kin and neighbourhood based. The observation in this study is that women, mainly through religious group affiliations, are at the core of the practice.

The study indicates that gender and family division of labour are highly variable and changing just as are the factors that influence them. Therefore, inability by some households to meet their labour needs during the agricultural cycle, is a major constraint on food and animal production in these settlements.

Hence, the study recommends for informal sector improvement because of its cushioning effects against farming risks. Secondly, farmers need to be sensitised so that they appreciate changes in gender roles in both crop and animal husbandry. Thirdly, informal labour institutions should be strengthened and appropriately modified so that they can be used as entry points for new innovations and labour supply pools. Forthly, farmers should be trained on the use and management of draught animals. It is also important for more research to be conducted on sustainable land use and labour relations in polyethnic settlements.

Finally, it is observed that migration to these farms exhibits a rare phenomenon in Kenya and East Africa. This is, a considerable number of people have moved in from rural and urban areas as opposed to the age long tradition of rural to urban migration.

## CHAPTER 1

### INTRODUCTION

#### 1.1 Background

Kenya's economy is highly dependent on agriculture, and over 90% of the country's rural labour force is dependent upon this sector for employment (Anker and Knowles, 1983). Approximately 30-40% of the country's GDP is generated from this sector, as compared to 10-12% from manufacturing, 10% from commerce, and 13-15% from the government (Republic of Kenya, 1989a). The economic significance of agriculture is indeed a common factor in the whole of Sub-Saharan Africa. McNamara (1991:7) observed that:

Agriculture is absolutely essential today, and will continue to be in the foreseeable future, to sub-Saharan Africa's growth and development. It contributes 34% of GDP, 40% of exports and 70% of employment. It is the sector which the majority of Africans depend on for their well being and livelihood. If Africa is to meet its food requirement and generate financial resources needed for its overall development programmes, it must and improve drastically its agricultural performance.

Because agriculture plays a major role in Kenya's national economy, development planners have emphasized the need to make the country self-sufficient in food production. These endeavours can partly be achieved by eliminating the constraints that impede food production especially at household level in rural areas. Although Kenya's agricultural contribution to economic growth has been at the rate of 3.1% per year, it has not coped with the population growth rate

which currently stands at 3.4% per year (Juma and Kiriro, 1991).

In its efforts to promote rural development, equitable income distribution and employment generation, the government intended to achieve an annual growth rate of 6.7% in marketed agricultural output by the end of 1993. This target would have been achieved by strengthening the agricultural policy by directing it to focus not only on high but also on the low agricultural potential areas (Republic of Kenya, 1989a). The government also would aim at giving high priority to programmes that will facilitate development of smallholder farming and farming activities in areas that are currently less developed such as the arid and semi-arid lands (ASAL).

This thinking, among other factors, might have encouraged Laikipia district smallholders to develop the lands that they acquired through land buying companies and cooperatives. Consequently, during the past three decades the district has witnessed drastic changes in its land use patterns. Some areas, which were previously under large scale commercial ranching or mixed farming, are now under smallholder crop or livestock or mixed farming. The impact of this change on food production and sustainable land use for agriculture (crop and livestock) has been the subject of investigation by the Laikipia Research Programme (LRP) for about a decade now.

## 1.2 Laikipia in Retrospect

Originally, Laikipia District was inhabited by the pastoral Maasai, who were, however, pushed out of the district into "Native Reserves" (Mukogodo and Kajiado) and, consequently, Laikipia became part of the "White Highlands". This process profoundly altered existing indigenous structures and institutions. By grafting European structures onto African ones, dualistic structures were created and have remained so to this day.

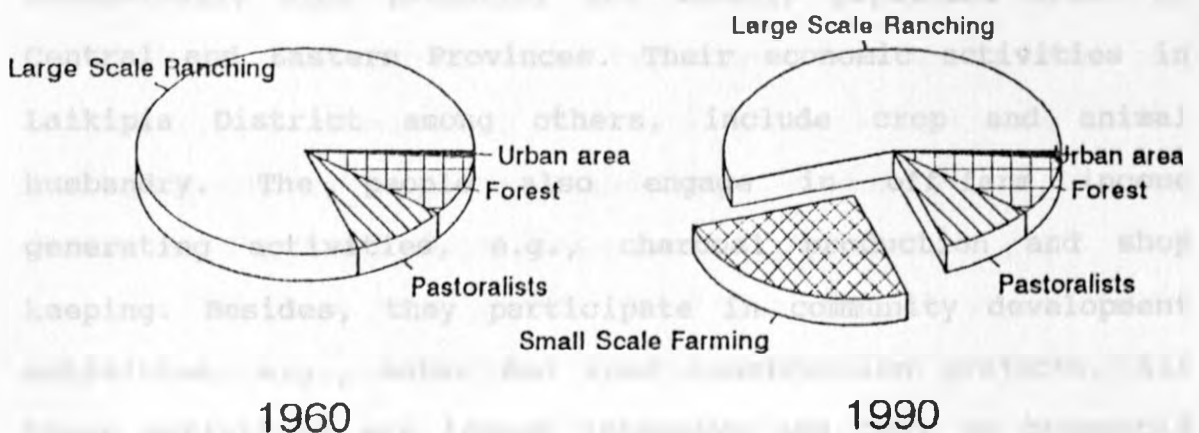
Large-scale farms and ranches were extensively established for commercial purposes. Wheat, barley and pyrethrum were grown as cash crops using Africans from within and outside Laikipia as wage labourers. The white highlands had the best facilities for the production of agricultural commodities for export as opposed to the African reserves' economy. Europeans had access to credit, extension and transport services. This created structural inequality and regional imbalance as commercial agriculture proliferated.

Herren (1991) has observed that, a money economy emerged which took over from African taxation system which was previously paid for in kind. Taxation was made mandatory and paid in form of cash. This forced Africans to work as cheap labourers for Europeans in their efforts to obtain cash.

Development of capitalism gave rise to individual appropriation of land not only in Laikipia, but the world over (Leys, 1975; De Wilde, 1984; Herren 1991). Colonization went hand in hand with expropriation of land belonging to indigenous populations which were driven to lands of inferior quality. European expansion was accompanied by an

expropriation-appropriation process and the concentration of land in the hands of privileged social categories. This is still the case with large scale ranching under non-Africans covering 40% of the district's area. Large ranches still depend on hired labour from Africans, who are hired on a full- or part-time basis (see Figure 1.1 below).

**Figure 1.1: Land use Changes in Laikipia District (1960-1990).**



**Source: S.Taiti, 1992.**

A transition period occurred after independence in 1963, with small-scale farming emerging. Land buying companies emerged to buy land formerly owned by Europeans, and subdivided it among their shareholders into small plots of about 0.4-2.0ha or even smaller units (Flury, 1987; Kohler, 1987a; Herren, 1991). Further subdivision is still taking place.

### 1.3 Statement of the Problem

This study focuses on labour availability and utilization in smallholder households in an ASAL region north-west of Mount Kenya in Laikipia District. Smallholder farming is a new mode of farming in this area which previously was, and in some parts still is, under large-scale commercial ranching. Labour availability in this case was taken to constitute all household members aged seven years and above, and could contribute directly or indirectly to the family labour pool needs.

Most smallholders now in the area are immigrants from economically high potential and densely populated areas of Central and Eastern Provinces. Their economic activities in Laikipia District among others, include crop and animal husbandry. The people also engage in off-farm income generating activities, e.g., charcoal production and shop keeping. Besides, they participate in community development activities, e.g., water and road construction projects. All these activities are labour intensive and rely on household labour for their sustainability.

However, availability of labour and the capacity of households to mobilize it or supplement it by other sources has been affected by the fact that household members also take up off-farm activities within or outside Laikipia to supplement their food needs. According to studies carried out by the LRP, additional sources of income of the farm are not simply additional but rather essential (Kohler, 1987b; Wiesmann, 1990; Herren, 1991). Due to game damage, uncertain climatic conditions and limited hectareage, feeding one's

family from one's farm produce is almost a yearly hazardous exercise.

Traditionally, division of labour on the basis of gender determined the amount of labour available and its usage. Livestock production and heavy farmwork tended to be a male responsibility, while food crop cultivation, child care and domestic chores were under the women's charge (Lele, 1975; Kongstad and Monsted, 1980; Kottack, 1986; Moore, 1988). Children on the basis of their age and sex assisted in all these duties as they grew up. At present the foregoing pattern of division of labour is changing. Households are not necessarily composed of the traditional family patterns with the husband, children or other dependants staying together and contributing a common pool of labour for farm work. One of the common trends is that wives and their school going children remain on the farm while husbands and post-school youth move to towns for wage employment. This then creates a problem of adequate labour availability for farm operations. This study therefore, sought to document how gender roles have changed and their effects on the overall farm productivity.

Noteworthy is the fact that household labour utilization has been altered by monetization of the economy, migration of some family members to urban areas, increased participation in formal education by children and decrease in membership of households. These may limit the labour available for farm operations. Kongstad and Mongsted (1980), in their studies in western Kenya, noted that these processes lead to intermittent withdrawal of labour for on-farm uses in both peaks and slack seasons. This results in labour shortages. Each of these



factors involves aspects of labour availability and utilization, which this study seeks to understand.

It is essential, therefore, to explore the extent to which the market economy has penetrated Laikipia District, so as to show whether the introduction of cash crops, wage labour, participation in formal education, and off-farm enterprises in these communities may have affected members' provision of important services in smallholder farms. The current study in essence provides an understanding of how labour organization pattern(s) have been modified and their impact on role relations and division of labour.

Earlier studies have indicated that the capacity to mobilize household labour resources is limited by competing demands such as male and youth out-migration, off-farm employment and formal schooling participation by children. These demands result in withdrawal of some of the farm labour from households which otherwise would have been available traditionally. What is observable at the end is that there is a decrease in agricultural labour for some households. For, even where households record a population large enough to effectively cultivate their small farms or take care of their livestock, some of the members do not live on those farms or continuously work on them.

Commoditization of labour led to disintegration or modification of the indigenous practices of reciprocal labour exchange, *ngwatio* and *gutukania ruuru*, among the Agikuyu, for example. The former practice involved pooling together labour for planting, weeding and harvesting by women in a community. And in the latter case young men pooled their families

livestock to graze out of village areas thereby allowing adult men to engage in other activities. These practices were means of expanding labour pools for various on or off-farm chores. Likewise polygyny, large progeny and various forms of tenancy and sharecropping are declining in their importance as important sources of labour.

A study describing and accounting for factors which affect the availability of household and other labour resources, use patterns and the type of farm or household chores in ASAL regions is pertinent and need to be tackled.

It has been observed through the findings of previous LRP studies that despite the small size of land held by households, most of it is not fully utilized for crop or livestock production. And even where the available land is fully utilized, agricultural production has not increased as envisaged. Several reasons have been advanced to explain this situation, e.g., game damage, unsuitability of the land and unfavourable climatic conditions for the type of farming conducted.

However, no systematic studies have been carried out to establish the impact household labour has on agricultural production. This is the subject matter of the current study. The study sought to investigate whether or not there were any constraints in smallholder household labour availability and its pattern(s) of utilization. On the assumption that smallholder labour in agricultural production in the settlements was organized through households, the study focussed on (i) the current division of labour in smallholder households, (ii) the extent and impact of integrating

smallholder household labour into the market economy, and (iii) how smallholder household labour is utilized.

#### 1.4 The Objectives of the Study

The overall objective of this study was to assess the extent to which labour availability for smallholder farming influences agricultural production in the settlement areas of Laikipia. To achieve this, the study had the following specific objectives:

(a) To investigate and document smallholder household labour: its size, availability and use patterns.

(b) To investigate and establish the extent to which households use sources of labour other than their own household members, for what jobs and at what cost.

(c) To examine whether financial and commodity remittances from household members employed outside the farms are used to supplement food and labour requirements.

#### 1.5 The Scope and Limitations of the study

This study covered three settlement areas, i.e., Muramati, Wiumiririe and Salama. It was undertaken as part and parcel of the Laikipia Research Programme. For that reason its scope and limitations had to be tailored to partly suit the objectives of the Programme. The focus therefore was on establishing patterns of household labour and how it is used with specific interest in gender roles. The study investigated

sources of labour other than that supplied by households and the kind of farm activities that all available labour was assigned to perform.

However, due to time factor, this study did not carry out detailed time use analysis. For instance, computation of time spent on specific farm tasks and who was performing them was not conducted. The role of certain key factors in the production like marketing, marketing cost, capital, technology and land tenure have been left out.

The issue of gender division of labour was addressed, although no indepth investigation into its implication on gender equity and status of women among the agro-pastoralists immigrants was assessed.

Laikipia district settlements comprise those of nomadic pastoralists, commercial ranchers, government settlement schemes and smallholder lands individually purchased through private land buying companies. This study focussed on the later category of settlement.

### **1.6 The Significance of the Study**

Two thirds of Kenya's land surface is arid or semi-arid, and 80% of the country's population live on only 18% of the economically high and medium potential land. There is need, therefore, to study resource potential in arid lands and see how this can be utilized. Population pressure is already being felt on the 18% good land and an increasing number of people are moving into marginal areas such as Laikipia District.

Kenya's development planning, especially for arid areas, suffers from inadequate systematic documentation on the

importance of household labour and its effects on agricultural production (Republic of Kenya, 1989a). By highlighting the effects of labour on food production, the study has brought new dimensions to the understanding of its usage in the ASAL. Earlier studies had tended to assume that labour is not a constraint since land holdings were small (Laikipia District Annual Report, 1989b).

Twenty-four percent of Laikipia's land is under smallholder farming, and it is labour intensive (Kohler, 1987a). Since households are integrated into a wider capitalist labour market, it is important to identify the effects of this linkage on role allocation, what farmers do on and off-farm, whether they hire labour or they themselves are hired. Knowledge about the current position of important institutions such as *ngwatio*, *gutukania ruuru*, polygyny and large progeny that acted as labour pools in the past is important. It shades light on the kind of changes that have taken place among the farmers in their quest to adapt themselves in this ASAL environment.

Other studies on household labour were mostly done in high potential areas (Cleave, 1974; Lele, 1975; Uchendu and Anthony, 1976; Nasimiyu, 1985; Suda, 1986, 1990). These areas had, unlike Laikipia, minimal ranching activities. The prevalence of ranching, crop husbandry and mixed farming provides new insights into our understanding of the use of household labour, particularly the departure from its division by sex and age.

## 1.7 Synopsis

This study attempts to highlight labour use patterns in "a new environment", where land holdings are small, with fairly large family sizes and arid climatic conditions. Chapter one, highlights the significance of agriculture in Kenya's economy in relation to other sectors. However, agricultural development in Laikipia is given a historical assessment since colonial and post colonial periods, and how factors of production have been commercialized, thereby altering the existing structures.

In chapter two, the author reviews the literature on labour and points out how labour organization has changed. A theoretical framework is integrated as a model to explain the prevailing labour use patterns. In the end hypotheses for testing are stated.

In chapter three, the author gives a geographical description of the district, ASAL conditions farming systems, research sites, units of observation, sampling procedures and data collection instruments, ending with limitations encountered in the field.

The author discusses the findings of the present study in chapter four and five, while in chapter six he gives the summary of the findings, a conclusion and recommendations.

## CHAPTER 2

### LITERATURE REVIEW AND THEORETICAL ORIENTATION

#### 2.0 Introduction

Although there are various mitigating factors in agricultural development, a central one for this study is labour. While the vital role of family labour supply is gradually receiving more attention, inadequate recognition of its importance has been a prominent cause of failure of many efforts to increase agricultural production in households. It is within this context that the literature reviewed will assess labour organization and management processes and how these influence agricultural production. For purposes of this study relevant literature on labour use is reviewed on the basis of the following sub-headings:

- \*Division of labour in the household
- \*Integration of household labour into market economy
- \*Labour utilization in off-farm activities
- \*Hired labour in households

#### 2:1 Division Of Labour In Smallholder Farms.

Division of labour within households refers to patterns of allocating obligations of production and reproduction within the family (Kottack, 1986). It also entails a pattern of work allocation to members constituting a household, namely, the husband, wife or wives, children and possibly other dependants in subsistence communities. Roles in such communities are allocated on the basis of age, sex and farm

operations.

According to Lewis (1984) and Sticher and Hay (1984) men's work includes land clearing, house building, livestock herding and hunting. They have access to land, and make decisions regarding resource allocation and utilization. On the other hand, women are involved in both productive and reproductive roles such as planting, weeding, harvesting, storage, child care and other domestic chores. Children assist in all these activities as they grow up (Bernstein 1976; Bukha 1979; Carlsen 1980; Kongstad and Monsted 1980; Nasimiyu 1985; Suda 1986). The foregoing activities have been referred to as the labour-consumer balance (Kerlay, 1971). This is because roles in the family supplement each other, and maintain its equilibrium. The author studied these models to see the way in which they are applicable in Laikipia.

At present the foregoing patterns of division of labour are changing. Because of climatic uncertainties and small land holdings, households are not necessarily composed of the traditional family members, i.e., husband, wife/wives, children and other dependants. Today household members do not necessarily stay together to always constitute a common pool for farm labour. One of the common patterns prevailing is that wives and their school going children remain on the farm, while husbands and post-school going youths migrate to towns to seek wage labour or business ventures.

Under such circumstances (i.e., the changing household composition) a rigidly defined sexual division of labour is disintegrating, with women acquiring more social and economic roles. Often their contribution is inadequate to fully develop



even small landholdings. Consequently, some households hire labour to boost their farm operations. The author collected substantial data, so as to pinpoint the changing gender roles and the effects of these on farm work.

Friendman (1980) points out that since agricultural production was, and still is, around family labour, the households constitute an economic unit. Elsewhere in Africa, labour and not land was the core factor of production. An individual's ability to expand control over resources, e.g., land, food crops and livestock, usually depended on the number of mobilisable labour in their households (i.e., number of males and females). In Laikipia, however, high costs of maintaining a large family have forced most farmers to have relatively small sized families and use hired labour when and where need arises. Families with large progeny were bound to further subdivide their land for their sons, a factor that makes units less viable economically.

