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Issues in African Rural Development Monograph Series

**Household Labor Use and Changes in Gender Roles on
Small Farms in Ndhiwa Division, Western Kenya:
The Challenge of Comparing the Contributions of Different Workers**

**Collette A. Suda
Institute of African Studies
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**Monograph # 1
March 1996**



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Summary

Agricultural production in small farm households in Ndhiwa Division, Western Kenya relies heavily on unpaid family labor. Much of the labor for food production is provided by women who bear more responsibility for household nurturance, like child care and food preparation, than other members of the family. Men are more often involved in livestock activities in addition to their roles in the provision of family security, as is perceived to be culturally appropriate. Although gender roles are changing, the overall structure of the division of labor is still generally lopsided, with women, particularly those who function as *de facto* household heads, assuming disproportionately more responsibilities than men. The household labor situation is likely to deteriorate further with increased involvement of the farmers in off-farm enterprises which are intended to supplement family incomes but are often economically unviable owing to poor infrastructure and lack of management skills and capital.

The overall objective of this study is to investigate and analyze patterns of labor contribution by males and females in small-farm production by showing whether each member of the household performed a task frequently, occasionally or never.

Among the major findings of this study are that:

- (i) women have use rights to land that belongs to their husbands or other male relatives while men have legal rights to land which they sell with or without the knowledge or consent of their spouses;
- (ii) the prevailing farming system involves an intensive use of existing labor and land resources to produce crops and livestock; and
- (iii) the distinctive features of household production in this small farm community is its heavy reliance on non-wage family labor, limited use of hired labor, and increasing involvement in off-farm labor markets with women predominating in food production and being more heavily involved in household work, while men tend to migrate to the urban areas and contribute a disproportionately small amount of labor on the farm.

Introduction

This is an empirical micro-level study that takes the household as the unit of analysis. The analysis of household labor contribution to small-farm production is informed by the modes of production theory. The main line of conceptualization stems from the perspective that the small-farm household is both integrated into and articulated with the larger market economy. But this is not to say that the internal functioning of the household is entirely influenced by the market in a mechanistic and deterministic fashion. Rather, the mode of production approach takes the view that household production involves limited mobility of factors of production and postulates that commodity relations are increasingly becoming part of the household economy (Taylor 1979, Friedmann 1980, Hindess and Hirst 1977).

Farmers in Ndhiwa Division are subsistence growers who produce food primarily for house-

hold consumption with only a little surplus marketed. In other words, subsistence needs in these small farm units are still largely met through household production and over-utilization of unpaid women's labor. Some household members are migrant workers engaged in wage employment away from home and others participate in a variety of off-farm activities to generate income. A few also hire labor for household and farm work.

Conceptually, therefore, these small farmers can be distinguished as smallholders who are becoming progressively and more tightly linked to the market. For example, despite increasing commercialization of land and labor in the study area, some farmers acquired their land through inheritance, and the bulk of family labor used on the farm is unpaid or paid in kind. This indicates that land and labor have not been fully commercialized and thus reflects only partial integration of the rural household into the

market economy. However, participation in off-farm income-generating activities, migration, the sale of surplus produce, and the emergence of rural land and labor markets can be seen as examples of ways in which the rural household is being integrated into the larger market economy.

From a theoretical standpoint, it is noted that gender division of labor has been dynamically transformed, and changes in the roles of males and females are constantly mediated through a dialectical relationship between market forces and the process of reproduction. In other words, as Elson (1989) has made clear, subsistence crop production, the process of reproduction, and the maintenance of human resources are all disproportionately carried out through women's unpaid labor. Elson points out that women's reproductive work in the unpaid economy not only exacerbates their work burden but also helps to further structure social differentiation.

Literature Review

A great deal of research is now available on rural household labor organization and changes in gender roles. Much has also been written about the relative participation of males and females in smallholder agricultural production in sub-Saharan Africa.

In Kenya, as elsewhere in Africa, the household economy is based on subsistence agriculture in which most production is geared toward home consumption, although the use of cash and production for the market has increased considerably in recent decades (Ayiecho 1991). In his study of women's contributions to the domestic economy in Cameroon, Nkwi (1987) observed that rural Cameroonian women have

traditionally performed two roles. Their reproductive roles include responsibility for child bearing and household work as well as tasks that are performed outside the market economy but are essential for the reproduction of the labor force. Nkwi further stated that rural women in Cameroon are the principal food producers but added that they assist the men in the cultivation of cash crops.

In a study of women's bargaining power and agricultural change in Tanzania, Holmboe-Ottesen and Wandel (1991, 105) noted that when maize production in the Ufipa plateau became a major source of cash, the burden of subsistence production shifted to women, and the men only gave "assistance" to their wives and mothers. They argued that men's role as farm managers defines the limits to their actual labor contribution in the various agricultural tasks. A study by Mbata and Amadi (1993) on the role of women in traditional agriculture in Rivers State, Nigeria, showed that small-farm production mainly draws labor from the family pool and that much of it is supplied by women as a result of increased male mobility out of the household. Their analysis further revealed that women in Rivers State tend to overutilize their family labor resources, while the use of hired labor is distinctly minimal and selective. Other studies in Nigeria have shown that besides farm work, African rural women bear the full responsibility for home management tasks and are becoming increasingly involved in income-generating activities (Uwakah, 1991; Dittoh 1992; Chidebelu 1991).

According to a study by Goodnow and Delamey (1989), household work is not a single activity but rather a collection of tasks that vary with content and context. The critical feature of

household work is that it is done for others. This underscores the notion that unpaid female reproductive roles serve to provide care and support to other members of the family (Delphy 1984, Women in Action 1989). Kilbride and Kilbride (1990), in their discussion of the social organization of household labor in Western Kenya, noted that changes in gender roles have made the division of labor much more asymmetrical than was previously the case. Their study indicated that in most rural households in the region, women are valued as sources of cheap labor and producers of future laborers. Similar studies by Suda (1989, 1992, 1994) and Ayiecho (1991) have pointed to the continued confinement of women to subsistence crop production as the household economy becomes progressively integrated into the larger market economy.

Nkwi's study (1987) indicated that the introduction of cash cropping, urbanization, and migration have disrupted the complementary pattern characteristic of the traditional division of labor. He noted further that the role of women in the Central Province of Cameroon has been greatly transformed as Beti, Ewondo, and Bouloumen moved into cocoa production and to Yaounde and the surrounding towns to seek wage employment. A study by Silberschmidt (1991) on changing gender roles in the household among the Gusii of Kenya suggested that under conditions of rapid transformation, gender roles and relations are often dislocated and redefined according to the prevailing circumstances.

Male labor force participation in smallholder agriculture has been reported to be declining, partly because of increased rural-urban migration and involvement in off-farm employment.

As a result, rural women have become increasingly involved in certain farming activities that were traditionally considered men's activities. The 1988/89 Rural Labor Force Survey (RLFS) in Kenya showed that over 91 percent of the rural women perform strenuous agricultural operations, compared with 87 percent of the men (Republic of Kenya 1991a). When considered together, the survey revealed that rural women in Kenya spend an average of 13 hours a day on household and agricultural activities compared with the 8 hours of work done by their male counterparts.

A study by Knowles and Anker (1981) indicated that in Kenya, migrant workers respond to rural-urban income differentials and the expected employment opportunities despite high urban unemployment rates. The drudgery of farm work and low returns to agricultural labor are the major factors pushing the migration process. Most people with secondary education and other forms of training prefer to move to the cities to seek white-collar jobs, and they feel that subsistence farming should be left to the elderly and the illiterate who lack the skills necessary for participating in formal-sector employment.

One of the reasons frequently given in the literature for the limited availability of labor for agricultural work in small-farm households is participation in off-farm income-generating activities (Eicher and Baker 1982). However, a contentious issue in the discussion of off-farm labor has been what constitutes farm labor (Hill 1981, Mbithi 1974, Meyers 1982). Because some off-farm activities are performed on the farm and do not require the movement of labor away from the household, the distinction between on- and off-farm work is sometimes difficult to make. As in other rural communities in developing

societies, many of the surveyed farmers had difficulty drawing a clear line between on- and off- farm activities, primarily because of the overlap between them. Many of the tasks performed by subsistence farmers are more closely linked than is generally believed, and it is necessary to clarify the nature of such linkages, based on the farmers' objectives and production strategies, in order to have a deeper understanding of what they do, how they do it, when, where, and why. For example, it could be asked whether women who sell grains or vegetables grown on their own farms can be considered to be engaged in off-farm employment. Similarly, it is not clear whether making a grain storage (granary) or making and selling hoes and other farm implements is on- or off-farm work. One reason for the difficulty in distinguishing between the two sets of work is that in a small farm community, such as the one in which this study was done, few people have highly specialized skills, and much of what passes for non-farm labor is essentially an extension of agricultural work and, to some degree, just a different facet of it. For example, a small-scale farmer could also be trading in livestock, as well as working as a carpenter, a blacksmith, and a weaver all at once, and part of what he or she produces is used on the farm while the rest is sold for cash.

In a social environment where recreational facilities are almost non-existent, it is also difficult to deal with the issue of leisure time. When the farmers were asked how they spend their leisure time, the majority of them, mostly women, said that they did not have such thing as "free time" except when they are sleeping. Others said that during peak agricultural seasons, free time was when they winnowed the grains or sat down to have their meals or to plait their hair.

