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RESERVE

MEN AND WOMEN IN A HOUSEHOLD ECONOMY:  
EVIDENCE FROM KISII

By

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EVIDENCE FROM KISII

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ABSTRACT

This paper is an interim report on research analyzing household economy in South Wanjare Location, Kisii. The purpose is to understand the potential for agricultural development policy, particularly extension policy, to achieve its stated goals. This will depend, it is argued, on the extent to which policy assumptions concerning the household economy match reality "on the ground." It is argued that a proper understanding of that economy must start with understanding the different structural positions and access to resources of men and women. This reveals that key constraints are strain on women's labor time due to non-agricultural activities and limited investment in agriculture by male wage earners who control the largest sources of potential investment. An additional potential resource is male labor, which is in surplus in the rural area (in contrast to women's labor, which is not in surplus). Policy focus must be on freeing women's labortime for agricultural activity, and including both male labor and investment onto the farm.

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### Introduction

This paper is an interim report on research still underway. The data and analysis are both some distance from complete, but give a picture of the research to date. The paper contains an analysis of a local economy, using a small community of 38 households as its base. Further research will expand the project to a wider area, involving a survey of farm households in two other locations in Kisii, in order to have a broader data base from which to draw conclusions.

### Purpose of Research

The purpose of the research is ultimately to understand the effects of and response to government agricultural development policy aimed at smallholder farmers in Kenya. The particular focus of the research is the current major effort in the Ministry of Agriculture (MoA) aimed at improving the effectiveness of agricultural extension work: the National Extension Programme (NEP) financed and (in large part) designed by the World Bank.

The research does not, however, directly examine the administrative questions involved in the NEP or other relevant programs. Rather, it examines the response to and effects of these policies by examining a smallholder economy that is a target of the policies. At the heart of this approach is the assumption that agricultural development policy aims at encouraging smallholders to use their resources in certain ways in agricultural production in order to maximize overall production while maintaining a balance between food and cash crops. Hence, the focus in the analysis is on smallholder control over and use of resources. The final step is to compare the results of this research with the assumptions and desires of agricultural development policy in order to find areas in which either household resource allocation or government policy can be changed to improve the performance of both. The first task, analyzing household resource allocation, is the purpose of this paper.

The research began without firm, a priori theoretical assumptions or hypotheses. While past theoretical material

concerning household decision making was consulted, no one or two approaches were used alone. Instead, Sara Berry's recent call to focus on tracing resource allocation without grand apriori theories was followed.<sup>(1)</sup>

Jane Gwyer's argument that the "household" should not be viewed as a monolithic unity was also accepted.<sup>(2)</sup> The roles of all family members must be examined, without an assumption of one ultimate goal shared by all, in order to understand the "household" fully. Finally, smallholder households are viewed, not as single purpose agricultural producers, but as multi-purpose units, concerned as much with overall reproduction of the household as with maximizing agricultural production alone. Ironically, smallholder households more closely resemble a modern conglomerate than they do the single purpose economic unit (the factory being the ideal type) that they are so often assumed to be. They resemble the more complex conglomerate in that they are multi-purpose, concerned with overall long-term benefit rather than maximizing production in any one sector, and contain various actors not necessarily working in unison. This is the type of household that must be understood if we are to understand its potential for agricultural development.

#### Research Area

Kisii has been heavily affected by what Clayton called Kenya's "agrarian revolution." The Gusii grow the three highest value cashcrops, all supported by extensive government policy and services: coffee, tea and pyrethrum. This makes it ideal for the current research interests. The use of hybrid maize is also very widespread, with maize being overwhelmingly dominant as the food staple. Overall, is a rich agricultural area in terms of soil, rainfall and crops produced.

In addition, the NEP was started in Kisii two years ago, so has had time to become fairly well established. By all accounts, the program -- and MoA services in general -- are better than average in Kisii.<sup>(3)</sup> This is at least partially due

to the high population density, making transport for extension staff (a major problem in many Districts) relatively easy. This high quality of MoA services makes it easier to concentrate on response to these services, rather than administrative problems in service delivery. In addition, the high population density allows an examination of a problem of growing importance and concern to all African countries: "over-population".

The research site is located in South Wanjare Location, in the lower elevation (4500' - 5000') Western side of the District. This allows two growing seasons per year for cereals (not possible for higher elevation in the District) and affects the cash crops available. Specifically, pyrethrum is not grown at this lower elevation, while chewing sugarcane, pineapples and some groundnuts are (but cannot be at higher elevations). Tea is rapidly expanding in the area in spite of it being on the lower margin of the "Tea Zone". This is caused by the current high price for tea relative to coffee and other cash crops.

The research area itself is a geographically contiguous area of 38 households quite close to a tarmac road and a coffee factory that also contains a KTDA buying center. Thus it is convenient to essential services and quite accessible for extension staff.