Besides, Moore (1988) adds that the division of labour based on gender has affected its supply even in critical periods. The division of labour has created what she calls "domestic" and "public" spheres which stand in a hierarchical relationship to each other. On the basis of the traditional division of roles, institutions and activities organized around mother-child are referred to as the "domestic" sphere while the "public" sphere refers to institutions and activities considered as men's prerogatives. In practice, the "public" sphere links, ranks, organizes and subsumes particular mother-child activities. Women and the domestic sphere are then subsumed by, and considered less important

than men and the "public" sphere. She argues that both categorical separation of the two spheres and their related relationships are open to question.

Olenja (1991) contends that patriarchy and ethnocentric attitudes affect labour availability and use for farm work. She observes that among the Abasamia of western Kenya men abstain from weeding, spraying and picking of cotton, leaving it to women and children. Women have to work on both cotton and food crop fields which cause constraints to them. This leads to reduction in cultivation of traditional cereal crops, like millet and sorghum, which are also labour intensive. As an adaptive mechanism to labour constraint, farmers resort to growing cassava, which is not labour intensive. This study therefore set out to examine whether, in Laikipia, men did or did not assist in planting, weeding and harvesting of what they considered as food and cash crops or they only make decisions on how these operations should be done?

Lele (1975) noted that patriarchy affected agricultural production among the cotton farmers of Sukumaland in Tanzania. Cotton farmers experienced heavy demand of labour for weeding, and harvesting, but still some male farmers abstained from these field operations arguing that those were women's duties. Consequently, women were faced with a "double duty crisis" in that they had to spend more time on weeding and harvesting cotton at the expense of food crops. Returns from cotton sales were controlled by men who had contributed less labour. Thus, is it true that in Laikipia female labour dominates in both cash and food crop management while men control the returns?

Suda (1986) observed that sexual division of labour

affected agricultural performance in western Kenya, although this area was high potential in agriculture. She noted that participation in farm work was asymmetrical, with men working less as compared to women. Based on their own perception and the prevailing reality, wives attributed labour shortages to factors such as male out-migration, schooling of children, widowhood, over-indulgence of men in drinking, concomitant laziness and negligence, and patriarchy (the notion that women are bought with bride wealth to come and work for their spouses and are therefore expected to remain subordinate and subservient to their husbands). The author feels that due to changing lifestyles and values, cultural attitudes upholding labour relations and rewarding system are bound to change. It is common to observe male and female labour roles supplementing each other. Therefore, the extent to which the above attitudes still hold in Laikipia and how they affect the allocation of labour was examined in this study .

Njiro (1990) noted that the introduction of formal education by missionaries altered indigenous labour structure found in Kenya. Emphasis was put on education for boys rather than girls. After school youths migrated to towns in search of wage labour. Thus, whether contribution of school going children is beneficial or not was addressed.

Olenja (1991) adds that, in Kenya, high expectations have been placed on formal education and that this has led to heavier investment in education than agriculture. Whereas households could get a reasonable income from farming, their income was unpredictable and therefore not always dependable as the case with wage labour. Consequently, while a

considerable amount of money is spent on educating children, they later migrate to towns. Labour contribution by school going children becomes occasionally available only during weekends or during vacations. These changes are further exacerbated by the negative attitudes instilled (Awuondo, 1990; Herren, 1991) in school going youths about manual or farm work. Although out-migration by school leavers and husbands reduces the family labour pool, it may be argued that migrants may make up this labour loss through regular financial remittances to households of origin (Suda, 1989; Olenja, 1991). However, this is an ideal that is hardly met by many.

Kongstad and Monsted (1980) argue that traditional theories dealing with the division of labour according to sex have tended to refer to the biological differences (i.e., determinism). This approach has had pitfalls in that it lacks explanation for changes in division of labour over time (i.e., in situations where wives are performing roles in the "public" sphere and vice-versa). These theories, in addition, have no explanatory value for the regional differences such as the heavy carrying of goods done by women among the Agikuyu or the domination of food trade by women in Ghana (Bukha, 1979).

The general assumption ensuing from this literature is that the division of labour based on age and sex as expounded by Lele (1975), Bernstein (1976), Friendman (1980), Suda (1986) and Olenja (1991) has been disintegrating. Disintegration is as a result of schooling, labour mobility and engagement in off-farm income generating pursuits. Traditional allocation of roles and duties may be adopting a

new form and direction worthy investigating. In terms of production and reproduction, the domestic sphere has been accorded less status, value and rewards, as compared to the public sphere where status and rewards are high (Moore, 1988). It therefore calls for the need to investigate the implications of these changing relations in smallholder production.

The pertinent questions, therefore, are: (i) In the area under study how much household labour, both adult and that of children, is available for working in the farms and for what activities? (ii) What contribution do household members, both adults and children, make to farm work? (iii) Is children's participation in formal education a limiting factor in household farm labour supply? (iv) Or, is participation by adults in the out-of-farm income generating activities detrimental to household farm labour supply?

## **2:2 Integration of Household Labour into the Market Economy**

The transformation and ultimately the encapsulation of African household economy from self-sufficient production and consumption units into production for the capitalist world market represents profound alterations on the ownership and control of means of production (Van Zwanenberg, 1975; Leitner, 1976; Carlsen, 1980; Kongstad and Monsted, 1980; Kitching, 1980; Herren, 1991). This situation has made commercialization of land and sale of labour for profit accumulation important practices. The foregoing mode of production was established through a cash crop plantation system in which cheap and unskilled African labour was exploited. In addition capitalist

domination of the rural household labour was effected through the imposition of taxes (Leys, 1975) established during the colonial epoch. Although methods of taxation have changed after independence, the smallholders are disadvantageously entangled in the colonial mode of economic relations.

In Laikipia, for instance, the British colonialists moved the Maasai to restricted areas in 1914. Indigenous economy, social and political structures changed dramatically (Herren, 1991; Wisner, 1977; Carlsen, 1980). The drastic changes in question included a new land tenure system, taxation, inheritance laws, a crop marketing system, and agricultural extension practices.

Other significant changes included the dissolution of communal settlement patterns and grazing rights. Alienated land from the indigenous people was now owned and controlled by European settlers, who later sold it to African land buying companies and the government after independence. The Swynerton Plan of 1954 set ground for a land market by creating individual freehold rights over land instead of previously held communal rights.

As a land market developed during the post independence period, non-Maasai groups from outside Laikipia District moved in to purchase individual land units (Herren, 1991).

Colonial settlement created conditions for men to be forcefully hired to work outside their native reserves on European farms and ranches. This situation withdrew smallholder labour for subsistence production and directed it to production for export. Consequently, most households experienced labour shortages. In addition to being forced to

work on settler farms, many African men were recruited to fight during the two world wars. This measure also greatly affected the supply of household farm labour.

The emergence of labour markets led to social differentiation among the rural indigenous people by creating an elite group tied onto the colonial state and capitalist mode of production (DeWilde, 1969; Malassis, 1975; Van Zwanenberg, 1975; Leitner, 1976; Carlsen, 1980; Orvis, 1985). Most of the elite were early Christians who had obtained western-type of education which gave them skills to serve the colonial regime. They were employed as teachers, cooks and clerks; and they enjoyed remuneration well above their counterparts who supplied unskilled labour. The former were, therefore, able to hire or buy land to add to what they had, and/ or could hire extra labour on their farms. The smallholders in this study are of diverse origins and are stratified and socially differentiated. They could include some with extra incomes who formed an elite group.

Under the foregoing circumstances, the current study was interested in determining whether there was an elite group of the colonial period-type in the area of study. And if there was one, does it replicate the practices of their colonial counterparts? For instance, do they hire farm labour from among the poor migrants, or just from those willing to sell it? If as elites they own tools of production, e.g. tractors, do they hire out these tools and therefore their own services? And since elitism is sometimes associated with practices of individualism, do these rural elites participate in communal or reciprocal labour activities?

The presence of a money economy introduced during the colonial period has accelerated the process of social differentiation which began during the pre-colonial times. The communal institutions of *ngwatio* or *gutukania ruuru* which acted as "safety-net" in times of need could have declined in importance as farm operations became more individualized and as money became the deciding factor for having additional labour.

Kongstad and Monsted (1980) argue that the principal effect of capitalism on the household economy is in the internalization of market relations within the household and an increasing dependency of households on the market economy for its production. They also assert that the rise of male wage labour and largely male controlled cash crops production has increased sexual differentiation of labour. Male-controlled and male-worked cash crops have taken away women's food production land and have also required men to give up some labour time to this cash crop production whose rewards men control, making women's labour unpaid (Leither, 1976).

Bukha (1979) has observed that in Ghana cocoa as a cash crop has replaced yams as a staple food crop. Yam cultivation is done on marginal lands so as to give way to cocoa cultivation on the best lands. Men spend less time on food crop farms and concentrate on cocoa cultivation. When prices of cocoa fall men migrate to urban centres in search of wage labour. Income from cocoa is controlled by men, who re-invest it in planting more cocoa, building homes or paying for children's education. Olenja (1991) found a similar picture in Western Kenya among the Abasamia, where cotton was introduced



as a cash crop. Men took over cotton cultivation, as opposed to traditional crop (millet), whose returns they controlled. Likewise the introduction of tobacco in Tabora, Tanzania, changed the existing labour structure. Men migrated to work on tobacco farms, leaving food crop cultivation to women. Further, women often assist men in tobacco cultivation, in addition to their engaging in food crop production (Boesen and Mohele 1979).

Boesen and Mohele (1979), Bukha (1979) and Olenja (1991) focused on the shift of men from food to cash crop farming, whereas this study investigated the possible alternatives for cattle herders, i.e., what they did when they abandoned animal husbandry. For instance, Herren (1991) argues that the effects of the market economy are not confined to agricultural production; they also affect livestock production. He observes that both within and outside Laikipia District cattle became commercialized. He cites a meat canning factory that was built in Athi River, and the stock routes constructed to facilitate their easy movement from Laikipia. The colonial economic policies, e.g., through the Swynerton Plan of 1954, emphasized destocking, restriction of grazing land and movement of cattle. Before the stipulation of the National Parks Ordinance of 1945, communal grazing land provided unrestricted communal grazing *gutukania ruuru*. This was, however, hard hit by expansion of the National Parks and Game Reserves.

Kitching (1980) observes that due to market integration, livestock production was relegated in favour of agriculture in many parts of the Rift-Valley by the mid 1950's, and its

position as means exchange and a store of wealth in the traditional context declined. Further, the investment of livestock in kinship alliances, credit, ceremonial or social slaughter is being discarded in favour of highly valued monetary returns. However, while Kitching (1980) and Herren(1991) focused their studies exclusively on pastoral communities the question of labour availability and use for animal husbandry among the sedentary agropastoralists needs to be looked into.

The influence of a monetary economy on labour and land use may lead to a decline in dependence on communal and reciprocal labour institutions which in turn could put constrain on household labour supply. On the other hand, the rise in the cost of living which Kenya began experiencing in the past decade, plus family planning campaigns may also have influenced these farmers to have smaller families. If this has happened, is it a reflection of household labour shortage or a continuation of sociocultural values?

### **2.3 Labour Utilization in Off-Farm Activities.**

Participation in off-farm income generating activities constitute a constraint to the supply of farm labour in smallholder agriculture, especially where there is a limited use of hired labour (Cleave, 1974; Bukha, 1979; Carlsen, 1980; Kongstad and Monsted, 1980; Suda, 1986). The above authors reveal that a great deal of time is devoted to off-farm pursuits which are either economic or social in nature. Such activities withdraw the participant's labour contribution from the farm. Cleave (1974) points out that adult members

typically work only twenty to forty hours a week on their land, even during peak months. On an annual basis, they spend only three to four hours a day on agricultural work such as planting, weeding or harvesting. The remaining hours are devoted to off-farm activities.

Off-farm activities include all engagements household members are involved in and may have a direct or no direct relation to their own farms operations. Byerlec and Eicher (1974), Carlsen (1980), and Kongstad and Monstad (1980) have categorized off-farm activities which are performed in order to generate money as follows:

- (i) Trading, e.g., crafts, shopkeeping, bicycle and shoe repair, carpentry and masonry.
- (ii) Marketing and processing of agricultural products, e.g., trading in livestock, cereals and butchery.
- (iii) Services, e.g. teaching, preaching and bus transport.

Another category is of those activities that have no monetary rewards but are essential, e.g. food preparation, washing utensils and firewood collection. However, this categorization varies with different authors.

Suda (1986) points out another dimension, that is, visiting friends, relatives and attending funeral rites which are social activities and carry no monetary rewards. She further elaborates that some of these activities take a long time. For instance, she observes that in some parts of western Kenya, a funeral ceremony may take two weeks to two months, depending on the social status of the deceased and the number of progeny, both of which determine the duration and elaborateness of the rituals observed.

Off-farm enterprises are an essential component for smallholders, not only in Kenya, but in Africa as a whole (Mbithi, 1971; Byerlee and Eicher, 1974; Gerardus, 1984). They are important for directly the employment of rural labour and indirectly they are mechanisms for socioeconomic investment. They also reduce rural-urban migration. Their significance is likely to increase as planners endeavour to decentralize industrial development to counter the rapid rates of urbanization.

Recent studies show that agricultural economists had separated on-farm activities from off-farm activities or even ignored the latter (Gerardus, 1984; Kohler, 1987b). The current on-farm operations would be in many ways quite unthinkable without the existing supplements from off-farm resources. However, because of time overlap and divergence of needs, it might not be easy to separate the two components. One needs to investigate how the two relate, supplement and overlap each other.

Kohler's (1987c) study in Laikipia found that off-farm earnings constituted 50% of the farmers' income, and this was preferred as a strategy against risks of farming in an arid area and as a supplement to low farm yields. He adds that business plots or restaurants at shopping centres were preferred because they were securities against farming risks; they do not necessarily follow the same rainfall cycle as farming.

Khawaja and Agongo (1991) point out that in Northern Nigeria, there is competition of time between farm and off-farm activities. Farmers do not give up off-farm activities in

favour of farming, since participation in off-farm activities guarantees their employment during slack periods and significantly supplements their cash incomes. It is thus worth exploring whether in our area of study off-farm activities offered employment during slack periods or all year round; and whether farmers prefer off-farm enterprises alone, or such enterprises are done in combination with farming.

Malassis (1975) and Carlsen (1980) assert that off-farm activities have played a significant role in the historical development of African capital accumulation, and that some of these activities have been viewed as sources of income and profit. Activities such as teaching, shopkeeping, butchery, tailoring, bicycle and shoe repair, and milling are major operations for capital accumulation. In addition, social differentiation emerges, with traders being a dominant group who can hire extra labour for their business or farm work, and could hire extra pieces of land. Could this scenario be prevailing in Laikipia?

Kongstad and Monsted (1980) and Suda (1986) concur that petty trade in local markets, domestic chores by women, school attendance by children, attendance of public meetings, and participation in a variety of community development projects have altered labour processes. In western Kenya where their studies were done, participation in the above activities is elaborate. Some activities, such as attending to public meetings or community development projects by some adult family members may take the whole day, thereby adversely affecting farm operations.

The foregoing discussion reveals that off-farm

enterprises compete with on-farm operations for household time and labour needed for farm work. However, how significant this is in arid regions is yet to be addressed. Although the relationship between farm and off-farm activities tends to be dialectical, whether this is bound to intensify, given the arid nature and uncertainty of farming, has not been examined.

#### 2.4 Hired labour in smallholder farms

Elliot (1975) has observed that hired labour covers a spectrum of types from the permanently landless people who wholly depend upon income from their labour for subsistence, to the self-employed family farmer who takes casual work on both peak and slack periods as a way of increasing income. However, according to Johnson (1982), hired labour can be categorized as regular, contractual and casual. These categories constitute labourers who work for payment in cash, or in both kind and cash. Regular or permanent labourers are those employed all-year round and may be skilled or semi-skilled. Contract labourers are usually used for short-term operations, e.g., tractor or human labour for land clearing or preparation. Casual labour is often used to cope with short, seasonal peaks of work such as planting, weeding or harvesting.

Hired labour can also be categorized as migrant or resident (Johnson, 1982). Migrant labourers may originate from neighbouring or distant villages and usually take up residence in new villages close to their places of work. All these categories are likely to exist in arid regions where labour is

sought from out-side the household.

In smallholder households of south-eastern Nigeria, Chidebelu (1990) observed that in the past, households relied on work gangs, age-grade groups, in-laws and communal assistance to supplement labour when their own household labour pool was insufficient to perform critical operations. Polygeny, lack of formal schooling for children, and low rural-urban migration helped to keep the household labour force large, and the need for hired labour low. However, most of these factors have been changing with the increased use of money in economic activities, decrease in household size, increase in rural-urban migration, and schooling of children. Hence, smallholders have become dependent upon hired labour in addition to that of their households.

Studies by Rukadema (1977) and Suda (1986) in Kakamega revealed that during peak seasons, when demand for labour is high, households affected by migration and schooling of children experience labour shortages. Such families sought the use of full-or part-time hired labour to supplement household labour for farming and domestic chores. Households draw upon and benefit from communal reciprocal labour arrangements which are primarily based upon kinship ties, friendship, women group membership and church organizations.

In the same work Suda also asserts that when hired labour was sought, usually a small cash payment or any other token was given in appreciation of the services rendered. In Laikipia payment was determined by the labourers' needs, some preferred to be paid in cash, while others accepted or preferred food stuffs equivalent to the daily cash payments.

Farmers prefer hiring individuals or groups of labourers depending on the nature of farm operations (Elliot, 1975). Individuals are easy to pay, and can be paid in kind, e.g., provision of a meal, beer or farm produce. We needed to explore whether these aspects were replicated in our area of study.

DeWilde (1969;1984) and Elliot (1975) concur that hired labourers in rural areas have a weak bargaining position and have no legislative protection. The terms on which labour is hired vary greatly in different regions. At one extreme is the straight cash relationship, and at the other is the kin or village relationships and responsibilities in which payment, whether in cash or in kind, forms a small part of the total transaction. In some cases (Elliot, 1975) permanent farm labourers are given food and shelter, but they rarely get land on which to grow their own food crops.

In most areas of the interlacustrine region, permanent labourers neither get food nor shelter. They are given land on which they squat. On this land they can build their shelters and grow their own food but receive no payments of any kind. Examples are the *Nyarubanja* system of Tanzania's West Lake Victoria, Rwanda, Burundi and Uganda (Mutahaba, 1969).