Part of it is a conceptual problem which has to do with the definition of leisure time from the point of view of the farmers themselves.

Objectives of the Study

The overall objective of this study is to investigate and analyze patterns of labor contribution by males and females in small-farm production by showing whether each member of the household performed a task frequently, occasionally or never. The specific objectives are to

- compare the relative participation of males and females in farm work, household work and off-farm activities;
- examine the existing stock of labor available for various tasks in the household and to identify the pattern of participation by type of activity;
- investigate changes in gender roles (and relations) in the light of changing socioeconomic circumstances;
- determine the extent of rural-urban labor migration and its implications for farm labor supply; and
- assess trends in migration, off-farm employment, and school participation of children in relation to availability of labor for farm use.

Methodology

The study area

This study was carried out in Ndhiwa Division, which is one of the six administrative divisions in Homa Bay District, Western Kenya. Ndhiwa Division is located in southern Homa Bay District and borders Rangwe Division to the northeast and Mbita Division to the northwest. It covers an area of 848 square kilometers and has a population of about 162,500, of whom 78,000 are men and 84,500 are women (Republic of Kenya 1989). The division has a population

density of about 112 people per square kilometer and an estimated 17,068 households.

There are eight locations (West Kanyadoto, East Kanyadoto, Central Kabuoch, South Kabuoch, North Kabuoch, Kwabwai, Kanyamwa Kosewe, and Kanyamwa Kologi) and 18 sub-locations in Ndhiwa Division. All the inhabitants of Ndhiwa Division are of the Luo ethnic group.

The division is in the lower midland cotton zone with a medium cropping season, and a small portion of sugarcane zone to the north. The area is considered to be of medium agricultural potential, with brown clay and black cotton soils and fluctuating rainfall patterns. On the average, the area receives 1,000 to 1,300 millimeters of rainfall annually. The long rainy season is between April and June and the short rains usually come between October and November. With minor variations, there is usually a dry spell twice a year from December to March and July to September. The dry season is often characterized by severe food and water shortages (Republic of Kenya 1989).

Sampling strategy and data collection techniques

This study is based on a survey of 180 small-scale farmers in Ndhiwa Division. In terms of the sampling design, the sub-location was taken as the basic sampling unit because it is the smallest administrative unit. Each sub-location in this community has four villages and each village has several households. Thus, the division has a total of seventy-two villages. The sample was drawn with the help of assistant chiefs in charge of the sub-locations together with the village elders.

A combination of multi-stage and random sampling strategies were used to select 180 farm-

ers. Out of the four villages in each sub-location, two villages were randomly selected in the first stage. Within each of the selected villages, several households were identified.

It is important to note that the surveyed households were fairly homogeneous in size, types of crops grown, farming operations undertaken, and socio-economic characteristics of the farmers. The ecological conditions within the division were also quite similar. From each village, five households were randomly selected and one adult male or female farmer in the household was interviewed. The over-representation of women in the sample was due, largely, to their relative accessibility to the researcher and the enumerators.

The primary source of data for this study was the survey. Structured questionnaires were administered to the 180 farmers by the researcher, with the help of two enumerators drawn from the study area. The farmers were interviewed in their homes. The home visits made it possible for the research team to observe patterns of household labor use, particularly the division of labor on domestic chores. The farmers were interviewed on a wide range of issues, including their socioeconomic characteristics, work patterns, types of domestic chores performed, household size and composition, farming operations undertaken, amount of time each family member spent on household and farm activities, changes in gender roles, how leisure time was spent, access to hired labor, involvement in off-farm income generating activities, access to land, and migration. The focus of this study is on the relative participation of male and female members of the family in household, farming and off-farm activities. The questions that were asked on various activities were not designed to show the actual number of hours spent on tasks per-

formed by each member of the household. Instead, the responses were categorized into "does not work", "works occasionally" and "works regularly". Since the primary data are based on categorical responses, the secondary data from the Rural Labor Force Survey (RLFS) have been used in this study not only to supplement primary field data but also to put the latter into perspective. The Rural Labor Force Survey data show the average number of hours spent per week by Kenyan men and women in domestic chores, cropping activities and livestock production (tables 3, 5 and 7).

The main purpose for using secondary data in this paper is to put the primary field data from Ndhiwa Division into a national perspective. Although the secondary data show the actual number of hours and the primary data show the level of participation based on three categories, the overall pattern of labor use and the amount of effort provided by male and female members of the family in specific activities are basically similar in Kenyan small-farm households, cross-regionally and nationwide. The point is that in Ndhiwa Division, as elsewhere in the country, Kenyan rural women spend longer hours and work more regularly in the household and on cropping activities than men whose labor seems to be underutilized, as measured by the frequency of their participation and the number of hours they work per week on certain activities.

The Rural Labor Force Survey was carried out in two phases by the Government of Kenya between July 1988 and June 1989, and covered thirty rural districts (Republic of Kenya, 1991a). The survey districts included Homa-Bay in which Ndhiwa Division is located. A total of 86,420 male and female respondents were interviewed on their participation in various household, farm

and economic activities. The survey, which was made to coincide with the main agricultural seasons in Kenya, was designed to capture the seasonality of rural labor use. The sampling design was based on a multi-stage strategy according to which each district was divided into enumeration areas of about the same projected population size based on the 1979 census maps and figures. From each district, twenty-four enumeration areas were chosen. Each enumeration area had a cluster of about 150 households. A total of about 15,971 households were surveyed countrywide, and information collected from over 86,000 individuals. The only districts which were not covered in the RLFS were those in the drier regions of the country where nomadic pastoralism is both a way of life and a dominant source of livelihood.

Data analysis

Most studies of household labor use are conventionally based on time use data showing the average number of hours required to carry out a particular activity and the number of hours spent on that activity per day or per week by each member of the household. Another approach which is also commonly used to measure the level of participation is to show the number of times a particular task is performed each day or week and then compute the number of times each family member performs that task.

The approach which is used in the analysis of primary field data in this study is slightly different from the first two techniques outlined above. Two things are measured here. One is the total labor input contributed by a household member into a single activity. The total effort provided by each member of the family to a particular activity is not measured in terms of

the actual hours but is categorized into whether a person performed the task regularly, occasionally or never. Thus, the effort indexes are based on a score of 0 to 2. A score of zero is given when a person indicates that he/she did not participate in a particular task, while those who said they performed the same task only occasionally score 1. A score of 2 is given for regular participation. Therefore, the total labor input (or sum of effort) provided by a household member in each activity is derived by adding the row percentages for the three categories of "does not work" plus "works occasionally" plus "works regularly". In table 2, for example, the total labor input from a husband in fetching water would be derived by adding 30.9percent (does not work) plus 11.6percent (works occasionally) plus 0.0percent (works regularly) which equals 42.5percent. This can be compared with the total labor input from a wife in the same activity which comes to 0.0percent (does not work) plus 1.9percent (works occasionally) plus 85.6percent (works regularly) = 87.5percent. Thus, the sum of the effort provided by each person for each task (row percentages) does not add up to 100percent. The data in tables 2,4 and 6 show whether a person performed a task regularly, occasionally, or not at all. For each response category (does not work, works occasionally, and works regularly) the sum of the effort by all family members equals 100percent (column percentages). In table 4, for example, the sum of the effort by all family members who worked *regularly* in *weeding* is derived by adding 25.7percent (husband), 48.2percent (wives), 4.2percent (daughters), 11.3percent (sons), 7.1percent (hired labor) and 3.5percent (others) = 100percent.

How the primary data presented in tables 2, 4 and 6 were created

The primary data presented in tables 2,4 and 6 were created by calculating the percentage of effort indexes from the raw frequency counts for the three response categories (never, occasionally and regularly) in order to get the total labor input provided by *each member* of the family in *each activity* (these do not add up to 100 percent). Similarly, percentage of effort indexes were created from raw frequency counts so as to get the total labor input of *all family members* who either work on a *particular activity* regularly, occasionally or do not work. These are the effort indexes which add up to 100 percent across household members. All the percentages of labor input are calculated for each activity.

Some logical questions concerning the measurements of relative labor inputs

Some of the methodological techniques which have traditionally been used to measure the levels of labor input may lead to some logical questions. The use of number of hours data, which is widely accepted as an index of the effort provided by an individual on a given task, may present some logical problems. For instance, what would be the interpretation if a person spent several hours per day or per week on a particular activity without accomplishing the task or making any significant progress? What is more, how would the labor input be measured if another member of the same household performed the same task quickly, effectively and more efficiently. Based on the two logical questions the argument can be made that although the number of hours spent on an activity is seen

as an important index of the level of effort provided, individual skills and capabilities, the type of work to be done, as well as the conditions under which it is done, are also equally important in determining the net output. Also, in a survey such as this, all these parameters may need to be standardized across households to be able to make a legitimate interpretation of the effort figures. Furthermore, in a small-farm community such as the one under survey, time measurements, with regard to daily activities, are no more than estimates at best.