The community case study approach is used in order to understand interactions between households and their effect on resource allocation. However, defining a precise "community" proved exceedingly difficult. Both the clan (eamate) and "sub-clan" or "house" within the clan (riiga) are today too large to be used in such a study. In fact, because the area was settled relatively recently (1910-30), it contains households belonging to all three of the amaiga in the eamate residing in that area, and all members of a riiga do not live in a contiguous area. The result is that the research area has three naturally defined boundaries (the eamate boundary on two sides and a river on the third) but the fourth is not a natural boundary: Immediate brothers were included in the

research area, which was cut off on the west when it became as large as is feasible to collect adequate data. Given that there is no "natural" boundary within a reasonable distance, no other option for demarcating a clear boundary presented itself.

Actually, the research area contains most members of what could be defined as two communities. This is based on membership in traditional cooperative labor groups (ebisangic and amasaga) in which there tends to be a pattern of interaction within, and not between, two halves of the research area. However, defining these two groups as "communities" is still difficult, for there remain many interactions that cross over the "boundary", including cooperative labor in more recent "self-help" groups (ebiembe). Thus, no change in research area was made based on this recent finding.

#### Methodology

The basic methodology employed is to interview members of each household on a wide variety of topics, using a research assistant/interpreter.<sup>(4)</sup> The topics include marriage, education, work history, crop husbandry, history of cashcrop production, contact with MoA and other government agricultural services, business activities, land user, and the history thereof, housing and major consumer spending, effects of major illness, economic flows between households, and economic aspects of major feasts, funerals, e. t. c. The person interviewed on each subject within each household varied according to the subject and the household in question.

When appropriate, several members of each household were interviewed on the same subject.

In addition to these interviews, a second research assistant does weekly interviews on labor use and household income and expenditures of a random sample of 20 of the 38 households.<sup>(5)</sup> He works independently, visiting each household weekly. The labor use examined is a three-day sample of the normal six-day work week. This was chosen because each household could only be visited once per week and the reliability of respondents' memory

of the time taken for all daily activity declines for days more than three days prior to the interview. However, respondents are asked to recall all agricultural work done in the household for the entire week. The household income and expenditure data is also for the entire week in question, since most respondents only go to market to buy and/or sell once or twice per week and generally remember specifically what they bought and sold and at what prices. (6)

#### The Structure of Gusii Society

Before analyzing current resource control and use within the households, it is essential to understand a few key elements in the basic structure of rural Gusii society. I shall argue that a crucial element for understanding current resource use within households is male control over the essential resources and means of production: land and off-farm cash income. Gusii society is patrilineal and virilocal -- women move into their husbands' clan and use their husbands' land. Inheritance of land, cattle and all other property is from a father to his sons. Mayer argues that modern Gusii land law is based on previous cattle inheritance law. Prior to the 1930s a land frontier existed in Kisii and sons could occupy new unused land after marrying, thus making the inheritance of land less crucial than the inheritance of cattle. The latter were crucial for a son to marry and, thereby, obtain the essential labor for cultivating new land. By 1930, this frontier was completely gone, with pressure on it undoubtedly starting much earlier. This, in turn, made the inheritance of land crucial in future production and household reproduction.

The emate, or "clan," is an exogenous unit. Its pre-colonial political and military role is uncertain, but its role defining those whom a young man can and cannot marry was and is today crucial. The emate today has a fixed boundary and is a contiguous unit, though while a land frontier existed the boundary was flexible and could vary with the military power and energy of young men settling a new area on a disputed boundary. (7) But during all known Gusii history daughters marry out of their home area and into the emate of their husbands. They cannot,



therefore, own the land of their father.

Under Gusii land law, men own and control all land. Thus, wives do not own land of their husbands either. The research area was officially registered by the government in approximately 1970. In the 38 households studied, two women's names are in the land registry as sole owners and two other women are listed as partial owners of their respective lands. All four of these women are widows whose husbands died long before registration. In the case of the two full owners, their sons have since divided the land and, with their wives, exercise full control over its use, with their mothers living on the land of their youngest son.<sup>(8)</sup>

In the case of the two partial owners, they seem to exercise joint control with their sons over the land. One is completely dependent on her youngest son for support, though is said by all family members to continue to exercise control over some of the land. This is not the land under her name in the registry, but is land that the family defines as belonging to a son who has died and to the eldest son who is a priest. The latter is said to have given his mother mandate over use of the land in question. Use of the land is completely divided (though not with fences) among the sons, though no family member identified any part of it as belonging to the mother separate from her sons. In the final case, the widow is still quite economically active and not solely dependent on her children, though they do pay for her hired labor. She and her sons seem to work jointly in deciding land use, with one son currently at home investing in a large amount of hired labor to put a large area under onions as a cash crop. His mother seems to have agreed to this, though how a dispute would be resolved if it arose is uncertain. Overall, only this latter of the four women who are legal holders is actually independently able to control the land in question. This may well be because none of her sons, though adults and working off the farm, has married. When they do, they will probably divide the land and begin to exercise effective control. Thus, ultimately a widow only holds land temporarily in trust for her sons, and registration has not changed this significantly.