Norman (1970) found that in parts of northern Nigeria, labourers were occasionally hired during slack periods, especially at the beginning of the dry season, while the farmer relaxed in the compound. This practice conferred prestige on the farmer because only those who had large amounts of money from cotton and groundnuts sales could afford to hire labour while relaxing at home.



Olenja's (1991) study reveals that the majority of people in rural Kenya seek their livelihood within agriculture, with a considerable number as casual labourers. The relatively wealthier households tend to take advantage of cheap labour, while the poor invest their energies away from their farms for relatively little money. This pattern started with the introduction of a market economy during the colonial period whereby Europeans had cheap labour to work not only on their farms, but also in their homes. After independence this arrangement was inherited by relatively "progressive farmers" who appropriate and exploit labour from low income households during peak seasons in field operations.

Some authors under review (e.g., Elliot, 1975; Rukadema, 1977; Johnson, 1982; Chidebelu, 1990) have underscored the importance of hiring labour. This study attempts to establish whether labour hiring is a prioritized need in smallholder operations and why, and the forms and directions it takes. In addition, the study explored an ASAL region to assess the extent to which Johnson's (1982) classification of labourers was in practice. The way labour processes are scheduled among immigrants was evaluated to understand the influence of diverse origins of the labourers on farmer-labourer relations.

The works under review provide an understanding of labour relations mostly in high agricultural potential zones. They have not addressed these issues among smallholders of an ASAL environment where different conditions on the ground may call for different approaches to hired labour requirements, payments, size and other terms of reference. The degree to which their observations hold for migrants also needs to be

examined in detail.

## 2.5 THEORETICAL ORIENTATION

The main issues addressed in this study are labour availability and its usage. These issues are influenced by the prevailing system of production which sometimes involves mutual assistance in the form of communal or reciprocal labour exchange. Thus, the analysis presented here is guided by (1) the modes of production approach and (2) the concept of reciprocity.

### 2.5.1 Modes of Production Approach (MOD)

This approach was developed by Marx to explain the structure and dynamics of any given society (or, in his terms, social formations) and particularly the transition from one social formation to another (Mann, 1983). The approach gained impetus when French structuralists came up as critics to modernization, dependency and world systems perspectives (Sklaire, 1991). Proponents of MOD argue that the reasons for underdevelopment in Third World countries lie mainly within the countries themselves. Elements of underdevelopment are not imposed upon these countries by any particular part of the global capitalist system. At a macro-level, this approach explains how capitalists manage to extract profit from Africa, for example, and how modern sectors within nations-states appropriate surplus values from peasants for their profit.

Sklaire (1991) points out that MOD basically analyses the way people in society produce and exchange their goods and services and the social relations created by such processes.

In our case this approach is therefore concerned with how labour is organized and utilised, and how the means of production, such as land, livestock, labour and capital, are owned and distributed. MOD's assumptions offer some methodological guidance for empirical research at the micro-level which this study adopted:

- \* that various modes of production co-exist within a given social formation and the pre-capitalist forms of production can still exist in capitalist systems (Bernstein, 1978,1979; Friendman, 1980).

- \* that it is simplistic to view the capitalist world economy as a single unified system that encapsulates all other forms of production (Suda, 1992).

- \* that empirical studies at a micro-level need to focus on the various ways in which smallholders are linked to the larger market economy and the differences inherent in the transition from a pre-capitalist to a capitalist mode of production (Leys, 1975; Wisner, 1977; Suda, 1986, 1989).

In Laikipia, large scale ranches were established by the colonial government. Colonialism saw the slow emergence of an African labour force not engaged in agriculture, pastoralism, traditional hunting or other traditional production activities. In Kenya this new labour force, consisting of men, was engaged by the colonial administration as clerks and manual labourers on the ranches and plantations, and in construction work (cf. Kitching, 1980). Part of this labour force was permanently resident on the settler's farm (as squatters) while another part was contracted as labourers on short term basis. Since we are dealing with an area that was

previously under a capitalist mode of production, it is pertinent to establish the impact of that factor on the current form(s) of production in immigrant smallholder households.

Other forms of the capitalistic mode of production include the use of hired tractors in farm operations such as land preparation, harvesting, and shelling of maize. Small holders purchase farm inputs such as seeds, fertilizers, and pesticides. They use land as security to gain access to credit facilities.

Bernstein (1976, 1978, 1979) points out that although the capitalist market is predominant in the world economy, smallholders are partially integrated into it, and their participation in this market economy is limited. Suda (1986) adds that household production involves limited mobility of factors of production and the commodity relations are increasingly becoming part of the household economy. She points out that in Kenya most land is privately owned and controlled. Through individualization of the land ownership, fragmentation of land holdings, and the penetration of commodity relations into the household economy, land has become a commercialized property with few people having access to it.

Friendman (1980) asserts that a closer look at the linkage between small holders and the larger capitalist market economy reveals that commodity relations have not fully developed in the small farm units where subsistence needs are still largely met through the household production.

Therefore, through discussion and observation, the author

intended to discover whether pre-capitalist relations are still found and the form they have taken. We investigated, for instance, who makes decisions and controls resources on small farms; whether production was for subsistence or commercial or both purposes; whether returns from work done is in form of cash, kind or both; and whether external inputs are being used. An attempt was, therefore, made to provide an understanding of the factors that affect the structure of production and whether pre-capitalist orientations have been altered or not.

#### 2.5.2. The Concept of Reciprocity

The concept of reciprocity was made explicit by anthropologists such as Malinowski and Mauss in their discussion of the significance and pervasiveness of gifts and services exchange in non-industrial societies. Malinowski (1922), documented the *Kula* Ring among the Trobriand Islanders, while Mauss (1925) made analysis of the gift-exchange system in Malenesian societies.

Reciprocity, according to Ember and Ember (1990), consists of giving and taking of goods or services without the use of money. This is indiscordant with what we see today, for the concept can be extended to cover the exchange of goods or services with money or money itself can be considered as a form of goods. Reciprocity, according to Mauss (1925), takes three forms, namely, generalized, balanced and negative.

However, Sahlins (1972) notes that reciprocity is a whole class of exchanges which takes a continuum of forms. At one

end of the spectrum stands the assistance freely given, while at the other end is the self-interested sizer of the services. The two extremes are notably viewed as positive and negative in a moral sense. The interval between the continuum above is the intervals of sociability. The distance between the poles of reciprocity is, among other things, social distance.

The above cited works suggest that whether reciprocity is balanced, generalized or negative depends largely on the social distance (including kinship), between the persons. General reciprocity may be mandatory for family members or close kinsmen. Balanced reciprocity is practised among equals although not closely related individuals (e.g., age groups). Negative reciprocity may be practised among strangers. Therefore, in the course of this study identification of kin ties among household members, hired labourers, communal work groups will help us understand insights into the division of labour, its use and the social distances established. We shall also be able to relate the nature of payment forms given to working groups with any of the three forms of reciprocity.

Reciprocity was, and still is, important in agricultural and pastoral communities. It is mainly employed as a strategy in averting labour shortages. Prior to colonialism, the Agikuyu, whom this study examines relied on reciprocal labour groups (*ngwatio* and *gutukania ruuru*) to alleviate their labour needs for farm and non-farm work. Kin members as a group maintained constant labour obligations. Besides labour, members of these groups assumed an intimate attitude towards each other. The extent to which this was still the case and the forms it takes was worth investigating.

Generalized or "indefinite" reciprocity is where gifts, goods or services are given without any immediate or planned return (Ember and Ember, 1990). It is like the indirect interdependence in nature without expecting equal or immediate return. Ember and Ember (1990) gave the example of *Kula* among Trobriand Islanders where trading parties were transacting their business without expecting immediate return. Another example of generalized reciprocity is found in studies by Uchendu and Anthony (1976). While they were studying agricultural change in Geita district of Tanzania, they observed that one of the sources of labour for the studied population was an institution called "buyobe"- a reciprocal work group which exchanged labour for special hospitality or assistance, e.g., when a member of the group was sick, or bereaved. Payment for services rendered was in kind (porridge, a meal, or beer).

Barnes (1984) observed the principles of generalized reciprocity among the Abagusii of Kenya through groups called *risiga*. They were important for farm operations (e.g., planting, weeding and harvesting). Membership was based on kinship and each member had equal right to request other members to assist with work at a later date. Labour is rewarded with a beer party after a day's work. She further notes that by 1949, the monetary value of labour was being felt on *risiga*. As casual and permanent paid labourers emerged, gradually *risiga* is being replaced.

In the middle of the continuum, is balanced reciprocity, whereby actors in this category assisted or rendered service for each other in return. The binding principle is the moral

and social obligation of rendering services to those who assisted one at a later date. Notable example is the working group called *Kuu* among the Kpelle people of West Africa (Ember and Ember, 1990). These groups consist of six to forty members who are generally friends or relatives and rewards members for farm work done in kind.

Besides, Uchendu and Anthony (1975) observed the existence of *Alea* working groups among the Iteso of Uganda. *Alea* group members were engaging in reciprocal work parties for land preparation, planting and weeding, with payment gradually assuming a monetary value. In addition, Uchendu and Anthony (1976) reveals that in Geita District of Tanzania, labour was being organized among ten household cells or "*Kumi Kumi*" and worked for members on a rotational basis.

At the end of the continuum, is negative reciprocity. This is an attempt by an individual or a group to take advantage of others, by getting something done for them for "nothing" or something less than it is worth. East (1965) observes that the dominant pastoral Fulani of West Africa expected Tiv people to work for them for "nothing" since the former group was dominant. Hence, the latter rendered their labour service for "nothing" or at a lower cost. Similarly, Uchendu and Anthony (1976) found that farmers in Geita obtained labour at a lower cost from *Isalenge* and *Ilika* group. The former group consist of hiring a party of strangers for a specific task with cash payment being preferred. Conversely, *Ilika* is an organised social group that often hires out its members at an agreed rate for a specific farm task. The obligation for rotational assistance is not strictly adhered



to. Other farm services are rendered by immigrants from neighbouring Rwanda and Burundi. Payment is either in cash or kind. Availability of labour is maintained by workers (immigrants) returning annually to their previous employers.

According to Awuondo's (1990) study of the pastoralist Turkana, the concept of reciprocity assumes that people always behave rationally to maximize gains. It emphasizes the fact that people behave according to anticipated rewards and where faced with competing choices, they will chose the options which carry higher rewards. The rewards could be material, social or psychological, i.e., acceptance, prestige or esteem.

Although the assumption and forms of reciprocity may be applied to the above communities, the form it takes is used as a guide to explain the relevance of reciprocal labour relations in our study population. Therefore, this study sought to understand the extent to which the continuum of reciprocity was existent, for what reasons it exists and the forms it takes. By relating the concept of reciprocity among immigrants of Laikipia, the study sought to establish whether reciprocal labour relations are based on kinship or otherwise, and how such relations alleviate labour constraints.

## 2.6. HYPOTHESES

In view of the objectives stated, literature reviewed and theoretical orientations, this study has three basic assumptions regarding what affects food production in smallholder household farms in Laikipia district, i.e., (i) changes in the division of labour in households (ii) ~~Commercialization~~ commoditization of labour, and (iii) utilization of income

from off-farm activities. Consequently the following hypotheses were suggested to test the basic assumption above:

(i) Changes in the composition and patterns of smallholder household labour supply have resulted in inadequate smallholder crop and livestock production in Laikipia district.

(ii) Commoditization of smallholder labour has adversely affected agricultural production in Laikipia district.

(iii) Utilization of smallholder labour in off-farm activities among immigrant farmers is supplementary to food production in Laikipia district.

#### **2.6.1. Operationalization of some Variables Used in this Study**

##### **Independent Variables.**

(a) Out-migration:- refers to whether any household member has moved away from the farm. To measure this informants were asked to indicate;

- who had moved;
- why they had moved;
- where they had moved to;
- whether their movement was temporary or permanent;
- when out-migrants assisted in farm work.

(b) Schooling-refers to whether household members (especially children) are participating in the formal learning process. Indicators were measured by asking;-

- Whether children were schooling within Laikipia;
- whether children were schooling away from Laikipia;

- whether children were involved in farm work;
- when they assisted in farm work.

(c) Commercialisation of labour :- refers to instances where human labour is rendered for monetary gain.

(d) Off-farm pursuits :- refers to whether any member of the household engaged in activities other than farming for social or economic benefit. It was measured by informants pinpointing out any of the following: -

- activities on the plot, e.g., petty trade, selling of paraffin, cigarettes, making charcoal, tailoring;
- whether some household members operated from the farm, while engaging in formal employment, e.g., teaching;
- Whether some members were engaged in formal employment away from their farms e.g., salaried employment as civil servants, drivers, mechanics;
- whether some members are involved in informal activities away from their farms, e.g., business;
- when members engaged in the above activities worked on the farm;
- whether household members visited friends, relatives, and whether this affected work on their farm;
- whether they participated in festivities and ritual as social obligations;
- whether the latter activities kept them away from farm work.

(e) Farm size:- was operationalized in terms of actual number of hectares owned by a household. This was categorized as follows:-

- small < 2.025 ha;

- medium 2.42-3.64 ha;

- large above 4.05 ha;

(f) Traditional labour institutions:- refers to labour relations based on mutual assistance embedded in *ngwatio* and *guukania ruuru* spirit among the Agikuyu.

(g) Remittances:- refers to the sending of goods or services by out-migrants to those left on plot. This was measured by asking:

- whether out-migrants send some goods (especially money) back to their homes of origin;

- whether this process was regular or irregular

- how the money sent was utilized.

#### Some Dependent Variables

(a) Household labour:- refers to working contribution by household members, i.e., husband, wife (wives) children, or any other dependants on the plot. This was measured by asking:

- what each member does on the plot to supplement it;

- whether their work contribution is sufficient and, if not, what informants do;

- whether members' roles are as rigidly defined, or were changing.

(b) Labour:- refers to time invested in on-farm and off-farm activities. It was divided into two:

(i) Internal (household or family) labour:-which referred to what family members did on the plot ;

(ii) External (non-household) labour:- which refers to contributions from persons other than none members of a household, who are either hired or out of volition work on

part-time or fulltime basis on their employers farm. This was measured by asking:

- whether household labour was sufficient or not ;
- if not sufficient, whether households hire outside labour or not;
- if they did, for what activities and on what payment terms.

(c) Livestock raising:- refers to keeping of cattle, sheep, goats, donkeys and poultry. It was measured by asking informants whether they keep them or not.

(d) Reciprocal labour relation:-refers to whether farmers working on each others farms did so through a systematic rotational pattern. This was measured by asking:

- whether informants worked on each other's farm in turns;
- whether such a system was between individuals or groups;
- whether this was communally done by the parties involved as casuals, contractual or permanent labourers;
- for what activities was it more helpful;
- whether payment was in cash, kind or both;
- whether it was between close kins or not;
- whether these processes are prevalent or disintegrating, and why?

## CHAPTER 3

### METHODOLOGY

#### 3.0 Introduction: ASAL Conditions

The ASAL areas in Kenya, have ecological conditions that may be characterised generally as hot and dry, with an evapotranspiration rate (ET) which is more than twice the available rainfall. The typical picture is that rainfall is between 250 and 1000mm and an ET of 1500-2500mm per year.

Other defining characteristics of the ASAL conditions include: highly variable and poorly distributed rainfall; poor, shallow and erodable soils; scarcity of basic resources; a fragile ecosystem that is susceptible to degradation, and lack of suitable infrastructure for development. Population in ASAL areas subsists under the daunting, unpredictable and calamitous conditions of poverty, famine and mortality. Loss of livestock and drought are frequent occurrences (Pratt and Gwynne, 1977; Republic of Kenya, 1991). Laikipia district is among the 22 ASAL districts in Kenya. A unique occurrence in Laikipia is that the district experiences extreme cold and hot temperatures, unlike the other districts.