The approach which has been used to analyze the primary field data is one which calculates the percentage of effort indexes based on whether a person participates in a particular activity regularly, occasionally or never. Like the other approaches discussed above, this technique is also not without its problems. First, it is possible that a household member who performs a task regularly, but for a short period each time, may still make less contribution than someone else in the same household who works occasionally but is more skilled and works for a much longer period of time, say from morning till evening. And so it would seem somewhat illogical to assert that occasional involvement in an activity necessarily suggests less effort all the time and in all cases; but it does indicate a pattern of labor utilization.

The other problem with some quantitative measurements of labor contribution is that they tend to leave out some "grey areas" which need to be addressed qualitatively through the interpretation of data from the researcher's own knowledge and perspective. In this study, some attempts have been made to go beyond the data to discuss the deeper implications of gender roles for gender relations. Some types of contri-

bution are more difficult to quantify, particularly those in the care-giving domain. For example, just how far do we measure emotional contribution, such as moral support, which family members provide to one another? This could be so crucial in the performance of any task and could also be an end in itself and not necessarily a means to make people do their work. It is these grey areas which make for a better understanding of the labor situation of small farmers and the place of women in the context of African rural development.

Socioeconomic Characteristics of the Surveyed Farmers

One hundred and eighty small-scale farmers from eighteen sub-locations were interviewed. The survey was conducted between December 1991 and February 1992. Of the farmers interviewed, 67 percent were female and 33 percent were male. The study revealed that 65 percent of the farmers were 30 to 60 years old, while only 3 percent were under 20 years old and 16 percent were over 60 years old. The average age was 43 years. Eighty-six percent of the farmers were married, although not all of them were staying on the farm with their spouses at the time of the survey. Sixty-three percent of the households had the husbands staying on the farm, and the female respondents whose husbands were not on the farm reported that the absence of their spouses was due to urban employment (64 percent), death (30 percent), and divorce (6 percent).

Among the male respondents who were married, 59 percent were polygynous, with two or more wives each. The cultural ideal that a man should have several wives is still widely held by many people in the study area. Most of the farm households were large. The average

family was composed of seven people, and about 58 percent of the respondents had four to eight children. Another 13 percent had more than nine. The average farmer had six children with almost an equal number of boys and girls. Many of the respondents (59 percent) had no preference about the sex of their children although those who preferred to have more boys than girls said that male children were more likely to support their parents in old age (27 percent), and to inherit their fathers' property (9 percent), than female children. Over 80 percent of the respondents had at least one child who was attending school at the time of the survey, and 65 percent of the total sample had two or more children in school. School enrolment of children in Kenya has significantly increased since 1978, following the government's decision to "abolish" primary school fees and a directive that all children of school age should be enrolled.

About 48 percent of the female farmers had no formal education compared with 20 percent of their male counterparts, and a mere 7 percent of female farmers had secondary education compared with 17.8 percent of male farmers (table 1). The proportion of respondents with college or university education was about 2 percent for women and 8 percent for men. The difference in education between male and female farmers was statistically significant. These survey results suggest that male farmers were better educated than their female counterparts.

About 83 percent of the surveyed farmers reported farming as their primary occupation and source of livelihood, and 75 percent of these were women. Another 14 percent of the female respondents engaged in trade, and only 7 percent were teachers or civil servants. By contrast only 9 percent of the male respondents were

traders, and 26 percent were civil servants. A striking feature of the surveyed farmers is the deterioration of their living conditions resulting from the worsening socioeconomic conditions in the rural economy. Most of the farmers in this community live below the poverty line and much of the women's time is devoted to the achievement of food security in the households and the improvement in the living conditions of their families.

Ninety-nine percent of the respondents described themselves as Christians, although they belonged to various denominations. Muslims were a distinct minority. Nearly 96 percent of the surveyed farmers belonged to the same denomination as their spouses. Endogamous intra-faith marriages were generally viewed as proper and were widely practised in this small-farm community.

Gender Division of Labor

Labor input into household work

The existing stock of family labor was based on the total number of family members aged 8 years and above. This was found to be 910 people in all the surveyed households. The only household activities included in the field survey were food preparation, provision of water and fuel, washing of clothes, child care and cleaning the house. These are repetitive tasks which are performed on a daily basis and have remained the primary responsibility of women. As elsewhere in sub-Saharan Africa, Kenyan rural women devote a significant amount of effort to domestic activities.

The survey data in table 2 indicate that females are more regularly involved in household work than males, although children over 8 years occasionally participate in some chores.

The division of labor in household work is clearly differentiated on the basis of gender and, to some degree, age. A defining feature of the routine of most surveyed women is a long hard day. In addition to the differences in work patterns between males and females, all the women interviewed also said that they spent an average of six hours per day on household work throughout the year. Over 65 percent of them reported that they spent 6-10 hours a day in home management activities alone, compared to about 2.4 hours of input by men. The survey has also revealed that the average time spent on household work per day was 7.3 hours for women against 3.6 hours for men. These survey results indicate that domestic work and the larger sphere of reproduction are still viewed as a female domain. These perceptions and work patterns reflect a cultural tradition which has important structural implications. They reinforce the traditional gender division of labor and weaken the position of rural women. The primary survey data in table 2 indicate that, on the average, nearly 80 percent of the women performed household tasks on a regular basis compared to 6.8 percent of the men. Although these percentage values may not necessarily be interpreted to mean that 80 percent of the labor input comes from the women, they however suggest that the rural women spend considerably more time than men on domestic work. Field observations and available ethnographic information have both revealed that in the rural areas men rarely perform household tasks except under very special circumstances, such as when the wife is away or unwell or when there is no other woman in the household to assist. In order to put the primary field data into perspective, secondary data from the 1988/89 Rural Labor Force Survey (RFLS)

are presented in table 3. The RFLS survey compared the average hours spent per week on domestic chores by men and women from 30 rural districts, including the one in which this study was done. A major finding of the Rural Labor Force Survey was that, on the average, Kenyan men aged 20 to 54 years spent only 1.9 hours per week on domestic chores compared with 19.4 hours spent by women of the same working age group (Republic of Kenya 1991a;1991b). These secondary data further indicate that rural women in Kenya aged 15 to 64 years spent about 18 hours per week on domestic chores compared with only 1.8 hours of input from males. Only children of school age (8-19 years) and the elderly who are aged 65 years and above made limited contributions to household work. The RFLS results also show that the provision of fuel and water took up over 10 hours per week for women aged 25-44 years. Although the RFLS data are representative of a nationwide situation, they are basically consistent with the primary data from Ndhiwa Division. Both sets of data show a structure of gender division of labor in which Kenyan women's participation in household activities is disproportionately higher than men's, regardless of whether the reference point is a small region or a whole country. As Delphy (1984) and Goodnow and Delamey (1989) have argued, the critical feature of women's household work is that it is done for others. The reproductive role is an integral part of the responsibility of caring aimed at providing emotional and physical care to other members of the family (Women in Action, 1989).

In the absence of labor-saving devices, domestic work in rural households remains labor-intensive, tedious, and time-consuming. Child-

rearing, which is primarily a female role, is extremely demanding and most rural women combine child care with other chores which increase their workload. Despite its essential nature, female reproductive labor is unpaid and largely taken for granted. Women from Ndhiwa Division reported that they worked more hours and earned far less than men, both in cash and kind. During our interviews with farmers, almost all surveyed women said, for example, that they spent long hours on home management and child care, and walked long distances to fetch water and firewood and to look for vegetables in the fields, but felt that their work around the house was less recognized. During informal discussions with the farmers, the male respondents were asked whether their wives were working. Most of them said no. Their responses suggest that the "nonworking" women are those not engaged in paid work outside the home. For most of them, work is erroneously equated with wage labor in the modern-sector employment.

In their discussion of the social organization of household labor in Western Kenya, Kilbride and Kilbride (1990) noted that changes in gender roles have made the division of labor much more asymmetrical than was previously the case. They further observed that in most rural households in the region, women are valued as a source of cheap labor and producers of future laborers. Other studies by Suda (1991) and Ayiecho (1991) have also revealed that household work in Western Kenya is predominantly a female domain.

Although male participation in domestic work is distinctly minimal and occasional, men in the study area play a key role in providing shelter and security to their families. In this community, building a house is traditionally a

male responsibility not only because the work is considered to be physically demanding but also because according to the Luo customs it is a taboo for a woman to build or roof a house. Although it is not a daily activity, the present study has shown that nearly 69 percent of the labor for building a house is provided by men. This pattern is however beginning to change and some women are beginning to play some role in building their own houses, especially those who are heading households. Increased male labor migration to the urban areas is one of the factors that has contributed to this trend. Such changes in gender roles are likely to increase the women's workload as they begin to engage in certain activities which were traditionally reserved for men.

Field observations also revealed that fencing the family compound is traditionally a male responsibility. Building a house and fencing the compound are both crucial contributions to the physical security of members of the household. But even more important, the mere physical presence of a man in the household sometimes gives a sense of physical security and the psychological satisfaction needed by other family members to perform their various tasks with confidence. Thus, even if the man is not seen to be doing anything tangible and "productive," in the household, his role as a caretaker could still fulfil an important psychological need within the home, and this ought to be recognized (Prof. C. Akello-Ogutu, Nairobi University, personal communication, Sept. 1992).