In addition to legal ownership of land, men also have access to much better sources of off-farm cash income that can be made available for investment on the farm. In pre-colonial Gusii society, young unmarried men lived in "cattle villages" (egesarate, pl. ebisarate) in which they tended the cattle of the riiga ("sub-clan") and trained in fighting, cattle raiding and the clans and customs that they would need to know as mature men. They were also the heart of the fighting force of the riiga. It is this latter function that the early British Colonialists found most disconcerting after spending three years and several major battles "pacifying" the Gusii. Hence, they disbanded the ebisarate shortly after fully establishing colonial rule in 1908.

The extinction of the ebisarate was the first step, I believe, in the creation of surplus male labor. As elsewhere in Kenya, early forced labor migration, along with colonial hut tax and the requirements for women's labor time at home combined to produce an outflow of male labor from very early in the colonial period. The forced cessation of the ebisarate plus the requirement that women stay at home for reproductive and child-care purposes, meant that male labor was that which came to fill colonial labor needs. Though this labor was not always a pleasant task, it did result in male control of the largest sources of cash income. Today, when that income is crucial for subsistence, agricultural investment, and household reproduction, male control over the bulk of it continues.

Thus, within the average household, the men have legal and ultimate control over land, and usually control the sources of the largest amount of cash that can be translated into capital for agricultural investment. This does not mean women are powerless however. Their ultimate weapon is withdrawal of their direct labor and reproductive, labor-producing, capacity by leaving the husband. This, though, depends upon their having somewhere else to go. Normally, that would be back to their father's or brother's land. If that option is cut-off by the latter or is unappealing, few other viable options exist for the unskilled, uneducated woman. If bridewealth has been paid

is not returned, the woman and her sons retain full rights to their share of the husband's land, even if they live separately until the death of one partner. Indeed, the sons have rights to their father's land and only that land; they will not be given land in their mother's estate, even if they were raised there for most of their childhood.

Finally, legal ownership of land by men does not mean women have no control over season to season land use. On the contrary, because of the not infrequent absence of husbands due to wage labor elsewhere, women often exercise managerial control over agriculture on a day-to-day basis. Table I shows the results of interviews on control over decisionmaking for cash and food crops, and control over income from cashcrops. We see that women are either the sole decision-makers for foodcrops or share that responsibility with their husbands in the vast majority of the cases. But men alone control decision-making for cash crops in 58% of the cases, while women alone control this in only 15% of the cases, and share decision-making with their husbands in 27% of the cases. Similarly, men control the income in a majority of the cases for all cash crops except sugar, bananas and local market sales of sugarcane. While the latter can be significant sources of income for women, they are dwarfed by the sale of large quantities of sugarcane to private transporters who truck them to Nakuru and Nairobi to retail, and by earnings from tea for those families with tea. Coffee, because of the current depressed world market, is not a large income source at the moment, though it was the first major cash crop in Kisii and was very profitable in the mid to late - 1970s. Women control the income from those cash crops that require large investments of marketing time locally for relatively small amounts of income. Of those families where women do control the more profitable (relative to labor input for marketing) sources of cash crop income, a majority are women living without husbands on the farm regularly, either widows or wives of men working outside Kisii. Thus, we see women's control is usually limited by men's ultimate control over the land, which is translated into control over cash crops that do not require large amounts of "low-wage" marketing time.

Table I : Control of Decision-making and Cash Crop Income

Member of Household	Decision-Making		Control of Income					
	Food Crops	Cash Crops	Sugarcane		Sweet Bananas	Tea	Coffee	Thatching Grass
			Long Distance Market	Local Market				
Men	12	35	12	5	2	10	28	12
Women	26	9	4	24	42	3	13	4
Women in <sup>(a)</sup> Households without men on farm	*	5	3	*	*	2	8	3
Both	21	16	1	2	1	1	5	1
Total <sup>(b)</sup>	59	60	17	31	45	14	46	17

(a) This category is a subset of the category "women", showing how many of the women who control cash crops do so because there is no man on the farm to control them.

(b) Only 60 houses are represented because data collection is not quite complete.

The position of men and women in the economic structure of the rural society is crucial in understanding resource allocation at the household level. Men's ultimate control over land and greater access to off-farm income puts women in a dependent, though by no means helpless, position. At the same time, women's position as important managers of food crop production and often sole farm managers, makes them crucial to the success or failure of many government programs aimed at changing husbandry practices of smallholders.