#### 3.1 Geographical Background

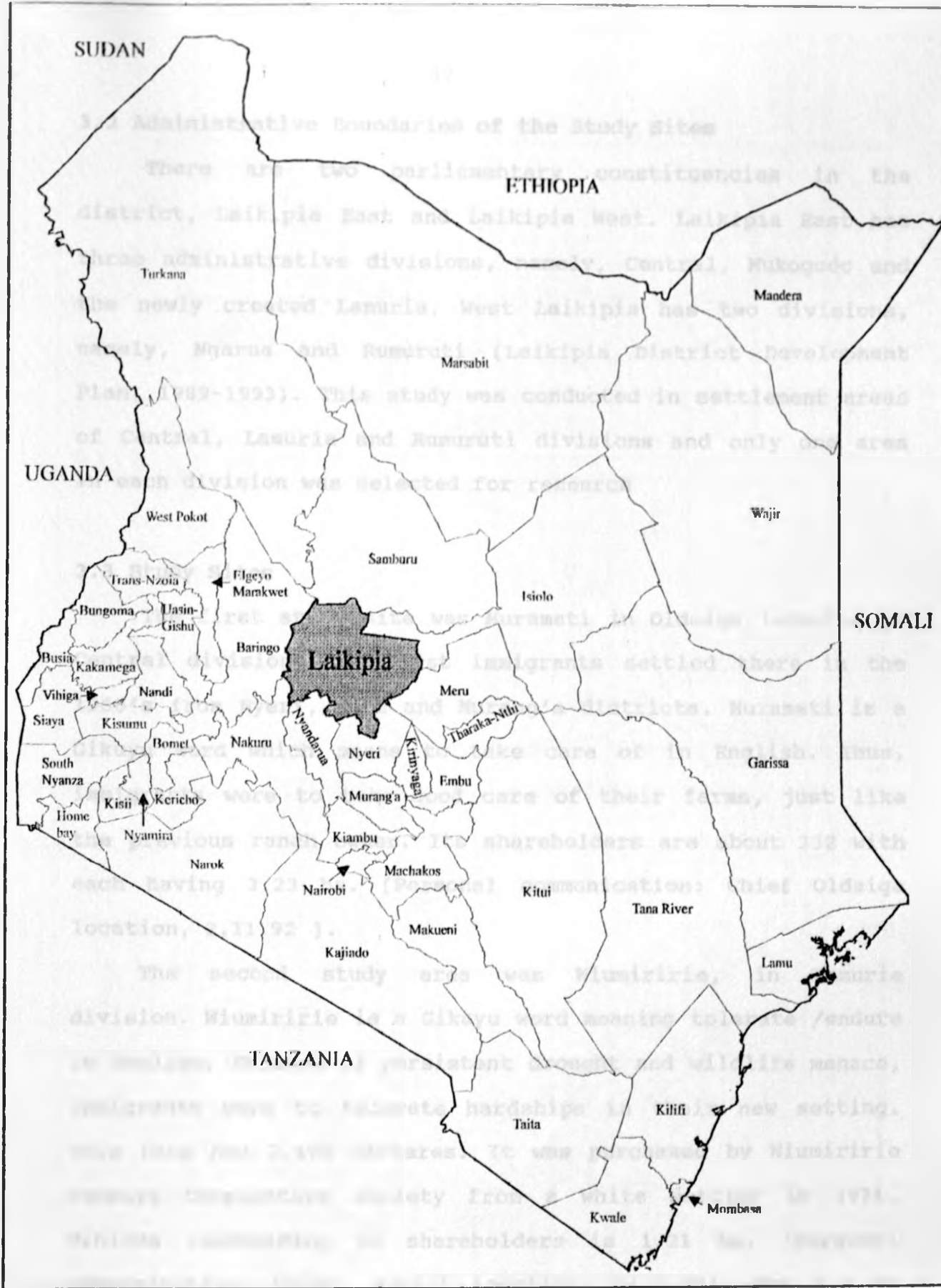
Laikipia district is one of the thirteen districts in the Rift Valley Province of the Republic of Kenya. It lies between latitudes  $36^{\circ}10'$  and  $37^{\circ}3'E$  and longitudes  $0^{\circ}17'$  and  $0^{\circ}45'N$ , and is bordered in the north by Samburu district, in the east by Isiolo and Meru districts, in the south by Nyeri and

Nyandarua districts, and in the west by Baringo and Nakuru districts (see map 3.1, page 46). It covers an area of 9727km<sup>2</sup>, and is generally characterized by an elevated plateau dissected by rolling hills and valleys. The plateau rises from between 1850 metres above sea-level in the north to 2100 metres above sea-level in the south. Along the eastern edge of the district, Mount Kenya rises slightly over 5000m a.s.l., with its foot slopes stretching into the District. The Nyandarua mountains are prominent along the south-west side, with an altitude of approximately 4000m a.s.l. These two mountain ranges have a dramatic influence on the district's climate which is dry and cold.

Both mountain ranges are the main water sources, and guarantee a continuous flow of water. The drainage of almost the entire district is dominated by the Ewaso Ng'iro river and its tributaries which spring from the Nyandarua mountains and Mt. Kenya. The river flows from south to north into Samburu district, where it is the sole substantial water source.

Most soils in Laikipia district are volcanic and are relatively fertile. Besides the vertisols, of which the agricultural potential is limited by a low workability, the other soil types found in the district are fit for agricultural, as well as livestock activities.

Map 3.1: Location of Laikipia District in Kenya



**Map 3.1: Location of Laikipia District in Kenya**



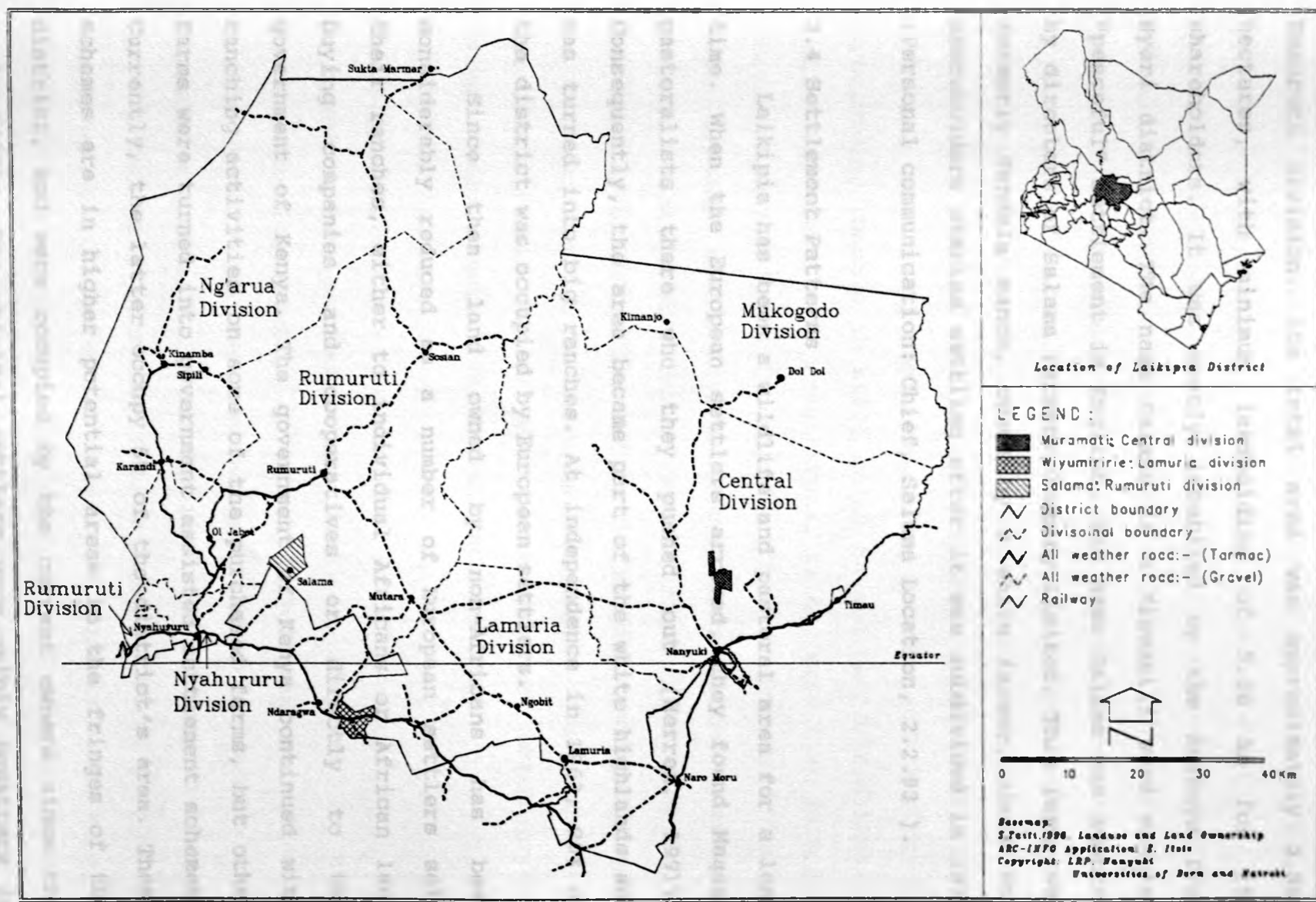
### 3.2 Administrative Boundaries of the Study Sites

There are two parliamentary constituencies in the district, Laikipia East and Laikipia West. Laikipia East has three administrative divisions, namely, Central, Mukogodo and the newly created Lamuria. West Laikipia has two divisions, namely, Ngarua and Rumuruti (Laikipia District Development Plan, 1989-1993). This study was conducted in settlement areas of Central, Lamuria and Rumuruti divisions and only one area in each division was selected for research

### 3.3 Study Sites

The first study site was Muramati in Oldaiga location of Central division. Its first immigrants settled there in the 1960's from Nyeri, Embu and Murang'a districts. Muramati is a Gikuyu word which means to take care of in English. Thus, immigrants were to take good care of their farms, just like the previous ranch owner. Its shareholders are about 332 with each having 3.23 ha. (Personal communication: Chief Oldaiga location, 2.11.92 ).

The second study area was Wiumiririe, in Lamuria division. Wiumiririe is a Gikuyu word meaning tolerate /endure in English. Because of persistent drought and wildlife menace, immigrants were to tolerate hardships in their new setting. This farm had 2,400 hectares. It was purchased by Wiumiririe Farmers Cooperative Society from a white settler in 1971. Minimum landholding to shareholders is 1.21 ha. (Personal communication: Chief, Ngobit Location, 14.3.93). Map 3.2 on page 48 shows the studied areas.



Map 3.2: Location of Research Sites in Laikipia District

The last study area was Salama settlement in Salama location, Rumuruti division. Its total area was approximately 2,800 hectares, with minimum landholding of 5.26 ha for its shareholders. It was mostly inhabited by the Agikuyu from Nyeri district. The name Salama is a Kiswahili word meaning "peaceful" settlement in English. The name Salama was adopted by directors of Salama Farmers Company Limited. This farm, was formerly Tandala Ranch, owned by a white farmer. About 800 shareholders started settling after it was subdivided in 1975 (Personal communication: Chief, Salama Location, 2.2.93 ).

### 3.4 Settlement Patterns

Laikipia has been a wildlife and pastoral area for a long time. When the European settlers arrived, they found Maasai pastoralists there who they pushed out (Herren, 1991). Consequently, the area became part of the white highlands and was turned into big ranches. At independence in 1963, 90% of the district was occupied by European settlers.

Since then land owned by non-Africans has been considerably reduced as a number of European settlers sold their ranches, either to individual Africans or African land buying companies and cooperatives or directly to the government of Kenya. The government of Kenya continued with ranching activities on some of the purchased farms, but other farms were turned into government assisted settlement schemes. Currently, the latter occupy 5% of the district's area. These schemes are in higher potential areas in the fringes of the district, and were occupied by the current owners since the early 1970's. The original settlers were mainly squatters in

the European ranches and political detainees during Kenya's struggle for independence. Farm size ranges from 2.0-8.1 ha, and major crops are maize, beans, pyrethrum and wheat.

More recently, commercial land buying companies and cooperative societies started selling shares to smallholders from outside the district. In these circumstances farm size depends on the number of registered shareholders or the number of shares a farmer has at the time of land subdivision. Since these schemes were situated in the low potential areas, not all are fully occupied. The process of buying and subdividing ranches is still going on and new allocations are being made even in the drier areas. At the same time farm size is becoming smaller and smaller as land buying companies and some already settled farmers continue selling more land parcels. Recent subdivisions created farms of less than 0.4 ha. most of which are located in the marginal, semi-arid areas of the district. It is known by many buyers that these farms are not suitable for subsistence farming and cannot produce enough food to sustain the basic family needs.

### 3.5 Population

The total population in Laikipia District is about 256,000 people (Republic of Kenya, 1989c), and has an annual growth rate of 8%, compared to 1969 and 1979 censuses which recorded a population of 65,506 and 134,524 respectively. The high growth rate is mainly due to immigration of people from neighbouring high potential areas. The Agikuyu comprise 64.3% of the total population, followed by the original pastoral population, the Mukogodo Maasai, who make up about 10% and

mainly live in the north. The remaining percentage is made up of people from other ethnic groups.

### 3.6 Farming Systems in Laikipia District

#### 3.6.1 Small Rainfed Mixed Farming

Rainfed mixed farming is practised in former ranch lands which have been subdivided into small farms. So far 46 ranches have been subdivided and settled by migrant smallholders. In this system the husbandry techniques used are imported by immigrants from their areas of origin. While such techniques were suitable in high potential areas, they do not seem to fit the semi-arid ecological conditions of Laikipia district. Therefore, the scope for agricultural improvement by building on local traditional farm practices is limited, and farmers and agricultural experts will have to develop or introduce techniques suitable for the unique climatic conditions of the Laikipia plateau.

The immigrants brought an intensive mixed farming system to Laikipia whose use is confined to single plots of 0.4-2.0 hectares. The cropping pattern is dominated by a subsistence maize/beans intercrop, which accounts for roughly 0.8 ha of an average farm of 1.2 - 1.6 ha. About 0.2 ha. is planted with potatoes, while the rest of the farm is used for grazing. A small portion of the farm may be devoted to various crops like wheat, pyrethrum, peas and vegetables, mainly grown for consumption and sometimes sale. Although the cropping pattern is based on 2-3 crops, this is an extremely narrow base for self-sufficiency, given the risky environment.

External inputs are hardly used in the rainfed farming system. However, the use of fertilizers and pesticide is increasing in the areas where irrigation is being practised. Most farmers use local resources to improve soil fertility, e.g., composite manure and maize stover as mulch to reduce moisture loss. However, the adoption by farmers of these techniques is still low, because stover is also used as cattle-feed and fuel.

The livestock kept consists mainly of cattle 48%, sheep and goats 34%. In addition, (8%) donkeys are kept as draught animals by a few farmers. Livestock is grazed on unsettled plots but which are already being overgrazed. The current grazing areas are likely to decrease when more immigrants move into their plots. Production of fodder, e.g., napier grass, is difficult because of the cold and dry weather conditions prevailing in the area. Veterinary, extension and dipping services are poorly developed, while water is scarce.

### 3.6.2 Small-scale Irrigated Mixed Farming

In the eastern parts of the district, irrigated mixed farming takes place in subdivided former large scale irrigated farms, for instance, in Nyakinyua Farm, Raya/Kiamariga Farm, Marura Farm, Pesi Farm (Personal communication: Martin Kamau, Researcher LRP, 4.3.93). The state of irrigation, however, is poor and water use efficiency is low. Farm size and cropping patterns are similar to those of the rainfed farming system. Because of permanent water availability, crops are grown throughout the year.

### **3.6.3 Nomadic Pastoralism**

This is practised by the residents of Mukogodo Division. Livestock consists of cattle, sheep and goats. The number of cattle per unit is small, 2-10 heads, while small stock herds are relatively larger, i.e., 30-100 head. Lack of water and the prevalent theft of livestock are common constraints which make pastoralists prefer small herd sizes.

### **3.6.4 Commercial Ranching**

This consists of beef cattle ranching, some dairy ranching, game as well as sheep and goats ranching. There are about 76 well managed ranches in Laikipia district. Livestock and its products are mainly for the export market. Generally they do not use government extension staff and veterinary services for advice because they have their own.

## **3.7. SAMPLING PROCEDURES**

Both probability and non-probability sampling techniques were utilized. The universe consisted of all households in Muramati, Wiumiririe and Salama, irrespective of whether they were headed by males or females.

Before proceeding to the field, the author used the multistage cluster sampling technique to cluster the district into divisions, locations, sublocations and specific

settlement areas. Purposively, the author chose one settlement area from each sublocation as the study site. The areas chosen were those considered not to have been researched in detail by LRP. The LRP, which partly financed this study, was interested in obtaining baseline data from those parts of the district which they had not researched for use in their own project. So this study addressed that component.

### 3.7.1. Sampling Frame

From LRP offices the author was able to obtain records of names and plot numbers of households (i.e., sampling units) for each study area. A complete list of households was obtained from an overview survey data, done in 1989-90 and data bank for maps of each area. Out of 293 plots in Muramati, 118 (40.3%) were permanently settled and 175 (i.e., 59.7%) were yet to be settled. Wiumiririe had 778 plots, while Salama had 389.

### 3.7.2. Sample Selection

Using the rotary technique (Blalock, 1981:553) numbers of permanently settled plots and their households were recorded, and altogether there were 118 households in Muramati. Then the plot numbers which were synonymous with households were shuffled in a hat to determine randomly households to be visited for administering the questionnaires and where to commence the study. This process ensured that each and every plot/household had equal and independent chance (probability)



of being selected in the sample, and was a mechanism of minimizing errors from possible biases. From the 118 Muramati households, only 30 were randomly sampled for questionnaire administration.

Before sampling households in Wiumiririe and Salama areas, an overview data was obtained, although data on settled and unsettled plots was missing. Therefore, by use of baseline maps, the transactional technique was used to stratify these areas. Roads which cut horizontally through these areas were used to divide the plots into sections. One section was on the right hand, and the other on the left hand side. First, plot numbers of households on the right hand side were recorded, shuffled and randomly picked to obtain the selected plots and households where research was to be conducted. The same exercise was repeated for the other side of the road. In all out of 778 households in Wiumiririe, 65 were picked for questionnaire administration. Following the procedures undertaken in Wiumiririe, 40 households were chosen out of 389 plots and households in Salama. From all the three areas a sample of 135 households was obtained out of 1,285 households.

The above sample size chosen was considered large enough to reflect typical characteristics of smallholders in the three areas where the research was conducted to warrant the author to make generalizations of what one obtains on the ground.

Plot numbers were sampled with replacement so as to avoid omitting selected plots. In cases where initially selected informants on selected plots were absent, the author moved on to the next plot on the list and administered the

questionnaire, but revisited the targeted plot later. If during the second visit the initially selected informant was available, he was interviewed and the information from the substitute was not utilized. If he was not available for the second time, the substitute information was retained and the first choice dropped. Where the householdhead was not traced due to various reasons, the next responsible person in the household was interviewed.

### 3.7.3. Sample Representativeness

Laikipia District is stratified in that we have large-scale ranches and smallholders co-existing. However, in order to keep the sample homogeneous, our study sample was confined to the latter category. These farmers were immigrant smallholders dependent on family labour resources. They resided in areas that had similar ecological conditions. Prewitt's (1975:42) views were taken into account in selecting the sampling units, that is:

The size of the sample is determined by the costs of the study, the homogeneity of the population, with the number of traits to be drawn (simple random multistage, stratified), and with the size of sample error, the investigator is willing to tolerate.