One other thing that has also been revealed by this study is that children made an important labor contribution in the household although their work around the house was more occasional than regular. From about the age of 8

years, children begin to perform various household activities. Some of their tasks are differentiated by gender but others are much more gender neutral. The primary survey in table 2 shows that girls 8 years or older occasionally helped with fetching water (45.4 percent), collecting firewood (45.3 percent), washing clothes (40.2 percent), child care (45.2 percent), and cleaning the house (36.3 percent). On the other hand, boys occasionally helped with food preparation (27.7 percent) and building a house, which, as noted earlier, is primarily a male role but not a daily chore.

Child labor contribution in the household has decreased significantly with increased school enrolment. Almost all children of school age in the study area were attending school at the time of the survey, either in the locality, or in the neighboring divisions, or farther away from home. This suggests that child labor could only be available on weekends, during school vacation, or in the evening. As a result, child labor contribution has become more occasional than regular. Children tend to help more with household work than with agricultural activities. The demand for farm labor is high only during peak agricultural seasons which coincide with the school sessions when children are away from home. Thus, the partial withdrawal of child labor has contributed to an increase in the female workload, as women now combine their traditional reproductive roles with those responsibilities that were previously reserved for children. Combining motherhood and domestic chores often creates a double-duty problem for a number of women in the study area.

The household labor situation is further worsened by the inability of most households to hire labor. Only about 2 percent of the surveyed

farmers hired labor regularly for domestic activities. At the time of the survey, the wage rate for domestic labor was approximately 150 Kenya shillings (US\$5) a month. By local standards, this was out of reach for most households. Building a house was the only activity for which some labor was hired on a regular basis (11 percent). All paid domestic workers were non-family members from within the local community engaged on a part-time basis. Most of them were paid in cash, but a few received payments in kind or both. Payments in kind included food, drinks, farm produce, and clothing. The primary data have also shown that the household members were occasionally assisted by other people (mostly relatives and friends) in domestic work, particularly in food preparation (7.2 percent), cleaning the house (7.1 percent) and fetching water (6.9 percent). This labor input from other people was normally sought only on particular occasions, such as when there were many visitors in the family.

Labor input into agricultural activities

Subsistence crop production is the dominant farming system in Ndhiwa Division. Small-farm households rely heavily on family labor for agricultural activities. The division of labor in cropping activities is largely gender-based but less rigid, and the level of participation is also determined by the distinctive competencies of individual family members, the type of field operations performed, and the ability to hire labor.

Although the survey in Ndhiwa Division revealed that participation of men and women in land preparation was almost equal, women reported to be more regularly involved in planting (54.5 percent), weeding (48.2 percent), spray-

ing (58.9 percent), harvesting (63.2 percent), storage (66.1 percent) and marketing (73.7 percent) food crops (table 4). Like elsewhere in rural Kenya, the women in Ndhiwa Division are the primary food producers. One notable feature of some of the surveyed households was the underutilization of male labor. Most men expect to engage in work which generates income and since such opportunities were few in the study area, the men tended to remain idle most of the time while the women worked the farms. Overall, the surveyed farmers from the division spent an average of 5.1 hours per day on agricultural activities and 19 hours per month in off-farm employment. About 76 percent of the farmers spent 3 to 6 hours a day on farm work alone. But on the average, women in the study area worked 6.1 hours per day in cropping activities, against 4.8 hours input from the men. Part of the reason for the disparity is that men spent slightly more time (20 hours/month) on off-farm activities than women (19 hours). Secondary data from the 1988/89 Rural Labor Force Survey in Kenya indicate that over 91 percent of the rural women in Kenya now perform strenuous agricultural operations compared with 87 percent of the men (Republic of Kenya 1991b). The 1988/89 RLFS results in table 5 show that females spent an average of 9.8 hours per week in cropping activities, against 7.7 hours spent by men. The RLFS results further indicate that females aged 15-54 years spent 14.4 hours per week on agricultural work, compared to 12.1 hours spent by their male counterparts. Like the survey data, these secondary data indicate that rural women in Ndhiwa Division, and generally in Kenya, spend more time than men in food production.

Despite the quantifiable differences in labor input in farm production between males and

females, it is important to note that there are some forms of contribution by family members which may be difficult to quantify. For example, during periods of food shortage, the food consumed in the household is not necessarily produced on the family farm but purchased from the market. The money to purchase such food is usually provided by the husband or the children who are in paid employment. This financial support should be acknowledged as an important contribution to the financial security and sustenance of the family, even though the husband or the working children may not have contributed their labor in food production (Prof. J.K. Olayemi, Ibadan University, personal communication, Sept. 1992).

The length of women's working day is increased by the use of simple farming technology. The small farmers in the study area use traditional methods of cultivation. Oxen are used for plowing, hoes for planting and weeding and knives for harvesting. Except for plowing, there was virtually no mechanization on the surveyed farms.

The crops are cultivated under rain-fed conditions. Intercropping is a labor-saving system that is commonly practised in the study area. Cereals like maize and sorghum are usually intercropped with cowpeas and beans. The farmers feel that they do not have enough labor for weeding several plots of crops planted in pure stands. They prefer to mix the crops to minimize the risk of crop failure and to maximize labor use. Intercropping is also preferred when a farmer lacks the draft power to plow a large piece of land. Thus, intercropping can be seen as a strategy the farmers in this area adopt to maximize production under conditions of resource constraints.

Male labor-force participation in the smallholder agricultural economy is declining partly because of increased rural-urban migration. As a result of this, women have become more involved in farming activities like land clearing and plowing, which were traditionally men's roles.

Generally, when rural households are faced with labor shortages and the women are overworked, the farming system is likely to be affected. In the study area, for example, the surveyed farmers were found to have responded to labor bottlenecks by reducing the area under cultivation and the production of some traditional food and cash crops, such as finger millet and *sim sim*, that require more labor for harvesting. These changes in the farming system frequently lead to seasonal food shortages, low incomes, and poor diets.

The overall impact of these changes in production strategy is lowered household food security, resulting from reductions in the size of cultivated land, and changes in the types of crops produced for household consumption. Another factor that contributes to labor shortage and increased workload for women is the limited access to hired labor. Regular hired labor was merely 5 percent to 16 percent of the total labor force available for crop production. According to the survey results from Ndhiwa Division, labor was hired on a regular basis mainly for land preparation (10.5 percent). This work was traditionally assigned to men, and therefore some male migrant workers still send money home to their rural families to pay for labor to prepare the land for cultivation. But once this is done, the rest of the farm operations are carried out by unpaid family members. Most low-income households in the study area do not hire

farm labor because of its real or perceived high cost. At the time of this study was done, the average cost of labor for weeding one acre of farm land was about 180 Kenya shillings (equivalent to US\$6). Although wage rates for unskilled labor are low in the study area, they are still beyond the reach of the average subsistence producer. Lack of capital is therefore one of the most enduring constraints to the expansion of agricultural production in the division.

Patterns of labor use in livestock production

Livestock production is an important enterprise in the mixed crop-livestock farming system. All the surveyed farmers in Ndhiwa Division kept livestock, and the majority had a large number of cattle, sheep, goats, and poultry. Donkeys were also kept for local transportation of goods. The most common types of livestock in the study area were East African Zebu cattle, East African goats, indigenous sheep (mostly the red Maasai variety), and local chicken (Ayiecho 1991).

Cattle, the most valued animals on these farms, are perceived as a traditional form of wealth and a major source of liquid capital. They also play an important socio-cultural role in the life of the people. For example, cattle are used to pay bride-wealth at the time of marriage and, traditionally, it was those men with a large number of cattle who could afford to marry several wives. Cattle also serve as the only source of milk and a major source of meat both for household consumption and for sale. Cattle provide draft power for plowing, the most common method of land preparation and cultivation in the area. This is one of the ways in which the two enterprises of livestock production and crop cultivation interact to sustain the household

economy. Small ruminants (sheep and goats) are primarily kept for household consumption and also are sold to provide revenue, although the farmers are predominantly subsistence-oriented. Sheep and goats are also regarded as ritual animals that are used for ceremonial purposes. They are not kept for milk.

The survey results from Ndhiwa division have shown that in these smallholdings herding, a major activity in animal husbandry is done regularly and almost equally by the husband (30.8percent) and wife (29.4percent). The study further indicates that boys are more regularly involved in herding(20.3percent) than girls(7.7percent), which suggests that gender role differentiation in herding is more rigidly maintained among children than adults. Ordinarily, cattle and small ruminants in this area are grazed together as large herds on open pastures. However, rising human population and increased privatization of communal land have led to the reduction of grazing pastures and herd size. Most families in the study area lived in small private holdings of about eight acres or less. In some parts of the division where the reduction in pastures has not been accompanied by a smaller livestock population, overgrazing is already a problem. A few farmers who are faced with serious land and labor shortages practice partial zero-grazing. This management practice involves simply tethering the cattle (small ruminants are rarely tethered) on unimproved grass pasture near the home for about half a day after which the animals are taken for water and then grazed for the rest of the day.

In the few households where stall feeding was done, cattle were tethered until the afternoon when children returned from school or until an adult member of the family completed

the day's work on cropping activities. Livestock production in the study area is characterized by low-level management techniques. None of the surveyed farmers in the division had planted napier grass or other fodder crops. The tethered animals were fed on ordinary grass, maize and sorghum stalks, and sweet potato vines. Some farmers tethered their animals on unimproved grass and rotated them after a couple of days. Such farmers said they did not have to cut and carry fodder to the tethered animals. Other farmers who had relatively large stock and limited grazing pasture had to cut and carry fodder. The primary data in table 6 show that male members of the household cut and carried fodder to the tethered animals on a more regular basis than females although stall feeding was more of a wife's (46.4 percent) than a husband's (39.4 percent) responsibility.

Although milking was traditionally a male responsibility, the Ndhiwa survey results show that women were more frequently involved (43.7 percent)in the activity than men (29.2 percent). Most cows are milked twice a day and, depending on their number, milking was reported to consume 1 to 3 hours a day. Several factors have contributed to the increased involvement of women in milking. They include the absence of men and older male children from home due to migration and schooling, men's unwillingness to perform the task, and attitudinal changes regarding men's and women's work. According to the structure of gender roles in this community, it is the women who process milk and other animal products for sale and household consumption. They are thus expected to milk the cows, while the men do much of the milk marketing (54.4 percent) and slaughtering (38.4 percent).Generally, hired labor is little involved

in livestock activities except in herding, where they participate occasionally (10.8 percent). The primary data in table 6 show some consistency with the secondary data in table 7. The RLFS data in table 7 show that, in other parts of Kenya, men have been relatively more involved in livestock activities than women, spending an average of 6.5 hours a week compared to 3.5 hours of labor input by women. Older men with limited mobility outside the home are more likely than the younger ones to take care of the animals. However, with increased male out-migration and the involvement of small farmers in off-farm activities, more women are getting involved in livestock production.

To determine the pattern of livestock ownership in the area, respondents in Ndhiwa division were asked if women owned livestock in their own right within the families. Seventy-nine percent reported that according to the traditional culture of the Luo, ownership and control of cattle, sheep, and goats resides with the man. If he dies, then the woman takes control. The chickens are, however, considered a woman's property, although she is still expected to consult her husband before she disposes of them. According to the survey results, what actually belongs to the women in Ndhiwa is meat, milk, and its products. It was also reported that when cattle are slaughtered for sale or when the animals are marketed, the man of the house usually keeps the money and may or may not involve his wife (or wives) in decisions concerning financial expenditure.

Changes in Gender Roles

The structure of the division of labor is changing, albeit slowly, as more women begin to assume specific responsibilities that were traditionally reserved for men and vice versa. This

change is part of the larger socioeconomic transformations which have been occasioned by the influence of the market economy on the rural household economy. When the farmers in Ndhiwa division were asked whether they thought that women had assumed extra responsibilities that were previously considered men's, 94 percent of the respondents agreed. These respondents also reported that some of the traditional male activities in which women have become involved include herding (29 percent), plowing (24 percent), milking (24 percent), trade (13 percent), and house building (10 percent). Men were also reported to have assumed traditionally female roles such as cooking (30 percent), provision of fuel and water (13 percent), and other unspecified domestic chores (26 percent). Only 5 percent of the respondents felt that men are getting more involved in child-care activities, which indicates a real possibility for increased women's workload as they combine child bearing and other family care-giving roles. The withdrawal of male and child labor, owing mainly to migration and schooling, and the limited access to hired labor have compelled rural women in Ndhiwa Division to take on extra domestic and farming activities, which have overburdened them.

The expansion of the socioeconomic roles of men and women has been attributed to a wide range of factors including extensive male migration (33 percent), education of children (30 percent), wage employment (14 percent), and increased economic hardship (9 percent). Other contributing factors were said to be religion and the weakening of the extended family system. Although the traditional kinship ties are still strong within the rural households in the study area, the increased monetization of the house-

hold economy and the rising poverty level are gradually creating a trend toward nuclearization of the family, which is beginning to weaken the social support network at the family and community levels. In a monogamous nuclear family, for example, a man is expected to prepare food for himself and the children when his wife is away. But under the extended family system, this is not necessary because with all family members living near one another in the same village, or eating together in a large household, there would be another woman (usually another wife or the man's mother or sister-in-law) to cook for the family. This expectation simply reinforced the view that food preparation was and still is a woman's work in this culture.

Another factor that has contributed to the changing roles of men and women is women's participation in petty trade. Women from Ndhiwa Division have become increasingly involved in small-scale business enterprises that may keep them away from home for several hours or even days. Consequently, some men whose wives are engaged in trading have assumed new roles that were previously considered more suited for women. During the survey period, many men were seen transporting grains on bicycles to the *posh* mill for processing. Food processing has traditionally been a female activity.

Women here, as in some parts of Kenya, usually carry the grain on their heads and walk long distances to the nearest *posho* mill or they grind sorghum and millet on a stone slab by hand at home without help from men. The introduction of a new intermediate technology such as a bicycle or a *posho* mill makes the work faster, easier, and seemingly more appealing to the men, who can now share the work with

women. But from field observations it appeared as if the new technology benefits the men more than the women. All the bicycles we saw in the surveyed households belonged to the men; few women knew how to ride them.

Participation in Off-farm Employment

According to the results of the survey in Ndhiwa division, about 70 percent of the farmers said that they were engaged in some form of off-farm employment on a part-time basis. The average time spent on off-farm work was reported as 19.6 days per month. Much of the work (59 percent) involved minimal travel away from home.

Some of the most common off-farm activities included petty trade in fish, used clothes, grains, livestock, and vegetables (68 percent); handicrafts (20 percent); and shopkeeping (12 percent). Trading and going to marketplaces by both men and women are the major activities that compete for the family's labor in the study area.

About 94 percent of the people engaged in off-farm activities were either self-employed or did the work for their own families. Only 4 percent were employed by someone else. The remaining few said their work was a joint venture involving a partnership with another person or a group of people within the community.

Because of the social, economic, environmental, and ecological problems these farmers face, the returns to agricultural labor are usually low. Low crop yields, household food insecurity, inadequate access to land, labor, and credit facilities, and other forms of economic hardship have forced many small farmers to engage in a variety of off-farm activities to supplement their family incomes for survival.

Based on our informal discussions with the surveyed farmers, participation in off-farm employment was said to be linked to low farm productivity, chronic food shortages and need for cash. Most of the surveyed farmers in the division have limited access to modern farming technology and generally practise some form of shifting cultivation until all the available land is exhausted. The incomes generated from off-farm enterprises are mainly used to buy basic household necessities and to pay for children's schooling. Rarely are they used to hire labor for farm use. Thus, in many ways, off-farm employment can be seen as the small farmers' survival strategy to increase cash flow as they continue to experience decreased access to resources and increased demand for cash. The survey data from the division also revealed that most off-farm income-generating activities were dominated by men.

In addition to being engaged in several micro enterprises for income generation, many of the surveyed farmers also spent time attending church (71 percent), visiting friends and relatives (21 percent), and participating in social and ceremonial activities within and outside their community (8 percent). Field observations indicate that, depending on the social status of the deceased, funerals in the study area can last a week to a month, during which time friends and relatives stay with the bereaved family and expect to be fed and entertained. It was also reported and observed that some women spend part of their leisure time plaiting their hair. Other factors that contribute to the inefficient use of available labor have more to do with the quality of the existing infrastructure than with the actual content of the work.

Owing to the poor transportation system and the scarcity of efficient rural services, farmers from the division usually spend much time walking or waiting for public transport to get from one place to another. A large part of Ndhiwa division lacks well-maintained access roads and clean and safe drinking water. In most parts of the area, walking to and from the nearest health facility, school, shopping centre, market, or water source could take three or more hours.

Migration

Ndhiwa Division is a rural community struggling with a stagnant economy and chronic poverty. With poor social and physical infrastructure, a decline in the agricultural economy, few employment opportunities, and low levels of personal income, many farmers feel they cannot achieve a better quality of life. Some of the surveyed farmers live from hand to mouth and do not have enough surplus income to re-invest in farm production. Under such conditions, the young educated people have a strong tendency to migrate to the urban areas in search of wage employment. The study found that in 60 percent of the surveyed households, there was at least one person who had migrated to the urban areas. About 48 percent of the migrants were sons of the respondents and 44 percent were husbands of the female respondents. Daughters accounted for only 4 percent of those who migrated.

A study by Knowles and Anker (1981) showed that in Kenya, migrants responded to rural-urban income differentials and the expected employment opportunities despite high urban unemployment rates. The drudgery of farm work, decreased land holdings and low

returns to agricultural labor are some of the major factors propelling migration in the study area. Most people with secondary education and further training prefer to move to the cities to seek pink and white-collar jobs. They have a general feeling that subsistence farming should be left to the elderly and the illiterate who lack the skills necessary to participate in formal-sector employment, although many secondary school graduates from the study area are increasingly being absorbed in the informal sector.