### 3.8. DATA COLLECTION PROCEDURES

The LRP provided the author with an interpreter since he does not speak Gikuyu. Together with the interpreter and my supervisor, we pre-tested the questionnaire for two weeks in November 1992. This enabled us to gauge the suitability of the questionnaire and make adjustments where it was necessary to do so. Extensive field work was conducted from December 1992 to March 1993. Time taken in the field enabled the author to build an emic perspective from informants which is a prerequisite in anthropological research (Crane and Angrosino, 1984; Bernard, 1988:151). The following research tool (questionnaire) and techniques (interviews and discussion, case studies, direct observation, secondary data) were employed:

#### 3.8.1. Questionnaire Administration

This research tool employed a standardized questionnaire with both closed and open-ended questions. Informants were allowed to respond freely in open-ended questions. In closed ended questions the informants were confined to give specific alternative answers, e.g./yes/no, for some questions. This enabled the author to generate specific information on some of the issues probed. Prewitt (1975) points out that a structured questionnaire is important since it standardizes the stimulus presented to respondents

### 3.8.2. Interviews and Discussions

Besides interviewing the smallholder farmers, data collected was enriched by discussions and informal interviews with extension officers, local leaders, chiefs and church leaders. The discussions provided additional information on the characteristics of the prevailing modes of production. Through this method, some of the production aspects which were either vaguely perceived or unnoticed by informants were captured. Among the issues noted through such discussions and which were also raised in case studies were, for instance:

- (i) How money economy has effected labour relations with most inhabitants preferring cash payment in lieu of the services rendered; value attached to land;
- (ii) Why some labour relations exist without monetary reward ; value attached to crops grown and livestock kept.
- (iii) What limits production in the studied areas
- (iv) What causes labour shortages on the farms
- (v) Labour availability and its characteristics

### 3.8.3. Case Studies

Case studies in this study involved the compilation of life histories of specific individual farmer's households and hired labourers. They were part of the initial sample selected. Selection of who to include in the case studies was based on the author's discretion and the willingness of the informant to participate in detailing stories of their lives. They were also chosen from those informants who had been

articulate in their responses during questionnaire administration and/or had unique household labour characteristics and arrangements. Case studies reflected demographic background, socio-economic status, nature and magnitude of the available labour. These were intended to provide additional data that would highlight unique observations, e.g., historical trends of labour use patterns, methods of acquiring present land and off-farm economic enterprises undertaken, if any. Therefore, indepth case studying of the relevant individuals through systematic but more relaxed interviews was used to get full descriptions of each individual selected. This reflected transformations that had taken place due to change in access to, and availability of labour at household level and/or as a result of interaction with others in the settlement.

Qualitative data from live histories facilitated indepth understanding of information from the structured questionnaire. Besides, live histories highlighted features of modes of production and models expounded in the literature review.

#### 3.8.4. Direct Observation

Mettrick (1993:172) suggests that observing operations in the field gives the researcher an opportunity to discuss with the farmers what, why and how things are done, besides checking what you are told against what you see. He adds that what farmers say and what they do may not necessarily coincide; they may sometimes report about the standard

practice in the neighbourhood, rather than what they themselves do.

In our case, direct observation was conducted simultaneously along with interviews and case studies, during field visits. Observations involved ascertaining of the physical presence of certain items within the household, e.g., in animal and crop husbandry activities. The author looked for cattle sheds, crops grown, tools used and identification of hired labour.

Direct observation was also done while driving or walking to and from the field trips to see, for instance, who was herding or cultivating on the farms. The author noticed, for example, changes, in gender roles: Women were milking and herding livestock or cultivating their fields with children by their sides.

When the author assisted in activities such as harvesting of maize, it was possible to observe some women cultivating in their fields being assisted by their children and yet they said they worked alone on their farms. Other notable observations were: (1) An informant was drying his tobacco in preparation for sale, but during the questionnaire administration he did not mention this crop that earned him cash. He thought it was unimportant and unworthy talking about; (2) The author noticed that a farmer had pigs on her farm, although she had earlier indicated that she had no livestock; (3) An informant who had rabbit pens and yet he did not mention rabbits as part of his livestock. Further inquiry revealed that according to the Agikuyu culture, rabbits are seen as pets for children and therefore adult members in the

community do not regard them as important.

### 3.8.5. Secondary Data

Crane and Angrosino (1984) and Bernard (1988) suggest that documentary information is indispensable in anthropological research, especially in its formulatory stages. Library research provided background information to the subject matter of this study and the study sites. The literature reviewed provided the author with information on how much has been done on the subject matter and in the area selected for the study.

### 3.9.6. Field Problems Encountered.

This study had a number of problems during the period of data collection. One of the main problems was that of communication. The author does not speak <sup>Kikuyu</sup> Gikuyu and the use of an interpreter made him feel that he was not penetrating deeply enough into the issues he was researching on. It took some time to gain interpreter-researcher confidence. However, formal and informal interviews with informants who were conversant with Kiswahili or English lightened up the situation.

Another problem was suspicion from informants about our intentions. At the time of data collection ethnic clashes were widespread in the Rift Valley. Some people thought we were working for the government to find out who were to be removed from Laikipia. For instance, in Salama location, inhabitants

of Lorien Farm (Agikuyu and Kalenjin) were fighting.

There was also at this time a rumour that there were some people identified as devil-worshippers who either went about killing or kidnapping children. We were thus suspected to be agents of these people when we visited Wiumiririe. It was feared that we were out to establish numbers of children in households as a preparation for killing or vanishing with them. For instance one informant argued:

...I do not know you people. It is rumoured that we have a devil worshipping cult, which asks people questions the way you are doing. Once they know you are poor, they give you a lot of money, and you give them your child for demonic intentions. I do not want to tell you my plot number or anything about my children...

In addition some respondents suspected us to be from the Lands Department and that we wanted to establish the amount of land they were holding so as to reduce the size of large farms to pave way for feeder roads. One of the farmers said:

...you people from Lands Department came here in 1986 and after interviewing us about land sizes you came back and reduced the sizes to create roads. I am a poor man and you will take my land. I can not buy another piece. I shall not talk to you regardless of where you have come from...

However, after explaining clearly who we were and what we wanted to do we were accepted and accorded opportunities to do our research. We in fact realized that this behaviour resulted from the fact that we had started work before we were properly introduced to the villagers.

Another problem was related to the political situation in the country at the time. This was at a time when Kenya was



about to have multi-party general elections. Therefore, some informants suspected that we were on a campaign mission for the government. Occasionally, we missed household heads identified for the study because they had gone for political rallies. This interfered with our schedule for daily interviews.

Another problem encountered was that while interviewing identified informants their friends would come into the homes, and sometimes wanted to contribute to the on-going questionnaire administration, by assisting in answering some questions. This would amount to distortion of data being collected. In some cases visitors would get carried away and take over as informants overshadowing the real informant. We decided to interview such individuals separately. Their information was treated as important for qualitative analysis but not analysed as part of our pre-determined sample.

It was rainy in Salama and Wiumiririe and roads were bad when we conducted this study. The author had to postpone work in the two areas till the time it was possible to reach informants. Under such circumstances the author held discussions with extension staff on their observation about labour usage in their respective areas.

### 3.9 Data Processing

After data collection, various procedures were followed to edit ("clean") the raw data for analysis. Initially, the author scanned through it to ensure that all the 135 questions had been filled appropriately. A common legend (or code book)

for all the three study areas was generated through coding the responses. These were then converted into quantifiable form in order to make analytical sense of them. A numerical score was assigned to each response. For instance, nominal data derived from closed ended questions were assigned the following; 0= standing for not applicable; 1= for no; and 2 for yes responses. Similarly, open ended questions were coded after the author outlined patterns in narrative responses, invented categories for them and assigned them numerical codes. The code book will remain a useful point of reference for future research work done by the author and LRP management. Besides, a data sheet was printed out on the basis of the code book. This facilitated easy data entry in the computer for analysis. It was a reduction of the legend in that the data sheet was kept precise and concise. Information on the data sheet was assigned a numerical value, and entered in the computer for generating frequency distribution. A print-out showing frequencies and percentage distribution was derived from this process. Through the frequency distributions, the author got a "feel" of responses collected which formed the basis for data analysis or interpretation.

## CHAPTER 4

### SMALLHOLDER HOUSEHOLD LABOUR : ITS AVAILABILITY AND USE

#### 4.0 Introduction

This chapter describes, interprets and analyzes the data on smallholder household labour to determine its relationship to food production in the area under study. When the research problem for this study was conceived, it was assumed that some changes had occurred in the composition, pattern and use of household labour. It was, therefore, to confirm or refute this assumption. By so doing, we are in a position to also observe types of changes that have occurred, the factors that facilitated those changes and the effect(s) on crop and livestock production.

Consequent to these assumptions and more concretely, we posited the hypothesis that :

**Changes in the composition and pattern of smallholder household labour supply have resulted in inadequate crop and livestock production in Laikipia district.**

To generate data for this hypothesis, we solicited from informants information regarding the number, age, and sex of persons available in each household for crop and animal husbandry chores, the type of chores needed to be done and who did what among those identified. We also obtained information about the sizes of land held by each household and how much land in each case was effectively under cultivation or for animal grazing.

Our general observation from the findings is that crop and animal production activities in the settlements under study are complex to disentangle. A number of factors come into play and contribute directly or otherwise to the process of food production among smallholders. Whereas it is true that the composition and pattern of household labour has changed it cannot be categorically stated that it is the only factor accounting for inadequacies in food production in the settlements studied or in the district.

Although the total land put under crop by households was relatively small in respect to overall holdings, labour shortage was not the only cause for this; there was also the question of fear of wildlife damage, land suitability, rainfall or water availability and the use of inappropriate farm methods. We shall discuss below some of these factors in detail.

#### 4.1.. Labour Availability and Usage in Crop Husbandry

In the precolonial past, the Agikuyu had a clear division of labour in agricultural activities based on sex and age. The responsibilities for opening up new cropland rested on adult males, i.e., a father and his unmarried son(s). Breaking up the ground and initial preparations of land ready for planting was carried out jointly by all adults in a household, female and male. Planting and weeding was also done jointly by all household adult members and occasionally older children participated. Scaring away pests was mainly the responsibility

of children at day time and adults at night time. However, where dangerous game were involved, children were exempted from this activity. Harvesting the crops was done by women mainly, while construction of storage facilities was jointly done by both male and female adults, although much depended on the facility constructed.

In the past, i.e., during pre and colonial times, children were often engaged in those chores that facilitated adults especially women, to engage in more complex duties. For instance, children were called upon to baby-sit in order for the mothers to prepare meals, attend to animals, engage in agricultural activities or perform other chores in the household. Children would also draw water and / or fetch firewood, and sometimes prepare meals as ways of not only freeing their parents, but also as means of learning new skills and responsibilities.

Noteworthy is the fact that in as much as labour for farm operations was provided by the household members in the past as it is today, some changes have taken place as regards its composition, size and pattern of usage.

We found that although the average household sizes are large (i.e., about 7.6 at average), in Muramati, Wiumiririe and Salama, this was not able to cope adequately with labour demands for farm work. Children and males who previously constituted the household labour pool are engaging in the formal learning process, and in wage labour on or away from the farms.

On average, households had 7.6 persons (see Table 1 below) of whom 1-3 were adults residing permanently on the farm because of old age, sickness or unemployment; of the average number of 5 children in each household, 1-3 children were schooling or too young < 7 years and staying on plot, 1-2 were working or married away from their homes of socialization. Thus, one was always likely to find 1-3 adults on plot and, depending on the farm size and the number of livestock kept, they could not perform all the farm operations. From the above description, labour contribution from children was often uncertain. This shed light to the extent to which labour-consumers models highlighted in the literature (Kerlay, 1971) and pre-colonial labour arrangements were on decline.

It was found that 84(62%) of the informants were females as compared to 51(38%) males, and had a primary school level of education on average. This factor partly indicated why most females were permanent residents on the farms and households were increasingly becoming *de facto* women headed. It was not easy for them to obtain respectable employment in urban centres, most which demanded high educational qualifications.

**TABLE:1 Informants' Household Sizes, Landholdings and Cropland Sizes.**

| AREAS               |          |            |        |        |
|---------------------|----------|------------|--------|--------|
| Informants          | Muramati | Wiumiririe | Salama | Mean   |
| H/hold size         | 7.6      | 7.5        | 7.8    | 7.6    |
| L/holding           | 3.23ha   | 1.21ha     | 5.26ha | 3.23ha |
| Cropland Cultivated | 1.21ha   | 0.80ha     | 2.42ha | 1.21ha |

From Table 1 above, it is observed that despite the existence of large family sizes, cultivated cropland was very minimal(1.21ha) as compared to the mean landholding of 3.23ha. This picture is attributed to the harsh ecological conditions, besides the limited household labour supply.

First it is essential to mention that farmers in studied areas grow maize, potatoes, pyrethrum, wheat, beans and pulses of various types. Where appropriate, horticultural crops were grown by those informants who had water on their farms. Very few farmers realised satisfactory returns from their crops.

As ensued from case studies, interview and discussions in the studied community, informants were losing labour through children's participation in formal school education, rural to urban migration, wage labour and growth of individualism. We gathered that women and dependants who lived on farms performed both children's and men's work, in addition to their own roles. Women informants pointed out that it was mostly their friends, neighbours and members of their church groups and to a lesser extent, women groups who assisted them during

the peak agricultural season.

#### 4.1.1. Children's Participation in Formal School Education

Information gathered from the questionnaire and case studies reveal that children's labour contribution is seasonal due to the current education system which allows less free time to school going children. Besides, parents encourage children to go to school rather than staying at home to farm or herd. Children are being made to believe that education will equip them with skills and knowledge that will enable them get white collar jobs and not farm work.

We observed that some educational institutions provided boarding facilities, thereby breaking children's ties with farm life since they could stay away from the farm for three months. A discussion by one of the chiefs revealed that members of his community were very much determined to educate their children, although educational facilities in the district were inadequate. These sentiments indicate the extent to which education is valued and will continue to be so in future regardless of its effect on household labour supply.

Discontinuity in children's labour contribution, on the other hand, could not allow mothers with school going children enough time to prepare meals, attend to animals, engage in agricultural activities or perform other chores in the homestead. On the other hand, when schools open, women who were mostly available for farm work pay more attention to domestic chores, to ensure that their children are attended to.



Although children's labour contribution was seasonal, its withdrawal was not absolute. Occasionally, their labour contribution was available after school, during weekends or on school holidays. These circumstances, therefore, called for the need to hire labour by individuals who could afford to do so.

After completion of schooling, 46(34%) of the children, especially males, left for wage labour in commercial hubs within the district or elsewhere. They would only work on farms during weekends when visiting or during their annual leave. Their labour contribution was irregular and occasional. A discussant in one of the case studies Mrs. Kuria (not her real name) said:

Although I have five children, all of them are away. After school my three sons went to Nairobi to stay with their father while looking for jobs and my two daughters are married, one in Murang'a and the other in Embu. I am left all alone to manage this 8 acres and three cows.

Another informant maintained that much farm labour is being supplied by women. However, with increased emphasis on girls' education, their labour is likely to continue diminishing.

The general picture is that although most families have many children, the latter's labour contribution was not absolutely dependable. As a result of erosion of farming values and dislocation of traditional roles in the farming structure, duties which could have been performed by boys, girls and young men have been taken over by members of older and weaker generations now on the farms. This factor

contributes to labour shortages and low agricultural productivity (cf. Njiro's (1990) observation in Embu district).

#### 4.1.2. Informants' Occupations and Activities

Enquiries on the kind of occupations and activities that adult household members engage in showed that 54(40%) were farming on their plots, 47(35%) were non-farming workers employed outside their plots, 20(15%) were farming on hired plots outside Laikipia, while 11(8%) were stationed on their plots but not engaged in farm work.

Reasons for those who left the settlement varied. For instance, 36(27%) of them went for wage employment, 18(13%) were married away and 11(8%) were engaged in self-employment (e.g., mechanics, business). The remaining 7(5%) lived on other farms outside Laikipia. People who most of the time stayed away from the settlement rarely worked on their farms except when they were on leave or weekend visits. One of the agricultural extension officers observed that it was mostly women they encounter while on tours to meet farmers. Most men and school leaving youths prefer doing petty business and casual jobs with quick returns, leaving farm work to women.

#### 4.1.3 Participation by Adults in Off-Farm Activities

Off-farm income generating activities in this case included those tasks conducted on and away from the plot but are not directly related to farm work. They were categorized into off-farm activities which were either social or economic in nature, or both.

Data generated indicates that 73(54%) informants, did not engage in off-farm income generating enterprises because of insecurity, old age, inadequacy of capital and too much work on the farm. However, 62(46%) of the informants engaged in off-farm activities because they considered them to be important sources of income needed to supplement household food supplies. One informant, an elder from Muramati, said:

Besides farming, I engage in other off-farm income generating activities like masonry, stone dressing, and the selling of skins and hides but I stay on the farm. Income from any of these activities is a hedge against food deficit during those years when farm yields are low or when crops are destroyed by wildlife. However, I go into any of these activities after working on my farm in the morning .

Off-farm pursuits of economic nature on the plots were mainly petty business, e.g., selling paraffin, cigarettes, secondhand clothes, foodstuffs and stone dressing. Occupations like teaching, mechanics, night guards and charcoal making did not withdraw the participant from the farm. These activities were done simultaneously with or after farm work. Therefore, they took insignificant time from participants.

The author observed, for instance, cases where some informants were harvesting maize and at the same time selling

it to buyers from Nyeri. Income from maize sales was occasionally controlled by men whether they were on the farm or not. To some farmers maize was both a cash and food crop. This reflected the extent to which capitalistic and pre-capitalistic relations were in operation simultaneously, neither dominating the other. Besides, some farmers were selling hand woven baskets (ciondo) alongside the roads as they worked on adjacent farms. The observation here is that since both farming and off-farm income generating activities are sometimes performed simultaneously, they do not significantly constrain smallholder household labour supplies.

Some informants explained that income generated from off-farm pursuits was used for either hiring labour for planting, weeding, or harvesting in some seasons; or hiring of tractors for land clearing and preparation; purchase of certified or local seed varieties for planting and livestock. The income use patterns stated above were observable among those farmers who had water on their farms and could carry out irrigation and raise horticultural crops. We noted that occasionally income derived from the sale of horticultural crops, such as cabbages, onions, tomatoes and carrots, would be used to purchase inputs to boost off-farm enterprises, e.g., shopkeeping, carpentry and selling of second hand clothes, bicycles and spare parts.

Social off-farm activities were minimal. In rare cases farmers visited or attended rituals or festivities, e.g., funerals in their homes of origin. They also spent little time in community development projects. As one informant observed,

"when our relative dies, we the Agikuyu console the bereaved family on the burial day and disperse on the same day, unlike you people of western Kenya". The above stated views contrast with Suda's (1986) findings in Nyanza and Western Provinces where farmers went away from their farms to attend burial rites for several days.

Other activities, such as domestic work and child care, were mainly done by female members of the households on their plots, in addition to farming. And participants in any of the domestic chores were not withdrawn from farming activities. Social off-farm activities contributed less to withdrawal of farm labour because the time they consumed was insignificant. More often, off-farm activities were performed as part-time activities. This was articulated by one informant from Wiumiririe in the following statements:

In the morning, I wake up, milk my cow and deliver the milk to the cooperative. Then I work on my shamba upto midday. Then I cook our meal and leave my children who do not go to school for afternoon classes doing domestic chores. I go to the local market to sell second hand clothes, and baskets which I weave myself. I come back in the evenings at about 6 p.m. to eat and thereafter continue weaving my kiondo before I sleep.

This observation agrees with Khawaja and Agongo's (1991) findings in Nigeria where families did not give up farming for off-farm activities. Both on-and off-farm activities were done simultaneously or one after the other.

Proceeds from off-farm activities were generally used in supplementing household requirements in food, clothing, school fees, utensils and furniture, among others. It was also one of

the sources for use in purchasing farm inputs as well as hiring extra labour for farm work or tending livestock, including veterinary services.

#### 4.1.4 Significance of off-farm activities

Off-farm and on-farm activities were generally difficult to distinguish since they overlapped in terms of time. Informants did not specialize in particular tasks, but could attend to various activities depending on the needs at the time. One informant put it that occasionally she works on the Rural Access Roads construction project near her farm as a casual labourer from 8 a.m to 3 p.m, to earn some money. As a result, she leaves work pending on her farm. And after 3 p.m., although she is tired, she still does some farm work or attends to livestock chores.

Discussions revealed that farm products could be for both subsistence and sale. Where they are sold, such informants could use the returns to stock their enterprises in the off-farm sector (buying spare parts, new stock, or materials for carpentry). On the other hand, income from off-farm activities could be used in crop production for purchasing inputs, equipment, hire labour and land. Besides, livestock and livestock products had similarities to the above pattern in usage. When the former were sold some of the returns could be put in opening a new business or revamping the existing one. Conversely, when livestock had a problem informants could get money from off-farm enterprises to buy, for instance drugs, to

pay for dipping charges, hire herdsman; or to purchase new livestock. These inter-relationships indicate the extent to which capitalistic market relations are prevalent among smallholders and the two "spheres", i.e., on and off-farm were supplementary to each other but in a complex way.

#### 4.1.5. Labour Use for Animal Husbandry

According to the old division of labour among the Agikuyu, cattle herds as a whole were under the direct charge of the male household head. However, depending on the environment, the actual grazing or tethering could be done by his children of both sexes. Whenever it was necessary to take the cattle out of the household lands for grazing, watering or saltlicking, then he took this charge personally or jointly or in turns but co-operating with others. Milking was, and still is, squarely the responsibility of the household mother or female members. Although sheep and goats were considered to be under the men's charge, often day today management rested in his wife/wives and children.

However, the pattern of labour described above was not in existence any longer as a result of children's participation in formal school education, engagement in off-farm pursuits and migration. The male household head was, and still made decision of which animals to dispose or how many to be bought and when it was appropriate to do what. He controlled the returns from such transactions. However, use of the money from sales of crop and animal products in female-headed households

(including cases of husbands who absent themselves from home for long periods of time), rested wholly on the female or wife.

Despite the ownership of small landholdings, it was observed that nearly all households had at least one or more livestock types. The dominant livestock types kept included cattle, sheep, goats, donkeys and poultry. Some farmers kept bees too. Mean livestock unit for cattle was 4.5, as compared to 9.7 for goats and 7.0 for sheep. Goats and sheep outnumbered cattle because they do better in the arid conditions of Laikipia. Management of goats was more labour demanding as compared to that of sheep and cattle. Many of the informants who experienced labour constraints for livestock management, preferred to keep sheep or cattle which were pliable and not jumpy like goats.

One hundred and twenty informants, i.e., 89% of the sample, reported to have had labour shortage for livestock management, while 15(11%) did not.

Labour demands for livestock management was acute for herding, saltlicking and watering and became heavy when children were in school and when hired labour became scarce. Milking and marketing of livestock were not labour demanding activities. During the wet season when farmers had to concentrate on farm work, livestock management became a problem. However, 6(4%) informants pointed out that they felt labour shortage in the dry season when water and grass were scarce.



#### 4.1.6. The Profile of the Landholdings

When asked whether they would like to expand their present cultivated cropland, 33 informants (or 24%) said they would not, while 102 informants (or 76%) responded in the affirmative. Intermittent droughts, inadequacy of money to hire labour and desire to concentrate on livestock keeping rather than crop production were the main reasons given for the reluctance to expand the cropland. Others in this group indicated that they were satisfied with their farming activities. An informant in a case study from Wiumiririe had this to say:

My future priority is to keep livestock than rely on crop production. The risks in the latter are higher than the benefits. Imagine I hire wage labourers to prepare my land, plant, apply fertilizers, weed, but I end up not even harvesting due to drought or wildlife menace.

Another informant in Salama stated :

I wish to cultivate all my land (5.26ha), but I have no children around to assist me. Furthermore, I have no money to pay hired labourers and yet these days people want money for any work they do for you. However, if I get money in future I could hire a permanent labourer.

The sentiments highlighted above indicate the precarious situation and circumstances informants find themselves in. This dilemma adversely affected their crop and animal husbandry practices besides labour availability.

Similarly, discussions with the chiefs and agricultural extension agents revealed that most of the farmers are poor,

and were therefore not willing to expand their cropland. They indicated that generally erratic rainfall and high costs involved in hiring additional labour and farm inputs were discouraging factors .

Nonetheless, some farmers wanted to expand their cropland because they get money regularly from their spouses or children who are away. Therefore, they are able to hire labour and extra pieces of land which are better than theirs from the neighbourhood. Thus, it was apparent that they had the potential for expansion. This last group may represent those farmers who have the resources and are determined to go into farming seriously. Our interpretation of this behaviour is that limitation of expanded crop husbandry practices can be explained in the settlement's paucity of its land. In this case, the size and structure of the available household labour does not count because there is no suitable land to work on.

In conclusion, some of these findings support the hypothesis under discussion that changes in the household labour composition and resultant use patterns have a bearing on agricultural productivity. It has been established that children's participation in formal education, migration and participation in off-farm pursuits have contributed to the prevailing labour characteristics in a way. Cropland cultivated and the number of animals one kept was relative to not only the amount of land owned but also available labour in the households. As a result of participation in formal school education, children's labour contribution has been reduced. Children assist intermitently during school holidays as

confirmed by 49(36%) of the farmers. Similarly, 54(40%) of the farmers said that absentee household labour contribution was felt occasionally when the relevant persons came home on leave or weekend visits. These overburdens females who are left on the farm in that they take up those duties males and school children could have done. Up to this point, the foregoing observations are in conformity with the stated assumptions and hypothesis.

Noteworthy is the fact that off-farm activities of economic nature performed on the farm do not absolutely withdraw participants from doing farm work. They take less time, just as off-farm activities of social genre and, therefore, did not have significant effect on crop and animal husbandry. This contrasts the assumptions of this hypothesis. However, when some off-farm activities were economic in nature and were performed away from the farm, these resulted into labour constraint for those household members left on the farm. In some cases, labour was available but land cultivated and the animals the farmer kept were determined by the landholding, drought and wildlife menace in the settlement.

Social and economic changes have adversely affected the immigrants in Laikipia. They have, among others, tempered with the household labour composition and use patterns. Today the common phenomenon is that labour use is not necessarily arranged in line with sex and age.

## CHAPTER 5

### INTEGRATION OF HOUSEHOLD LABOUR INTO THE MARKET ECONOMY

#### 5.0 Introduction

The last two hypotheses were formulated with two different but related assumptions. One has to do with commoditization of peasant labour from smallholder rural households in which the implication is that farmers sell their labour to commercial individuals or institutions. Under those circumstances it is usually the male members who do so and it involves moving from their places of residence to live and work permanently away from their households and farms. This situation is the one that may adversely affect agricultural production in households with absentee male members, unless they assist the women through regular provisions of goods and money.

The second form of selling household labour may involve any member of a household, female, male or child as individuals or as a group. This occurs in situations where there is need to raise money or other items, e.g., food, by working in fellow farmer's farms within the same settlement. The farmers providing employment may be slightly well off than those employed, or they may be of equal economic status. In the latter case, the issue becomes not of one employing the other, but rather of working together cooperatively for the good of all. Within the foregoing assumptions we posited the

two hypothesis below whose relevance to our area of study we would now like to discuss concurrently. First the hypotheses:

**Commoditization of smallholder household labour has adversely affected agricultural production in Laikipia district.**

**Utilization of smallholder household labour in off-farm activities among migrant farmers is supplementary to food production in Laikipia district.**

In reference to the second hypothesis above, we have observed earlier in our discussion that some informant households recorded the fact that some of their male members were living and working outside the settlements under study. They were selling their labour to obtain money. It was confirmed by some that such a situation robbed the household of its labour supply. In other cases, this situation was a blessing because it provided essential contributions not only for subsistence but as capital to develop farm activities.

However, the details of these usually economic oriented off-farm activities are presented below.

### 5.1. The Profile of Labour Hiring Processes

**TABLE 2a: Cross-Categorization of Informants Experiencing Labour Shortages.**

| AREAS      | No Labour | LabourShortage | Totals    |
|------------|-----------|----------------|-----------|
| Muramati   | 3(2.2%)   | 27(20%)        | 30(22.2%) |
| Wiumiririe | 10(7.4%)  | 55(40.7%)      | 65(48.2%) |
| Salama     | 1(0.7%)   | 39(28.9%)      | 40(29.6%) |
| Totals     | 14(10.3%) | 121(89.6%)     | 135(100%) |

NB: Brackets indicate the actual percentage of informants.

Table 2a shows information regarding whether smallholders experienced labour shortages or not. These results indicate that 121(90%) of the households studied experienced labour shortages, as compared to 14(10%) who did not. This, therefore, pointed to a situation where some smallholders would not fully cultivate their farms and thus, probably, realized low crop output. The above findings further reveal that labour shortage is more prone in Wiumiririe as pointed out by 55 informants (41%) of the sample, although it had the smallest land holdings. It was followed by 39(28.9%) and 27(20%) of the samples in Salama and Muramati, respectively.

Farmers' views on what causes labour shortages were the fact that: some household members participated in off-farm income generating activities, children's participation in formal education and absentee adult male job seekers (who amounted to 80(59%)), role conflict between domestic work, herding and farming 27(20%), inadequacy of cash to hire labour 19(14%), competing demand for hired labourers even if one had money 18(13%). A few informants pointed out that sickness, old age, ownership of extra land elsewhere, and inability of some children (less than seven years) to assist in farm operations as other causes.

A farmer in one of the case studies from Wiumiririe attributed labour shortages on his farm to children's participation in formal education, absentee adult sons to towns, ill health and lack of capital for hiring labour. He further added that the situation temporarily goes down when schools were on holidays or when his working sons were on

leave. The author contends that very tiny landholdings in Wiumiririe was a big push factor for out-migration. One could not adequately rely on farming alone and hence the need to move out in search of other alternatives.

We observed that unsuitability of land and uncertain climatic conditions affected the type of farming conducted. This situation increased the affinity for smallholders to move out of settlements in search of activities other than smallholder farming because they gave them higher monetary returns. This trend originated during the colonial period in Kenya when many men and women were forced to take a variety of chores in European and Asian establishments. These activities were not necessarily assigned to them on sexual or age considerations.

The above observations compare with Rukadema's (1977) and Suda's (1986) findings in Kakamega, where male out-migration and children's participation in formal education were major contributors to household labour insufficiency. One female informant told us:

My husband does not assist me in farm work. He argues that I was married to work for him. Even our traditions expected us to work because if I do not work my family will have nothing to eat. My husband works in Nyeri and when he comes home over the weekend he just sits or goes to visit his friends. I and my children do all the farm work.

Similar sentiments were observed by Olenja (1991) in Western Kenya, where men's farmwork labour contribution was minimal. It is apparent that despite the fact that informants have moved into a new district, some members of the Agikuyu

community still hold onto traditional values and norms that perpetuate male domination, thereby influencing the existing labour use patterns.

In all the three areas, 62(46%) of the farmers attributed participation in formal education as a cause of labour shortages in farm-work, 43(32%) to participation in off-farm activities, 20(15%) lacked cash for hiring labour while 9(7%) gave miscellaneous reasons.

The importance of off-farm activities to farmers and its influence on labour availability further emerged in discussions with local leaders and extension officers. For a few farmers it was almost difficult to get external assistance because they were not ready or able to hire labour. Table 2b below shows that in all the three settlement only 11(8%) of the farmers were unable to hire labour as compared to 124(91%) who hired. This indicates that most farm activities in the settlements make use of hired labour.

**Table 2b Areas of Settlement by Hired Labour.**

| AREAS      | Not hiring | HiringLabour | Totals    |
|------------|------------|--------------|-----------|
| Muramati   | 4(3.0%)    | 26(19.3%)    | 30(22.2%) |
| Wiumiririe | 5(3.7%)    | 60(44.4%)    | 65(48.1%) |
| Salama     | 2(1.5%)    | 38(25.1%)    | 40(29.6%) |
| Totals     | 11(8.2%)   | 124(91.8%)   | 135(100%) |

NB: Brackets indicate the actual percentage of informants.

The highest cases of labour hiring were recorded in Wiumiririe, with 60(44.4%), followed by 38(28.1%) and



26(19.3%) for Salama and Muramati, respectively.

### 5.2.1. Human Labour Hiring Strategies and Labour Demanding Activities

Farmers hired labour during peak agricultural seasons. In Muramati, 20(15%) of the informants hired labour mainly for land clearing and farm preparation in December, January and February. Another 3(2%) hired labour in March and April for planting while another 3(2%) hired it for weeding in May and June. Hired labour for land preparation was either human or tractor services, of which the latter was always at a fee, i.e., Ksh.450/ha, which most farmers could not afford. This shows the extent to which smallholder farming was being influenced by capitalist market forces.

We noted that in some cases a farmer was able to hire a tractor for a certain period of time, but the tractor owner would disappear before finishing his contract. For instance, a farmer would pay the cost for primary and secondary tillage, but the tractor disappeared after primary tillage. Either a large portion of land was left unattended to or human labour was sought. This adversely affected some farmers since operations were delayed, especially farm preparation and planting could not be done on time.

Individuals who needed to be hired to work on the farms would sometimes move from door to door of their established

hirers to ask them whether they had work to offer and in that way they would be employed. Where a farmer needed more labourers he or she would ask those he or she hired to come along with other labourers in subsequent days. Other farmers asked their friends, neighbours or church group members to inform those interested in casual jobs to report to them for work. We observed a case in Salama where two elderly women came to an informant's home to ask for employment while we were conducting our interview. However, because the potential employer did not have money at that time they were told to return a week later.

In Wiumiririe 45(33%) of the informants hired labour for land clearing and preparation in December and January, and for weeding in April, May and June. Another 5(4%) hired labour for planting in March and harvesting in November. A small percentage hired labour for collecting firewood and water. These were basically relatively well to do farmers. In Salama, the arduous task in which hired labour was sought was weeding, as pointed out by 32(24%) of the sample. Some farmers explained to us, that when they applied fertilizers on their farms it induced weed growth, which necessitated frequent weeding and demand for more labour.

Although we expected demand for labour to decline in April when children were on holidays, this was not the case. Some farmers felt that their labour contribution was minimal and that school holidays were in fact very short these days. In some cases upper primary school children were required to go to school during holidays to prepare for their national

examinations while others had some home work to do. Besides, it was noted that during school holidays, labour availability was influenced by the children's desire to visit their fathers in towns and/or the need to visit their grandparents in their homes of origin. Hence, such factors made their labour contribution occasionally although they were on recess.

One Muramati farmer and his wife worked on their own in all major crop production tasks, using hired hands only occasionally. Land clearing, planting and weeding were the major tasks in which they used hired labour. Harvesting the crop, storage and selling part of it were either done by the man himself or his wife since these were not labour demanding.

#### 5.2.2. Tractor Hiring Strategies

Smallholders occasionally hired tractor services, mainly for purposes of land clearing in newly bought farms. Payment for work done was strictly cash (i.e., Ksh.450/ha), which most farmers found to be expensive. Cheaper means like donkey or ox-drawn ploughs were not commonly found, although one informant reported that some farmers in farms neighbouring Wiumiririe were using a donkey plough as a cost-saving mechanism. He stated that:

I have seen my neighbours using donkey-driven ploughs on their farms and since I have two donkeys, I wish to start using them in future for farmwork besides collecting water and firewood. I shall save money I spent on hiring a tractor for land clearing every year.

The study established that the following procedures were

used by farmers to get tractors: a farmer could go directly to tractor owners ; or go to a neighbouring farm where a tractor was working ; or assign friends and neighbours the duty of getting one for them. Tractor services were sometimes not available on time, some tractor owners were too expensive and sometimes they provided shoddy services. We consider these constraints to have contributed to poor farm yields.

### 5.3. Gender Preferences by Those Hiring Labourers

To gauge the informants feelings regarding gender preferences in terms of hired labourers, informants were asked to indicate whom they preferred hiring, why the preference and activities they are hired for. The findings indicate that 56(45%) of the farmers studied preferred women labourers, 46(34%) had no preferences, while 28(21%) preferred male labourers. Those farmers who had no gender preference argued that what mattered to them was that their work was well done regardless of who did it. Women labourers were preferred because they were more readily available than male labourers who were rare to come by and preferred strictly cash payment. Women were preferred in farm operations such as planting, weeding and harvesting of which their employers said they performed better than their male counter-parts. On the other hand males were preferred for what informants considered as arduous tasks such as, opening up of new ground for cultivation, felling tree, digging stumps, terraces or trenches in the farm or livestock herding. One of the farmers said:

I like male labourers because they come to work on time and do not spend time breast-feeding like some women labourers who come to work with children when hired. Besides, women labourers gossip a lot instead of working.

However, one of the farmers observed that male labourers prefer making and selling charcoal which, at times fetches them higher returns.