One of the major consequences of male labor migration is the expansion of women's social and economic roles as they combine their traditional roles with the tasks previously performed by men. The withdrawal of male labor from the rural households has partly contributed to the emergence of female-headed households, changes in the division of labor, and increased workload, as more women become increasingly involved in nontraditional roles in the public domain. The present study shows that 33 percent of the surveyed households in Ndhiwa Division are headed by women. This phenomenon is primarily associated with the prolonged absence of men as a result of rural-urban migration. Such women function as *de facto* household heads. Widowhood was found to play a relatively minor role in the emergence of female-headed households. However, in a study of female-headed households in Kenya, Clark (1984) noted that widowhood contributes to the emergence of female-headed households partly because women generally outlive men but also because some Kenyan men tend to marry additional wives who are several years their junior.

Women who temporarily head households because of the absence of migrant spouses are

frequently left with the responsibility, but without the authority to make major decisions in the management of household resources. Inadequate access to labor resources is one of the major constraints facing female-headed households in Ndhiwa Division as much of the money remitted to them by their migrant spouses is not used to hire labor but to meet other basic household expenses. Despite the appeal of urban life and the perception of better social and economic opportunities, urban migrants from the division were reported to maintain strong ties with their rural families and friends. One of the indicators of rural-urban linkages is the frequency of urban-rural visits and income transfers. Over 80 percent of the respondents reported that urban migrant workers regularly send cash remittances to their families living in the rural areas to cover miscellaneous personal and household expenses. The magnitude of the remittances could not, however, be determined. In addition to money, migrant workers also send various items to their families in the rural areas. The items include everything from clothes and food to cutlery. About 55 percent of the urban migrants from Ndhiwa division were reported to return to their rural homes at least once a year, 15 percent visit twice a year, 14 percent three times a year, 9 percent monthly, and 7 percent weekly. The frequency of urban-rural visits was found to be influenced by the distance between the place of work and the migrant's rural home, the mode of transportation available, the condition of the roads, the type of relatives left behind, and the nature of the migrant's job. There are other trends that are emerging and which are likely to change the nature of rural-urban linkages in Kenya. One of these is the ability of urban workers to buy land or make other investments far away from their rural homes. These kinds of

opportunities will increase social and physical mobility and have definite impact on rural attachment or traditional kin ties in future.

Access to Land

Land tenure in Ndhiwa Division can be characterized as an individual freehold tenure system according to which private owners control use rights to land. Following the Kenyan government policy of land consolidation, the communal land tenure institutions have been replaced by an individual tenure system. Land in the study area has been privatized and monetized. These change processes have led to the emergence of rural land markets and differential access to land, dispossession, and impoverishment in the area.

Within the sample, the average farmer had 8.8 acres of land. About 91 percent of the land was registered in the husband's name, 7 percent in the son's name, and 2 percent in the wife's name. When the respondents were asked to indicate who was regarded as the owner of the land in the family, over 79 percent of the women said that the land belonged to their husbands and 15 percent of the children thought the father was the owner. Land inheritance is the most common method of ownership and control. In this division, land is handed from father to sons in order to help the latter get started in life. Over 86 percent of the surveyed farmers had acquired their land through inheritance. Only 7 percent bought the land they owned, 5 percent had partly bought and partly inherited their land, and 2 percent were squatters. Squatters were mainly landless individuals from other districts who had come to stay with their relatives in the division.

Individual land tenure system and inheritance laws have led to the loss of women's legal rights to land. Although women have usufructuary rights to land owned by their husbands and other male relatives, they do not have titles and the rights of alienation except when the male kin are dead. The denial of legal land ownership rights to women limits their access to credit facilities most of which require collateral such as a deed. Over 67 percent of the respondents said that, according to their traditional culture, women cannot register land in their own names. There are different explanations of why women do not own land in this community. Among them, according to the respondents, is the fact that women do not belong to the clan in which they are married and do not come with land at the time of marriage (42 percent) and that women can sell the land in the event of divorce and leave the family poor and landless (20 percent). Those who felt that women should indeed register land in their own names emphasized that this is only acceptable if the woman is a widow (30 percent) and if she had bought the land with her own savings (6 percent). In polygynous marriages, a husband allocates plots to his wives who have use rights, but he reserves the right to alienate the land with or without reference to them.

It is generally held that if a man has legal rights to land, this gives him the power and authority to transfer inheritance rights to his sons and use rights to his wife (or wives) equitably and impartially. The present study has also shown that land use patterns in the division have changed little over the years. Land is not so intensively utilized despite the growing population pressure. Many farmers still practice the

bush fallow system of cultivation in which only a small part of the total land holding is cultivated at any one season. Some of the factors associated with traditional land use systems include labor shortage, relatively poor quality of land (low to medium soil fertility), low production technologies, poor management practices, and large herd size, which requires a bigger grazing area. A typical farmer in Ndhiwa Division uses simple production techniques.

Conclusion: Findings and Policy Recommendations

The subsistence household economy in Ndhiwa Division relies heavily on family labor resources. In this study, the existing stock of household labor was taken to include all family members aged eight years and older. Hired labor was found to play a minor role in subsistence farm production and home management activities. Women participate more regularly than men in both food production and household work which are traditionally considered as female domains. Although many male members of the surveyed households have made a significant contribution to the overall production system, recent changes in the rural economy have increased the women's workload. The household labor situation has been exacerbated by a high and increasing rate of male labor migration, greater involvement in off-farm employment by both men and women, massive school enrolment of children, and changes in the family structure in terms of shifts in intra- and inter-family relationships, which have weakened kin-based social support networks. The net result of these processes is a steady reduction in farm labor supply, the emergence of female-headed households, and concomitant changes in gender roles. The changes in household labor

requirements, supply, and utilization patterns can thus be seen as part of the larger socioeconomic transformations engendered by the expansion of the market economy. A great number of young, educated men and women are leaving the rural areas, and many more are participating in nonagricultural but rural-based income-generating activities in order to meet their personal as well as household cash requirements.

Given the fact that the subsistence rural household economy lacks the capacity to attract and retain a high and rapidly growing labor force, an important priority area for policy action for the Kenyan Government in concert with the private sector is to develop programs aimed both at creating more job opportunities in rural areas and reducing rural-urban income differential. Such programs could also reduce rural-urban migration and help keep economically active and productive labor on the farms.

Ndhiwa Division has one of the poorest infrastructural bases in Homa Bay District. Over the years, Ndhiwa Division has had a very poor public transport system. At the time of the survey, the division had no tarmac, and *murrum* roads are impassable during rainy seasons because of potholes, gullies, and ruts. (A new tarmac road is currently under construction in the Division). One area where policy intervention could have a tremendous impact would be in providing new services and improving existing facilities, such as public transportation, including motorable access roads, clean pipe-borne water for domestic use and irrigation, market centers, schools, health services, communication systems, electricity, and relevant agro-based industries. The absence of these facilities contributes to rural economic decline and deterioration in the living standards of the rural population. The provision of better infrastructure would

not only create employment opportunities for many rural households, but would also open up the area for investment and significantly enhance the farmers' level of production. Such interventions would also enable women to spend less energy and time each day walking to and from places where certain basic facilities are available. If the government, together with donor agencies, could improve infrastructure in the study area, women would accomplish most of their tasks relatively easily. Labor-saving techniques should also be developed to reduce the amount of time women spend in household work. Appropriate technologies might include inexpensive but fuel-efficient stoves that require little firewood, and improvements in water transportation and storage facilities, particularly for the long dry seasons when women and children have to travel long distances each day in search of water. More specifically, what is needed are boreholes and pumps close to the homes for easy access to clean and safe water for domestic use.

Most agricultural operations on subsistence farms are physically demanding, time-consuming, and labor-intensive. Concerted efforts should be made to introduce and promote appropriate technology that could reduce the drudgery of farm work and increase farm production. Most of the surveyed farmers use hand tools for cultivation. They need credit facilities to buy plows and improved crop varieties and also to hire labor. This could be part of an overall strategy to modernize agriculture by teaching small farmers new production techniques. Because the adoption of improved technologies could create new demands for labor and worsen the labor situation in small-farm households, there should be a policy that new technologies

must be carefully designed to simultaneously increase the farmers' output per acre as well as their level of income.

One major conclusion from this study is that a significant proportion of small-scale farmers in the division are resource-poor. They operate with minimal land, technology, and capital. The process of male labor migration has led to a reduction in the farm labor supply and has increased the women's workload. This is also partly attributed to the underutilization of male labor. These constraints inevitably limit their productive capacity. A policy instrument that would, for example, increase the smallholder's access to credit facilities from government subsidies would not only serve as an incentive to increased agricultural production but, more importantly, enable producers to take advantage of new developments in farming techniques and home management practices much more efficiently.

If farm production improves, the farmers, especially women, will need to be trained in post-harvest processing and storage techniques to avoid loss of produce, particularly in horticultural crops. Knowledge of processing technology and provision of storage facilities could minimize the pressure to sell crops at low prices during the harvesting period because of lack of adequate storage facilities. Very often farmers who sell their crops cheaply during harvest time must later buy grains and other food crops at higher prices when the hunger period begins. Seasonal labor bottlenecks could possibly be alleviated if improved crop varieties and packages are planted and harvested at different times in the agricultural year. The introduction of early maturing maize and sorghum varieties could change seasonal labor demands. Farmer

education and vocational training are important policy issues, considering the overwhelming evidence that effective participation in on- and off-farm activities yields higher returns with the right combination of production inputs and efficient utilization of the scarce resources available.

Women's legal rights to land are severely limited despite the women's vital contribution to agricultural production. A policy that guarantees women's rights to own land and other property should be formulated and implemented. Such a policy will simultaneously allow women's entry into other areas of economic activity because they would have the collateral to obtain loans for farm and household improvements.

Despite the changes that have occurred in the structure of the division of labor, the survey shows that many tasks are still gender-specific and that the distribution of gender roles is still skewed, with a higher female participation rate in production and household activities. This imbalance is largely perceived to be culturally legitimate. The belief among many men in this community that they cannot share in "women's work" represents an attitudinal problem that has a structural basis as well. It is borne out of a patriarchal structure in which power, control, and property ownership basically reside with

men. They own the land and livestock and also control the women's labor. Owing to their structural position in the family even the men who have not migrated to look for jobs elsewhere do not help with domestic work, and they participate less regularly than women in many farming activities. Lack of job opportunities in a weak rural economy often forces men to loaf around the local market centers and drinking places most of the time. There is still some lingering cultural expectation that a man should go out to work and a woman should look after the house. This makes the case for launching or intensifying nationwide public education campaigns to sensitize both men and women to their civil rights and to educate men to modify their attitudes and behaviour to suit changing circumstances. Such efforts should be accompanied by clear and concrete policy instruments to safeguard them. This can be done through public education and sensitization programs in the mass media, specifically aimed at popularizing the notion that traditional attitudes and practices must be modified to suit changing conditions, particularly changing demands for labor.

The actual implementation of the policies recommended here could be undertaken by the government of Kenya, nongovernmental organizations, donor agencies, women's groups, or a combination of them.

Table 1. Educational Attainment of Male and Female Farmers in Ndhiwa Division.

| Education | Male number | percent | Female number | percent |
|--------------------|-------------|---------|---------------|---------|
| None | 36 | 20.0 | 66 | 47.8 |
| Literate | 25 | 13.9 | 17 | 9.4 |
| Primary | 73 | 40.5 | 61 | 33.9 |
| Secondary | 32 | 17.8 | 13 | 7.2 |
| College/University | 14 | 7.8 | 3 | 1.7 |
| Total | 180 | 100 | 180 | 100 |

Source: Primary Survey data.

Table 3: Average Hours Spent per Week in Domestic Chores by Age and Gender. (N=86,420).

| HOURS | | |
|-----------|---------------------|-----------------------|
| Age Group | Male (N= 41,930) | Female (N= 44,490) |
| 8-14 | 1.7 | 6.3 |
| 15-19 | 1.4 | 11.3 |
| 20-24 | 1.6 | 18.7 |
| 25-29 | 2.1 | 21.6 |
| 30-34 | 2.3 | 19.7 |
| 35-39 | 1.6 | 20.4 |
| 40-44 | 1.9 | 18.4 |
| 45-49 | 1.8 | 18.8 |
| 50-54 | 2.1 | 18.0 |
| 55-59 | 2.0 | 16.8 |
| 60-64 | 2.1 | 17.5 |
| 65+ | 2.7 | 14.0 |
| 15-64 | 1.8 | 17.7 |
| Total | 1.8 | 14.1 |

Source: Rural Labor Force Survey 1988/89

Table 2: Household work: Gender division of labor. (N=910)

| Household members | Does not work (percent) | Works occasionally (percent) | Works regularly (percent) | Total stock of labor (percent) |
|----------------------------|-------------------------|------------------------------|---------------------------|--------------------------------|
| <i>Food preparation</i> | | | | |
| Husband | 29.8 | 10.8 | 0.0 | 19.5 |
| Wife (Wives) | 0.0 | 1.5 | 90.6 | 19.5 |
| Daughters 8+ years | 12.6 | 51.8 | 3.7 | 19.1 |
| | 22.4 | 27.7 | 1.0 | 19.0 |
| Sons 8+ years | 31.0 | 1.0 | 0.5 | 18.1 |
| Hired labor | 4.2 | 7.2 | 4.2 | 4.8 |
| Others | | | | |
| Total percent | 100.0 | 100.0 | 100.0 | 100.0 |
| n | 523 | 195 | 192 | 910 |
| <i>Fetching water</i> | | | | |
| Husband | 30.9 | 11.6 | 0.0 | 19.5 |
| Wife (Wives) | 0.0 | 1.9 | 85.6 | 19.5 |
| Daughters 8+ years | 13.2 | 45.4 | 5.4 | 19.1 |
| Sons 8+ years | 20.1 | 32.4 | 2.0 | 19.0 |
| Hired labor | 31.9 | 1.8 | 2.0 | 18.1 |
| Others | 3.9 | 6.9 | 5.0 | 4.8 |
| Total percent | 100.0 | 100.0 | 100.0 | 100.0 |
| n | 492 | 216 | 202 | 910 |
| <i>Collecting firewood</i> | | | | |
| Husband | | | | |
| Wife (Wives) | 30.1 | 12.5 | 1.0 | 19.5 |
| Daughters 8+ yrs | 0.0 | 1.9 | 85.6 | 19.5 |
| Sons 8+ years | 13.4 | 45.3 | 5.0 | 19.1 |
| Hired labor | 20.5 | 31.5 | 1.9 | 19.0 |
| Others | 31.9 | 2.3 | 1.5 | 18.1 |
| | 4.1 | 6.5 | 5.0 | 4.8 |
| Total percent | 100.0 | 100.0 | 100.0 | 100.0 |
| n | 492 | 216 | 202 | 910 |
| <i>Washing clothes</i> | | | | |
| Husband | 26.1 | 17.5 | 5.2 | 19.5 |
| Wife (Wives) | 2.7 | 1.3 | 83.0 | 19.5 |
| Daughters 8+ years | 15.2 | 40.2 | 4.2 | 19.1 |
| Sons 8+ years | 18.3 | 35.4 | 1.5 | 19.0 |
| Hired labor | 32.9 | 0.8 | 1.5 | 18.1 |
| Others | 4.9 | 4.8 | 4.6 | 4.8 |
| Total percent | 100.0 | 100.0 | 100.0 | 100.0 |
| n | 487 | 229 | 194 | 910 |
| <i>Child Care</i> | | | | |
| Husband | 19.0 | 12.7 | 26.3 | 19.5 |
| Wife (Wives) | 7.1 | 5.1 | 68.0 | 19.5 |
| Daughters 8+ years | 17.4 | 45.2 | 2.6 | 19.1 |
| Sons 8+ years | 22.7 | 28.7 | 0.0 | 18.1 |
| Hired labor | 27.9 | 4.5 | 0.5 | 18.0 |
| Others | 5.9 | 3.8 | 2.6 | 4.8 |
| Total percent | 100.0 | 100.0 | 100.0 | 100.0 |
| n | 563 | 157 | 190 | 910 |
| <i>Cleaning house</i> | | | | |
| Husband | 25.2 | 16.4 | 8.0 | 19.5 |
| Wife (Wives) | 1.8 | 8.8 | 79.1 | 19.5 |
| Daughters 8+ years | 16.5 | 36.3 | 5.4 | 19.1 |
| Sons 8+ years | 21.9 | 27.0 | 1.6 | 18.1 |
| Hired labor | 30.2 | 4.4 | 2.7 | 18.0 |
| Others | 4.4 | 7.1 | 3.2 | 4.8 |
| Total percent | 100.0 | 100.0 | 100.0 | 100.0 |
| n | 497 | 226 | 187 | 910 |

Source: Primary Survey data

Table 4: Cropping activities: Gender division of labor. (N=910)