#### 5.4. Availability of Hired Labourers

Although most farmers had no problems in finding farm labourers, others experienced problems. In some cases demand for labourers was more than the available pool could satisfy or if a farmer could not accommodate his or her labourers then they would not take up employment with him or her. Some labourers refused to work in some farmers' farms because they complained that their *mafuti* (i.e., piece work) measures were too long. We observed isolated cases in which labourers were hired on piece work contract, e.g., weeding crop for a certain area or felling a specific number of trees, neglected their obligations. They would usually take an advance payment after working for a day or two and then disappear for several days. When follow-ups were made such individuals would be found either working in their own farms or at other farmers' on a different contract. This means that in as much as hired labour may be abundant, some of it can be unreliable and contribute to poor crop yields even if in a very small way.

### 5.5. Labour Hiring and Grazing Patterns in Animal Husbandry

In this study, we also sought to establish strategies used by livestock keepers employed to cope with the problem of labour shortage, the causes for the shortage and how much labour was actually required for the jobs that were available. We also wanted to know when external help was sought for what activities it was needed, for how long and at what cost.

We observed that 20 informants (i.e., 15%) did not hire labour for animal husbandry, they themselves and their household members took care of their animals. Some farmers tethered their livestock when they had to work on their farms and their children took care of them after school, during weekends or school holidays. A small number of farmers, 3(2%) practiced paddocking on their farms or engaged in reciprocal communal herding *gutukania ruuru* with their neighbours. Only 4 farmers (or 3%) had permanent paid herdsman for herding. It can be argued that labour relations and obligations guiding the concept of *gutukania ruuru* point to the extent to which some informants are engaging in balanced reciprocity since they assisted each other for a specific number of days in an alternating manner.

In Wiumiririe, unlike in Muramati, 60(44%) livestock owners experienced labour shortages for livestock management during the dry season. Herding was the most labour demanding activity. It was observed that Wiumiririe was densely populated and settled with little space for grazing. Land holdings were the smallest in the three settlements. This made

herding a problem.

As a result, 28(21%) farmers resorted to paddocking or tethering their livestock on their farms. Twenty (15%) others sought assistance from neighbours and friends who had herdsmen at a small fee. Eleven informants (8%), whose land bordered the Nyandarua Range, were practising reciprocal communal grazing. The above information is in line with what one of the elderly farmers said in one case study. He has never hired permanent labour for livestock management. Herding was done by himself or his children. Sometimes he engaged in *gutukania ruuru* with his neighbours since he borders Nyandarua Range. Milking and sale of milk was done by his wife, although he received the income from it. He marketed and purchased new livestock as the household head.

In Salama, 39(29%) informants were affirmative about labour shortages. As it was the case with Muramati and Wiumiririe, 34 (25%) of the farmers interviewed, experienced labour constraints for herding, taking animals for saltlicking and watering. Labour shortages were severe during the dry seasons just like in Wiumiririe. This was compounded by the fact that Salama is relatively newly settled, its inhabitants moved in after 1975. Most of the land is still under the forest and unsettled, which makes herding a problem. Some livestock owners 14(10%) of those visited experienced labour shortages throughout the year. This is because most of the household members who could have assisted in these areas were away working in towns or had children in school. For instance, although some farmers had large families of about eight people

only two adult dependants and one or two other dependants, often school children, were permanently living and working in the homestead.

Fourteen livestock owners (10%) hired their own resident herdsmen from Lorien Farm, while 9(7%) did their own herding or it was done by their children. Another 4(3%) combined forces with their neighbours and employed a common herdsman. Cases of *ngutukania ruuru* were minimal since most farmers were relatively better-off, self-sufficient and could hire their own labourers.

#### 5.6. Modes of Paying Hired Labour

Our study indicates that the majority of hired labourers were paid in cash, Ksh 40/- per working day. The amount paid for the services rendered was determined by the prevailing economic changes as reflected at the local level in the settlements at the time when labour was being hired. Kenya's post independence economy has been characterised by rising cost of living, reduction in the purchasing power of the shilling and increased inflation rates. These changes have influenced labour transaction and its inclination towards monetary reward. In Salama 9(7%) of the labourers preferred being paid in cash in return for a day's work, while 19(14%) preferred being paid either in cash or kind, depending on who was hiring them. Some of our case studies indicate that the majority of hired labourers came from a neighbouring farm (Lorien) which was infertile and up to that time had not yet



been subdivided to its shareholders. Seven percent of them preferred being given food, e.g., potatoes, maize or beans, in lieu of Ksh.40 cash payment for a day's work. These transactions indicate the degree of co-existence between capitalistic and pre-capitalistic relations in production depending on the transaction ensued in employer-employee relations.

The majority of these labourers were females, of whom 26(19%) were employed as casuals, while 9(7%) and 5(4%) worked on casual and permanent basis, respectively. The latter group did not reside on their employers' farms. Of all the hired labourers in Salama, 32(24%) were not related to their employers. The foregoing categories of hired labour are congruent with Elliot's (1975) and Johnson's (1982) observations on the subject.

We observed that although inhabitants of Lorien farm assisted those of Salama, the reverse did not occur. Continuity of labour supply is maintained through these workers returning to their previous employers. This illustrates a case of negative reciprocity in labour relations. These observations are similar to Uchendu and Anthony's (1968) findings in Geita District of Tanzania where immigrants from Rwanda and Burundi worked in Geita and returned annually to their previous employers.

Occasionally, some people who were seeking casual labour would camp in Salama, work for their employers for about one week and then go back to where they came from. When they

returned a few days later they came along with other labourers. The campers came from distant places and could not return to their homes after a day's work. Others were willing to stay until they gathered enough money for their subsistence needs.

In Muramati, of the 26(19.3%) of the farmers who hired labour, 19(14%) were neighbours and friends to their employers and for that matter payment for work done was in kind. However, 5(4%), were paid in cash as well as in kind. Three percent indicated that when they hired non-kin they paid them in cash only. In Wiumiririe, 22(16%) of the labourers were hired for cash payment and a similar number worked for payment in cash as well as in kind. Another 18(13%) worked for farm produce in lieu of the Ksh. 30 cash payment for a day's work. Payments in farm produce were common when those being hired did not harvest on their farms. Generally, the minimum period hired labourers worked was about seven days. Eight percent of the farmers did not hire labour for farmwork either because they had enough from the household or they did not have money or farm produce to pay labourers in lieu of the work done.

One farmer gave the following as the break down in form of payments: Labourers for planting or harvesting beans which took the whole day were paid ksh.40/-; for weeding, most labourers preferred *mafuti* (i.e., piece work, 10x10 sq ft, or strides at a rate of ksh.15-20/-) ; for harvesting maize per bag at ksh. 12/- ; shelling maize by tractor and human labour at ksh. 20/-per bag.

Most labourers preferred the *mafuti* system because one could clear several pieces in one day and there was no time

limit to work. However, most farmers did not like the *mafuti* system because labourers rushed to finish their portions, leaving weeds intact or destroying crops in the process. Farm operations performed in such a haphazard manner are likely to result in poor crop yields which, in turn, affects the farmer's general food status.

### 5.7. Characteristics of Hired Labourers

Dependence on sources of labour other than household members was critical in the studied areas. Hired labourers for crop or animal husbandry had different characteristics although the general tendency was that in crop production chores, most labourers were women with more than half of them being married. Labourers were hired on part-time basis because they had their farms to look after. Their ages cut across cohorts (the young, middle and/ or old people) depending on their felt needs (cash or food). In terms of education, they had zero to eight years of education on average, with large families of 6 to 7 people. Their literacy level implied that they had no steady occupations other than subsistence farming. Generally, people opted for hired labourer as a stop-gap measure in absence of other job opportunities and felt that they would stop being employed if there was adequate rainfall resulting into need for more attention on their farms. More than half of those employed did not have property, investments or off-farm income support.

Notable observation was that some of the labourers were opinion and local leaders in community development groups or village elders and felt that being hired did not degrade them

in their duties.

In some places like Salama, most labourers were newly settled in Laikipia (i.e., Lorein farm) and their farm had not been subdivided to individual shareholders. Therefore, they could not cultivate big tracks of land since they were staying on a temporary basis. In Muramati and Wiumiririe, labourers were not new settlers, however, food deficit on their farms triggered them into casual labour.

#### 5.8. Sources of Money for Hiring Labour

The majority of the farmers get money for hiring labour for crop and animal husbandry through the following ways: Forty one (38%), of them depended on income from livestock sales, e.g., goats and sheep, and livestock products such as milk. This latter group comprised 55(37.7%) of the farmers studied. Thirty-eight farmers (or 28%) depended on income from sales of their farm products, e.g., maize, beans, wheat, or pyrethrum. Twenty-eight informants (or 21%) depended on financial remittances from either their children or spouses. Thirteen percent of the informants relied on income from business enterprises, e.g., shopkeeping, butchery and selling charcoal, while another group of 17 (13%) farmers depended on income from wage employment. Eight percent of the farmers interviewed gave food for work done. It was observed that there was overlap between the sources of money in that some farmers had more than one source. Case studies obtained were in line with the above. For instance, the life history of Mr. Mwaniki (not his real name) of Muramati showed that his

sources of income for hiring labour ranged from livestock sales, income from farm produce (especially wheat), charcoal sales, retail shop and sometimes remittances from his working son.

#### 5.9. Some Characteristics of Those Hiring Labour

We observed that most of the farmers who hired labour were seen as the rural 'elite'. This was an indicator of social differentiation and stratification. Such farmers had some characteristics that made them differ from those they hired, although some of the features could be observed among those that were hired. For example, they hired extra land in addition to what they had, used credit facilities and, on average, had secondary level of education. At least 1-2 members of their households were in salaried employment or had business enterprises and/or held leadership positions in community development projects. Their high status had monetary returns that enabled them hire labour, while they attended to on-or off-farm related activities.

#### 5.10. Non-capitalist Mode: Methods, Forms and Practices

Non-industrial economies often attach great importance to moral obligation, in economic activities. This is manifested by labour reciprocity, among other activities. Labour reciprocity demanded that payment for services be rendered in the same season although deference was occasionally allowed.

Traditionally, reciprocal labour among the Agikuyu, who are the majority of the farmers here, was embedded in *ngwatio*, *gutukania ruuru*, polygyny and large progeny. These institutions provided mechanisms for creating labour pools for deployment to individual farmers' farms or livestock herding. However, these institutions were significant among homogeneous and kin people. On the basis of kinship ties a farmer could call upon clan members to assist one in a rotational manner, or formed communal work groups which served systematically and rotationally in members' farms or in taking their livestock to grazing places.

The second hypothesis which states: Commoditization of smallholder household labour has adversely affected agricultural production in Laikipia district, therefore, labour has been commercialized in that it can be bought or sold depending on the needs of the party concerned. Thus, redistributive mechanisms could have been weakened since farmers were more likely to be independent and self-reliant in their operations. They therefore no longer saw the need to invest in social networks mentioned above for crop and animal husbandry. Besides, the research population is diverse socially, culturally and economically since its members came from different areas.

As regards ethnic composition, 108(80%) of the informants belonged to the Agikuyu ethnic group, while other groups (Ameru, Aembu and Kalenjin) were 27(20%). Although the Agikuyu were dominant, they were not homogeneous as such. They came from different pockets of the Central Province, thus sharing no

kinship ties apart from the language. This scenario was expected to increase cultural heterogeneity and reduce instances of reciprocal labour relations since the immigrants were not related.

Farmers' participation or their not participating in traditional reciprocal communal labour relations and the explanations for either case were investigated. Frequency and percentage distribution obtained from the responses is shown in Table 3a, below.

**Table 3a: Areas of Settlement by Reciprocal Labour Relations.**

| AREAS      | No        | Yes        | Totals    |
|------------|-----------|------------|-----------|
| Muramati   | 5(3.7%)   | 25(18.5%)  | 30(22.2%) |
| Wiumiririe | 10(7.4%)  | 55(40.7%)  | 65(48.1%) |
| Salama     | 5(3.7%)   | 35(25.9%)  | 40(29.6%) |
| Totals     | 20(14.8%) | 115(85.2%) | 135(100%) |

NB: Brackets indicate actual percentage of informants.

From the findings in Table 3a above, as many as 115(85.2%) of the sample engaged in communal reciprocal labour relations as compared to 20(14.8%) who did not. Comparison of the data in the three areas shows that in Muramati 25(18.57%) were affirmative as compared to 5(3.5%) who did not. In Wiyumiririe affirmative samples were 55(40.7%), as compared to 10(7.4%), which did not, while in Salama affirmative cases were 35(25.9%), as compared to 5(3.7%) who did not.

Two arguments were put forward for the existence of *ngwatio* and *gutukania ruuru*. The first was to maintain and fulfill moral and social obligations and secondly, for economic gain. Twenty four percent of the farmers agreed that they engage in *ngwatio* to fulfill social obligations to their neighbours and friends who were in need; and those assisted could also assist their friends when called upon. These relations saved money and helped to build up social capital in form of reciprocal obligations. From this, one could say that principles of generalized and balanced reciprocity were embedded in modes of production. Thus, despite the diversity in origin, cultural traits and the spirit of mutual assistance was still held and persisted. However, the constitution of the groups, the activities they engaged in and the mode of payment, were different from what was found in their areas of origin. Such relations point to the fact that the pre-capitalist mode of labour exchange not based on monetary value had not been completely disintegrated; rather, it had taken a new form.

In the three settlements studied smallholders who engaged in reciprocal labour relations for social gain comprised 14(10%) in Muramati, 18(13%) and 9(7%) for Wiumiririe and Salama, respectively. Payment for work done was basically in kind, e.g., tea, lunch or farm products. Some farmers participated in the *ngwatio* network so as to get food or seeds for their farms.



Some farmers engaged in *ngwatio* for economic gain; they always expected and demanded cash payment for work done. These were particularly farmers who had formed working groups and could be hired for cash by some members of same group or by others not belonging to the same group. This kind of arrangement was an indicator of the extent to which the aims and the forms of payment in institutions of mutual assistance had taken and, especially, more so the tendency to incline towards capitalist market relations.

Although the two categories i.e., social and economic oriented groups, no clear cut division was easily observable between the two. An individual's participation in reciprocal communal work kept on changing, depending on needs, expected gains and social and economic networks to which he or she belonged.

A common feature of membership and engagement in reciprocal labour relations was that individuals belonged to the same church group. Although there were others based on women groups as such, these were not for maintaining reciprocal obligations for farm work, they engaged in merry-go-round and welfare oriented activities. These observations contrast with findings from western Kenya where reciprocal labour relations were mainly for farm work (cf. Kongstad and Monsted, 1980; Suda, 1986).

Labour institutions such as polygyny were minimal due to the high cost of maintaining more than one family and the fact that among the Agikuyu who are the majority here, polygynous marriages are currently uncommon. Only 15(11%) farmers of the sample were polygynous. Those with polygynous families had one home in Laikipia and the other in their areas of origin. Some of the farmers in this group maintained reciprocal labour ties with their other households as one of them from Salama stated:

When work is too much on my farm (like weeding and harvesting), I call upon my children in Nyeri to come and assist the family in Salama. Conversely, when it is coffee harvesting time in Nyeri, some of my children in Salama go there to assist.

We noted that at the time of interviewing him, he was harvesting maize in his farm (5.26ha) and his three sons from Nyeri had come to assist. Case studies revealed that although desire to have many children was strong, the reasons advanced were that children were basically an insurance to parents in old age. Therefore, their labour input while their parents were still strong was insignificant.

Further discussions with some of the farmers and case studies revealed that first, the concept of *ngwatio* and its principles which assisted them so much in peak farm work seasons in the pre-colonial and colonial period is disintegrating. This is because of changing lifestyles with labour primarily assuming a monetary value. This points to the extent to which capitalistic market relations are taking root in a subsistence community. It was also suggested that the Agikuyu culture is no longer homogeneous as a result of

interaction with other communities. The development of individualism and diversification of roles as a result of changing agricultural systems were seen to be 'killing' the spirit of mutual assistance. Some farmers who have money feel that they are independent and can hire their own casual, contractual or permanent labourers. They therefore saw no need to engage in *ngwatio* or *gutukania ruuru*. Similarly, women who are the major participants in *ngwatio*, were faced with a "double-duty crisis" as children who assist them go to school, while husbands and school-leaving youths migrate to urban centres for wage labour. They assume extra roles in the "public sphere" which would have been performed by men and children as was noted by Moore (1988).

In our discussions with farmers we came to understand that farming systems have been diversified with the introduction of cash and horticultural crops. Farmers who grow cash crops, e.g., wheat and pyrethrum, in addition to food crops and keeping of livestock were constrained since all these activities need close attention. Farmers could not afford to be away from their farms for, say, a week. In addition, *gutukania ruuru* was declining due to reduction in communal grazing lands resulting from increased human settlement, adoption of zero-grazing or paddocking methods and the ability of some farmers to hire their own herdsmen. However, where reciprocal labour was maintained for crop husbandry, weeding was the most significant as pointed out by 46(41%), of the total number of the farmers studied. Participation was on individual or group basis, as a part-time

endeavour by women who were left on the farms.

When the three areas are assessed independently, 5(4%) of the informants in Muramati commonly engaged in *ngwatio* for planting in January, followed by weeding in April and May. An additional 3(2%) had reciprocal obligations for domestic chores like fetching water and collecting firewood. Twenty three informants, (i.e., 17%), pointed out that they were paid in kind, as compared to 4(3%), who were paid cash, while 5(4%) did not participate in *ngwatio*. Group work was on a casual basis as reported by 25(19%) of the informants. The *ngwatio* network consisted of mainly friends, as reported by 14(10.3%) of the sample who also belonged to the same church group. Relatives did not engage in such networks since they were far away. We gathered that *ngwatio* operation were rampant in years with high rainfall as compared with those with less rainfall.

In Wiumiririe, 60(44%) of the sample maintain reciprocal labour obligations for weeding in April and harvesting maize in November and December. The operation of this group was on a casual basis. Twenty informants (15%), indicated that payment for work done was in cash or kind depending on agreement between the parties involved. Participants in *ngwatio* were friends and neighbours. Like in Muramati, 8(6%) engaged in *ngwatio* for domestic chores. Discussants put it that in a good agricultural season, when they have bumper harvest, more labour is required for harvesting (maize) and communal work groups are essential.