| Household Members | Does not Work (percent) | Works occasionally (percent) | Works regularly (percent) | Total stock of labor (percent) |
|-------------------------|-------------------------|------------------------------|---------------------------|--------------------------------|
| <i>Land preparation</i> | | | | |
| Husband | 14.2 | 12.5 | 35.3 | 19.5 |
| Wife (Wives) | 9.5 | 18.5 | 35.7 | 19.5 |
| Daughters 8+ years | 32.9 | 16.7 | 0.8 | 19.1 |
| | 14.7 | 28.1 | 15.3 | 19.0 |
| Sons 8+ years | 22.9 | 18.5 | 10.5 | 18.1 |
| Hired labor | 5.8 | 5.7 | 2.4 | 4.8 |
| Others | | | | |
| Total percent | 100.0 | 100.0 | 100.0 | 100.0 |
| n | 380 | 281 | 249 | 910 |
| <i>Planting</i> | | | | |
| Husband | 17.2 | 15.1 | 26.2 | 19.5 |
| Wife (Wives) | 1.9 | 5.6 | 54.5 | 19.5 |
| Daughters 8+ years | 24.9 | 28.7 | 3.2 | 19.1 |
| Sons 8+ years | 15.5 | 35.9 | 8.7 | 19.0 |
| Hired labor | 34.9 | 9.2 | 4.2 | 18.1 |
| Others | 5.6 | 5.6 | 3.2 | 4.8 |
| Total percent | 100.0 | 100.0 | 100.0 | 100.0 |
| n | 373 | 251 | 286 | 910 |
| <i>Weeding</i> | | | | |
| Husband | 20.6 | 12.3 | 25.7 | 19.5 |
| Wife (Wives) | 9.2 | 3.3 | 48.2 | 19.5 |
| Daughters 8+ years | 27.7 | 23.9 | 4.2 | 19.1 |
| Sons 8+ years | 16.9 | 28.6 | 11.3 | 19.0 |
| Hired labor | 21.8 | 24.6 | 7.1 | 18.1 |
| Others | 3.8 | 7.3 | 3.5 | 4.8 |
| Total percent | 100.0 | 100.0 | 100.0 | 100.0 |
| n | 325 | 301 | 284 | 910 |
| <i>Spraying</i> | | | | |
| Husband | 18.6 | 17.9 | 27.4 | 19.5 |
| Wife (Wives) | 15.4 | 9.0 | 58.9 | 19.5 |
| Daughters 8+ years | 20.3 | 26.9 | 4.2 | 19.1 |
| Sons 8+ years | 20.1 | 28.4 | 4.2 | 19.0 |
| hired labor | 20.3 | 11.9 | 5.3 | 18.1 |
| Others | 5.3 | 6.0 | 0.0 | 4.8 |
| Total percent | 100.0 | 100.0 | 100.0 | 100.0 |
| n | 748 | 67 | 95 | 910 |
| <i>Harvesting</i> | | | | |
| Husband | 20.3 | 16.9 | 20.6 | 19.5 |
| Wife (Wives) | 2.9 | 3.6 | 63.2 | 19.5 |
| Daughters 8+ years | 21.3 | 29.3 | 5.3 | 19.1 |
| Sons 8+ years | 19.6 | 33.0 | 4.0 | 18.1 |
| Hired labor | 31.6 | 9.2 | 4.5 | 18.0 |
| Others | 4.3 | 8.0 | 2.4 | 4.8 |
| Total percent | 100.0 | 100.0 | 100.0 | 100.0 |
| n | 414 | 249 | 247 | 910 |
| <i>Storage</i> | | | | |
| Husband | 24.1 | 14.9 | 15.7 | 19.5 |
| Wife (Wives) | 1.2 | 3.4 | 66.1 | 19.5 |
| Daughters 8+ years | 19.0 | 33.6 | 5.6 | 19.1 |
| Sons 8+ years | 18.7 | 34.5 | 5.0 | 18.1 |
| Hired labor | 32.3 | 6.8 | 4.4 | 18.0 |
| Others | 4.7 | 6.8 | 3.2 | 4.8 |
| Total percent | 100.0 | 100.0 | 100.0 | 100.0 |
| n | 427 | 235 | 248 | 910 |
| <i>Marketing</i> | | | | |
| Husband | 20.7 | 19.1 | 15.6 | 19.5 |
| Wife (wives) | 6.4 | 5.0 | 73.7 | 19.5 |
| Daughter 8+ years | 18.8 | 39.7 | 3.9 | 19.1 |
| Sons 8+ years | 22.2 | 29.1 | 0.6 | 19.0 |
| Hired labor | 26.9 | 0.7 | 2.8 | 18.1 |
| Others | 5.0 | 6.4 | 3.4 | 4.8 |
| Total percent | 100.0 | 100.0 | 100.0 | 100.0 |
| n | 590 | 141 | 179 | 910 |

Table 5: Average Hours Spent per week on Cropping Activities by Age and Gender.

| Age Group | HOURS | |
|--------------|---------------------|-----------------------|
| | Male (N= 41,930) | Female (N= 44,490) |
| 8-14 | 3.5 | 3.6 |
| 15-19 | 6.3 | 7.1 |
| 20-24 | 10.2 | 11.0 |
| 25-29 | 10.4 | 13.4 |
| 30-34 | 11.2 | 14.2 |
| 35-39 | 10.9 | 14.7 |
| 40-44 | 12.2 | 15.1 |
| 50-54 | 11.9 | 16.5 |
| 55-59 | 14.0 | 14.3 |
| 60-64 | 11.6 | 13.7 |
| 65+ | 10.0 | 9.7 |
| 15-64 | 10.0 | 12.6 |
| Total | 7.7 | 9.8 |

Source: Rural Labor Force Survey, 1988/89.

Table 7: Average Hours Spent per Week in Livestock Activities by Age and Gender.

| Age Group | HOURS | |
|--------------|---------------------|-----------------------|
| | Male (N= 41,930) | Female (N= 44,490) |
| 8-14 | 6.4 | 2.0 |
| 15-19 | 5.8 | 2.1 |
| 20-24 | 5.1 | 3.5 |
| 25-29 | 5.4 | 4.4 |
| 30-34 | 5.1 | 5.5 |
| 35-39 | 5.7 | 5.1 |
| 40-44 | 6.3 | 4.9 |
| 45-49 | 6.7 | 4.7 |
| 50-54 | 7.9 | 5.2 |
| 55-59 | 9.5 | 4.7 |
| 60-64 | 9.8 | 4.9 |
| 65+ | 10.6 | 3.4 |
| 15-64 | 6.2 | 4.1 |
| Total | 6.5 | 3.5 |

Source: Rural Labor Force Survey, 1988/89

Table 6: Livestock Activities: Gender Division of Labor. (N=910)

| Households members | Does not Work (percent) | Works occasionally (percent) | Works regularly (percent) | Total stock of labor (percent) |
|-----------------------|----------------------------|---------------------------------|------------------------------|-----------------------------------|
| <i>Fodder cutting</i> | | | | |
| Husband | 19.1 | 10.5 | 42.9 | 19.5 |
| Wife (Wives) | 19.3 | 5.3 | 38.1 | 19.5 |
| Daughters 8+ years | 19.2 | 36.8 | 0.0 | 19.1 |
| | 18.7 | 42.1 | 9.5 | 19.0 |
| Sons 8+ years | 18.6 | 5.3 | 2.5 | 18.1 |
| Hired labor | 5.1 | 0.0 | 0.0 | 4.8 |
| Others | | | | |
| Total percent | 100.0 | 100.0 | 100.0 | 100.0 |
| n | 870 | 19 | 21 | 910 |
| <i>Salt feeding</i> | | | | |
| Husband | 19.2 | 12.5 | 39.4 | 19.5 |
| Wife (Wives) | 17.9 | 31.3 | 46.4 | 19.5 |
| Daughters 8+ years | 19.4 | 25.0 | 0.0 | 19.1 |
| Sons 8+ years | 19.3 | 20.7 | 7.1 | 19.0 |
| Hired labor | 19.3 | 4.2 | 7.1 | 18.1 |
| Others | 4.9 | 6.6 | 0.0 | 4.8 |
| Total percent | 100.0 | 100.0 | 100.0 | 100.0 |
| n | 834 | 48 | 28 | 910 |
| <i>Herding</i> | | | | |
| husband | 16.2 | 20.0 | 30.8 | 19.5 |
| Wife (Wives) | 16.1 | 21.2 | 29.4 | 19.5 |
| Daughters 8+ years | 23.5 | 16.0 | 7.7 | 19.1 |
| Sons 8+ years | 16.0 | 25.1 | 20.3 | 19.0 |
| Hired labor | 23.7 | 10.8 | 9.0 | 18.1 |
| Others | 4.5 | 6.9 | 2.8 | 4.8 |
| Total percent | 100.0 | 100.0 | 100.0 | 100.0 |
| n | 536 | 231 | 143 | 910 |
| <i>Milking</i> | | | | |
| Husband | 16.8 | 21.3 | 29.2 | 19.5 |
| Wife (Wives) | 15.4 | 12.8 | 43.7 | 19.5 |
| Daughters 8+ years | 22.4 | 17.7 | 6.3 | 19.1 |
| Sons 8+ years | 16.6 | 34.8 | 13.9 | 19.0 |
| Hired labor | 23.0 | 9.1 | 5.5 | 18.1 |
| Others | 5.8 | 4.3 | 1.4 | 4.8 |
| Total percent | 100.0 | 100.0 | 100.0 | 100.0 |
| n | 625 | 141 | 144 | 910 |
| <i>Marketing Milk</i> | | | | |
| Husband | 11.8 | 16.7 | 54.4 | 19.5 |
| Wife (Wives) | 14.8 | 26.8 | 32.7 | 19.5 |
| Daughters 8+ years | 22.2 | 22.5 | 2.7 | 19.1 |
| Sons 8+ years | 20.6 | 26.1 | 5.4 | 19.0 |
| Hired labor | 25.0 | 2.8 | 3.4 | 18.1 |
| Others | 5.6 | 5.1 | 1.4 | 4.8 |
| Total percent | 100.0 | 100.0 | 100.0 | 100.0 |
| n | 625 | 138 | 147 | 910 |
| <i>Slaughter</i> | | | | |
| Husband | 15.6 | 29.9 | 38.4 | 19.5 |
| Wife (Wives) | 21.4 | 11.0 | 15.1 | 19.5 |
| Daughters 8+ years | 21.7 | 13.4 | 4.1 | 19.1 |
| Sons 8+ years | 15.5 | 31.5 | 31.5 | 18.1 |
| Hired labor | 21.0 | 7.9 | 8.2 | 18.0 |
| Others | 4.8 | 6.3 | 2.7 | 4.8 |
| Total percent | 100.0 | 100.0 | 100.0 | 100.0 |
| n | 710 | 127 | 73 | 910 |

Source: Primary Survey data

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