In Salama, 22(16%) engaged in reciprocal labour

obligations for weeding in April and May, and harvesting in November and December. Fourteen informants (10%) were involved in it for domestic work, charcoal making, home maintenance (e.g., fencing). Participants were mainly paid in kind as shown by 12(9%) of the informants. Twenty-nine informants (22%), pointed out that *ngwatio* groups consisted of friends and neighbours.

Participation in *ngwatio* by individual farmers meant that they had to suspend farm work on their farms for some time. Therefore, informants were asked to state whether their being away affected or delayed work on their farms. The frequency and percentage distributions below show the responses obtained.

Table 3b. Whether Reciprocal Labour Relations Delayed Work On The Participant's Farm.

| Area       | N/A       | No        | Yes       | Totals    |
|------------|-----------|-----------|-----------|-----------|
| Muramati   | 5(3.7%)   | 14(10.4%) | 11(8.1%)  | 30(22.2%) |
| Wiumiririe | 5(3.7%)   | 40(29.6%) | 20(14.8%) | 65(48.2%) |
| Salama     | 5(3.7%)   | 25(18.5%) | 10(7.4%)  | 40(29.6%) |
| Totals     | 15(11.1%) | 79(58.5%) | 41(30.3%) | 135(100%) |

NB: Brackets indicate the actual percentage of informants.

Table 3b shows that 79(58.5%) of the sample pointed out that reciprocal labour relations and obligations did not affect or delay work on their farms. Fourteen informants (10%) indicated that they engaged in *ngwatio* when work on their farms subsided. This could not, therefore, affect or delay any

farm operations. Besides, 55(41%) indicated that work on their farms was not delayed since they worked in a reciprocal manner. Therefore, work pending on their farms was cleared when turn for being assisted reached. Average time taken away for *ngwatio* was less than a week since the group sizes were small.

Nonetheless, 41(30.3%) argued that participation in *ngwatio* affected or delayed work on their farms. Twenty-eight informants (20.7%), admitted that they were poor and the propensity to have money influenced them to engage in *ngwatio* as individuals or group at the expense of work on their farms. In some cases, certain farmers suspended work in their own farms to assist friends or relatives who fell sick or were too old to manage farm operations on their own. In such cases, some farms were overgrown by weeds or were left unharvested for sometimes and this affected yields. One farmer observed:

Every season I leave my work for two weeks to assist my neighbours or friends who are aged and sometimes have no children on their farms to assist them. Since my children are schooling and my husband is away in Thika, I have to strain to work on my shamba, milk my cows and cook. This is too much for a woman like me.

The prevalence of communal reciprocal labour relations in the area of study is not in accord with Carlsen's (1980) or Kongstad and Monsted's (1980) findings. The above authors argue that the commercialization of land and labour has created market relations within communities which gave room for individualistic lifestyles that in turn eradicated dependency on communal labour. Although some farmers were developing individualistic, independent and self-reliant

lifestyles, reciprocal labour obligations were still common, especially between poor households and members of the same church group.

In conclusion, the findings of this study on this topic are that some of the observations support the hypothesis that commercialization of smallholder household labour has adversely affected agricultural production in the studied areas. Some farmers experienced labour shortages for both crop and animal husbandry. This situation affected farm yields. On the one hand, there were some smallholders whose farm work performance was satisfactory. They either had no shortages in household labour or, where they had, they had the money and other resources to obtain extra labour from outside their own households.

#### **5.11. Remittance: Its Source and Use Patterns**

The third hypothesis presumes that remittance (income) from migrants who participate in off-farm activities is used to supplement food production in Laikipia. This could be supplemented through hiring of labour for crop and animal production, purchase of additional land, or food stuffs in and outside Laikipia.

Through the administration of the questionnaire and case studies, our study established that some of the households received subsidies from some of their household members who worked or lived outside the three settlements under study. The

remittances received supplemented food requirements and farm improvement. They also covered a variety of needs, e.g., medicines, school fees, uniforms and books and day to day utility items such as soap and salt.

Out of the 135 smallholders studied a large proportion, (85.2%) received remittances, as compared to 20(14.8%) who did not. The highest number of remittance recipients was recorded in Wiumiririe 53(39.3%), followed by Salama 35(25.9%) and Muramati 27(20%).

Of the assortment of items remitted, cash was dominant, followed by farm inputs, food and clothing. It was further observed that, in all the three areas, 70(52%) of the farmers studied received cash remittances regularly. A small proportion of the sample, 24(18%), did not receive any remittances. This was because migrants did not send any, or informants did not have any member of their households who had moved out to seek employment elsewhere.

The findings further indicated that cash was predominantly used for household maintenance and subsistence needs. Twelve (9%) of the households studied in Muramati used the cash remitted for maintenance, i.e., buying food, clothes and fencing of farms, as compared to 38(28%) in Wiumiririe and 21(16%) in Salama. Purchase of livestock, e.g., cattle, sheep or goats was done after household subsistence needs had been met. Household needs and maintenance were a priority because the marginality of the area was worsened by drought and attacks from wildlife. One of the farmers in Muramati stated:



When my son sends money I use it for buying food, clothes, paying school fees, paying my debts and even lend some of it to my friends who are poor. Why should I hire labour to cultivate when elephants will destroy my crops? Furthermore, rains here are never reliable.

Besides, the author observed that recently settled farmers were at a low level of agricultural production due to high settlement costs. These farmers were mostly found in the less productive parts of the study area, and when they received remittances it was invested in activities such as housing, fencing, bush clearing and stump uprooting, which were not immediate productive areas. Some of the money catered for costs of movement and coordination of the households from areas of origin to the present sites.

These observations are congruent with Keter's (1989) findings that high settlement costs affected technological adoption on smallholder farms. In essence then, the period of settling in Laikipia was an important factor that influenced how money was utilized. Newly settled farmers, therefore, invested less in direct farm production activities which in a way affected food production.

In view of the foregoing observations, the hypothesis under discussion is confirmed. Food production in the areas studied is supplemented by remittances from household members who engage in off-farm activities outside or inside the settlements. In the first instance remitted cash is used to purchase food stuffs in older settlements. On the other hand, the newly settled farmers' priority was to spend such remittances on homestead construction and maintenance, with

the purchase of food stuff being secondary. Farmers either directly or indirectly used the remittances to buy food which allowed them to continue engaging in their farm chores or they indirectly invested them in long term ventures that later boosted food production on their farms, i.e., hiring of extra farm labour, land, purchase of inputs, equipment, or services. To that extent our findings also agree with earlier studies in other areas that remittances from absentee household members are used to cancel the labour deficit that they create (cf. Suda, 1986; Chidebelu, 1990; Olenja, 1991).

This chapter set out to present and discuss some of the key findings of this study. The data presented in this study showed the extent of labour usage in aggregate terms. Major observations were that those people left on the farms made disproportionately high labour contribution to agricultural production. As a result of adaption by immigrants in arid Laikipia, dependency on family labour pool, *gutukania ruuru*, *ngwatio* and large progeny as sources of labour, were diminishing in value as labour was becoming more commercialized.

Agricultural production was highly seasonal in a pattern closely related to the rainfall regime, and so did the labour utilization patterns. Labour profiles indicated that labour demand was high in peak season and low in slack season. More so, labour hiring was high in those years when rainfall was abundant with a reverse trend in those years with less rainfall.

## CHAPTER 6

### CONCLUSION AND RECOMMENDATIONS

#### 6.0 Introduction

The objective of this chapter is to make a presentation of the results obtained from this study in the form of general conclusions as revealed by the research findings. Besides, an attempt is made to make suggestions to be considered in any future research and development programmes in Laikipia district.

The issues raised in this study were intended to explain the form or characteristics of household labour and their use patterns in Laikipia . Hence, was the inability of immigrants to cultivate their small farms to do with the kind of labour that was or was not available to households or what?. While the impact of the kind of household labour cannot be sidelined, what seems to be the central issue is the whole question of managing an agropastoral economy in an ASAL and drought hit environment. What we are observing here are adaptive strategies by a people who have moved into an ASAL zone from an agriculturally better environment who then become victims of drought and wildlife menace.

## 6.1 CONCLUSION

The study findings show that smallholders did not entirely depend on household labour for their food production activities. Participation in formal school education by some household members, migration to other places in search of employment contributed to partial withdrawal of labour. Likewise participation in off-farm income generating activities away from the farm contributed to household labour shortages. The effect of this situation was that non-participants in the above activities could not constitute an adequate labour force to adequately manage farm operations.

Social off-farm activities, e.g., ceremonial occasions, or participation in development projects were no major diversions from farm work. The exception was for off-farm income generating enterprises performed away from the farms because it reduced the participants' labour contribution and it was occasionally available. For instance, ownership of business enterprises away from the farm withdrew labour contribution for those who attended to them e.g., people who worked as mechanics, bar and butchery operators, retailshop-keepers, bicycle repairers, carpenters or salaried employees.

It was observed that farm operations among smallholders were labour intensive with weeding and herding in crop and animal husbandry, respectively, being the most labour demanding activities. Despite being smallholders, informants (89.6%) experienced labour shortages. As a result, they had to obtain extra labour from outside their own households in times of need. This labour was engaged on hired terms and was paid

either in cash or kind. Most hired labourers were casuals, and a few of those engaged in livestock related duties were permanent.

Communal work groups, which we think were a continuation of reciprocal labour relations embedded in Agikuyu culture, are important institutions in this new environment. Participants in these groups were not necessarily kins, most of them were members in the same churches and /or neighbours.

Some smallholder households that had some of their members working in money generating occupations outside the study area received regularly or otherwise cash or material remittances from those members. These remittances were mainly used for purchasing household basic needs rather than paying for hired labour to supplement the labour needs created by the remitters. Spending of remittances on hiring agricultural labour came after household needs had been satisfied, especially for those newly settled farms and areas adversely affected by drought and wildlife.

## 6.2 RECOMMENDATIONS

In view of the foregoing conclusions of this study, we would like to make the following recommendations :

a) Change agents and farmers need to work cooperatively to establish, develop and expand the social and economic opportunities in rural areas geared towards increasing the income base by supporting smallscale enterprises, i.e., handicraft projects.

b) Change agents need to adopt a holistic approach when working with farmers. They should sensitize them ,for instance to appreciate the changes that are taking place in role relations between sexes and various ages of people in households. Whereas males, for example, are ready to perform those roles usually referred to as domestic for pay in urban or other people's farms, they should be encouraged to do the same in their own households.

c) It ensued that reciprocal working groups are of particular use to poor households. Therefore, efforts through the govrnment policies should be made to strengthen were possible labour institutions (*ngwatio* and *gutukania ruuru*) in terms of their operations. Since these groups alleviate labour constraints, the change agents can use them as avenues through which innovations can reach the poor. For instance, such groups could be given farming equipments such as tractors and inputs (seeds and fertilizers).

Where appropriate, articulate farmers and working groups should be taught and encouraged to use ox- or donkey- drawn equipment such as ploughs, weeders and seeders or carts by extensionists. For instance, some informants were willing to use a donkey driven plough, but they had not seen this in operation. Others who had donkeys did not know how to use a plough. Tours and field visits to neighbouring farms to learn how such facilities work would be of great importance.

(d) On wildlife, their is need for Kenya Wildlife Service, Ranch owners, relevant line ministries, the administration and the immigrants now settled in Laikipia District to re-examine the issues of game damage on especially, crops and

infrastructure with a view to controlling the reoccurrence of wildlife menace.

e) Issues for further research.

\* There is need for a district policy on research aimed at putting resources of arid and semi-arid land into more productive use. Currently, there is, for instance, little agricultural investment and research in the district on: drought tolerant and escaping crops and livestock, farm and on station trials. Only one research institution (L.R.P) attempts the above for the vast district. The new programme, ASAL-Laikipia supported by the Dutch Government, should try to integrate some of the following in their operative and official goals and also come up with priority areas in the farming system.

\* More significantly, research into Dry Land Farming Systems and appropriate (applied) technology, including food processing and storage to improve the food security system should be given top priority. At the moment some people in Laikipia depend on relief food.

\* Research on the influences of large scale ranching on labour on smallholder farms on the one hand and conversely, research on hired labour on ranches, their management and welfare services.

\* Research on labour transactions and labour calendars in polyethnic settlement areas such as Lorien and Akorino farms. Thus, look at the nature and manner of labour relations.

\* This study has looked at labour characteristics and usage on smallholder privately owned farms. However, further

research should look into aspects of labour use on government settlement schemes (i.e., The One Million Acre Schemes) like, among others, Mutara ADC, Ol Arabel, Muthengera and Marmanet.



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## APPENDIX .1

## QUESTIONNAIRE

## Identification

1.Respondent's Name -----2.Plot Number -----

3.Settlement Area-----4.Ethnic group-----

5.Sex of Respondent-----6.Age of Respondent-----

7.Buying, Settling and cultivation on plot

7:1 When did you buy this plot? Year

7:2 When did you settle on this plot? Year

7:3 When did you start cultivating? Year

8.Non/off-farm Activities

8.0 Do you engage in off-farm income generating activities?

(i) Yes (ii) No

8.1 Please state off-farm income generating activities/occupations you engage in apart from farming

(check the list below):

Salaried employment

Business

Charcoal making

Carpentry/Masonry

Others (specify).

8.2 State reasons for engaging in the activities mentioned above

(i) -----(ii) -----(iii) -----(iv) -----

8.3 State reasons for NOT engaging in the activities mentioned above.

(i) -----(ii) -----(iii) -----(iv) -----

9 Family Tree: Draw family tree and indicate for each member mentioned.

Age

Current work/occupation

Level of education achieved

Absent members: where are they?

Absent members: reasons for moving away

When do absent members assist in farm work?

If the owner is not the household head, where is the owner?

Observe characteristics of those hiring labour and those being hired

10.1 Do you keep livestock on your farm?

(i) Yes (ii) No

10.2 If yes, what types and numbers

| Livestock Types | Numbers |
|-----------------|---------|
| Cattle          |         |
| Goats           |         |
| Sheep           |         |
| Others          |         |

#### ORGANIZATION OF LABOUR

10.3 Who mainly does the following activities in your household at the moment/over the last year?

| ACTIVITY              | Who does it now | Over the last year. |
|-----------------------|-----------------|---------------------|
| Herding               |                 |                     |
| Milking               |                 |                     |
| Marketing             |                 |                     |
| Purchase of livestock |                 |                     |

10.4 Do you experience labour constraint/ shortages for livestock management?



15. Who currently does (or did in the last two seasons) the following work on your farm?

| ACTIVITY                      | WHO DOES IT |
|-------------------------------|-------------|
| Land clearing/preparation     |             |
| Planting                      |             |
| Weeding                       |             |
| Manure/Fertilizer application |             |
| Harvesting/carry harvest      |             |
| Scaring animals/birds         |             |
| Storage                       |             |
| Marketing                     |             |
| Others                        |             |

16.1 Did you have the following people (groups) working on your shamba? (Tick if yes)

|                   | Last cropping season | Since settling |
|-------------------|----------------------|----------------|
| Respondent Alone  |                      |                |
| Household Members |                      |                |
| Friends           |                      |                |
| Relatives         |                      |                |
| Neighbours        |                      |                |
| Hired labour      |                      |                |
| Women's Group     |                      |                |
| Church Group      |                      |                |
| Others            |                      |                |

16.2 Did you hire a tractor during the last cropping season?

How many times since settling?

(i)-----?(ii)-----?

LABOUR-IN (HIRED)

17. For what activities did you hire labour from outside your household in the last cropping seasons?(Fill as many activities as possible).

| ACTIVITY | TIME OF HIRING | DURATION (mD/W/M) | WHO GENDER | PAY TERMS | NATURE OF HIRE | TIES WORKER |
|----------|----------------|-------------------|------------|-----------|----------------|-------------|
|          |                |                   |            |           |                |             |
|          |                |                   |            |           |                |             |
|          |                |                   |            |           |                |             |

18.How did you get the money for hiring labour?

(i)----- (ii)----- (iii)-----

19.What period of the year (month) was hired labour in great demand?

(i)----- (ii)----- (iii)-----

20.In terms of gender, who would you prefer as hired labour, and why?

(i)----- (ii)-----

21.i. If you hired labour in the last two seasons, did you have problems finding workers? If yes, what were the problems?

(i)----- (ii)----- (iii)-----

ii. How do you arrange to get labourers

iii. How does availability and unavailability of hired labour affect production on your farm?



## LABOUR OUTSIDE

22. For what farming activities has somebody in your household worked for somebody else in the two cropping seasons?

| ACTIVITY | TIME OF HIRING | DURATION D/W/M | WHO GENDER | PAY TERMS | NATURE HIRE | TIES |
|----------|----------------|----------------|------------|-----------|-------------|------|
|          |                |                |            |           |             |      |
|          |                |                |            |           |             |      |
|          |                |                |            |           |             |      |

23. Why did members of your household work for somebody else?

(i)----- (ii)----- (iii)----- (iv)-----

24. When members of your household work for somebody else, does it affect work on your farm? and how?

(i) Yes----- (ii) No -----

Yes how (i)----- (ii)----- (iii)-----

### Remittances

25.1 Has any member of your household moved away?

(i) Yes (ii) No

If yes, do they send any assistance?

(i) Yes (ii) No

25.2 If yes, what kind of assistance?

Cash-----Farm inputs-----Farm equipment-----Food-----

Others, specify-----

25.3 If cash, how is it used?

(i)----- (ii)----- (iii)-----

25.4 If cash is sent, how often do you get it?

(i) Regularly (ii) Irregularly

26. Do you think you need more hired labour at the moment?

(i) Yes (ii) No

27. What kind of farm labour do you find beneficial?

| TYPE             | REASON |
|------------------|--------|
| Respondent alone |        |
| House members    |        |
| Friends          |        |
| Relatives        |        |
| Neighbours       |        |
| Hired Labour     |        |
| Tractor          |        |
| Women's Group    |        |
| Church Group     |        |
| Others(specify)  |        |

28. Do you think you experience labour shortage on your farm?

(i) Yes (ii) No

29. If yes, what is the cause?

(i) ----- (ii)----- (iii)-----

30. Would you increase your cropland if you had more labour?

(i) Yes (ii) No

If no, why?

(i)----- (ii)----- (iii)-----

31. Personal observation and other comments.

- characteristics of hired labourers and of those who  
hired them

Thank you for your cooperation