Labor: Still the Key Factor

At the heart of most agricultural development policies targeted at smallholders is the issue of family labor use on the

farm. The central effort of the NEP, for instance, is altering husbandry practices for maize. Even for those farmers without capital to invest in fertilizers, c.t.c., the program assumes increased yields can be induced by husbandry changes alone.

These husbandry changes, however, involve increased labor inputs during plowing, planting and weeding, times of high labor demand even without the new practices. As is often the case, the policy is designed with the assumption that surplus labor exists on the farm even among the poorest households, and that this can and will be used to increase production if correct extension information is passed to the farmers.<sup>(10)</sup>

Hence, the issue of general labor availability and alternative uses is crucial to the entire effort.

Table II presents the results to date of the weekly survey of a three-day sample of labor use for 20 households, which include 37 separate houses: - i.e., separate earning and consuming units.<sup>(11)</sup> The first important item of note is the total hours consumed in one day for various activities and illness. On average, women's time is used for 9.9 hours per day and men's for 6.8 hours per day. Removing the men who are wage laborers on the farms in question, who generally work 3-5 hours per day, shows that the total for men who are family members is 7.5 used hours/day. The question of surplus labor, of course, depends on one's definition of a "full" working day. But most definitions would probably recognize 10 hours as a "fully employed" day and 7.5 hours as, at most, 25% underemployment (using the rather stringent criteria of 10 hours as a full day).

This full day, however, is not all spent in directly productive (i.e. income and/or crops producing) activity. For men, purely productive activity (agriculture, livestock, marketing and trade) accounts for 4.0 hours/day (including wage labor off the farm and agricultural laborers on the farm) and for women 3.5 hours per day. Note that for men, these 4 hours include 1.2

Table II Overall Labor-Use: 3 day/Week Sample for 20 households (Hrs/day/person) (a)

Category	Total Number of people	Number on farm	Part-time Wage Labor	Agriculture	Live-stock	Household	Marketing	Trade (b)	Illness	Fumeral	Child care (c)	Total
All men	53	38	1:2	1.8	0.2	0.7	0.2	0.6	1.4	0.7	-	6.8
Men: members of families only (d)	17	32	1.4	1.9	0.2	0.7	0.4	0.7	1.6	0.7	-	7.5
All women	46	46	0	1.8	0.1	3.2	0.8	0.8	2.1	0.6	0.5	9.9
Women in "multi-woman" houses	19	19	0	2.0	0.1	2.3	0.7	0.5	2.0	0.7	0.3	8.6
Woman only house	5	5	0	2.1	0	3.8	0.6	0.6	2.0	0.7	1.0	10.8
Children while in school	28	28	0	0.4	0.3	1.7	0.1	0.1	0.2	0	0-	2.8
Children while on leave	31	31	0	1.5	0.3	3.4	0.1	0.4	1.0	0.2	-	6.9

(a): All data based on an average of 17.4 visits per house.  
 (b): "Trade" are all types of business activities other than marketing a household's own farm produce.  
 (c): Child care data are included in "Household" for both men and children.  
 (d) This classification excludes 6 part-time agricultural laborers who are included in "All men."

hours of off-farm wage labor, the income from which may or may not be used in support of the family and agricultural investment (see section on capital use). Thus, women provide 25% more time than men in on-farm productive activity, though the two are equal in terms of direct agricultural work and men exceed women in overall productive activity.

Women's "fullday", however, surpasses men's due to the demands of household chores, childcare, and a higher amount of illness. While household chores and child care are not defined by either men or (in most cases) women as "work", they are essential uses of time, and consume large amounts of time due to the quite low level of technology applied in this sector. This work, one should note, is constant and very difficult to reduce even in times of peak demand for agricultural labor. Families must eat, must use clean utensils, etc. to maintain health, and infants must be cared for, regardless of other labor demands. Such activity consumes, for the average woman, 3.7 hours per day. This is reduced to 3.0 hours per day for women in "multi-women" houses<sup>12</sup>

The importance of illness in the availability of labor time cannot be understated. On average, women in the sample lost a full 21% of their 10 hour day to illness. Included in this category is inability to work caused by pregnancy. For the four cases of pregnancy and childbirth occurring in the sample while the data were being collected, the average hours per day taken by "illness" was 4.9, or approximately 49% of the potential 10 hour day. For men, illness accounted for 1.4 hours per day, assuming a potential working day of 10 hours, or 19% of the actual 7.5 hour working day. Being based on a potential 10 hour day that few men, in fact, actually work, this is a generous estimate of lost time due to illness, but nonetheless significant.<sup>13</sup> Any development policy that wishes to intensify labor use must take health factors into consideration very seriously.

People of course, do not get sick for 1.4 or 2.1 hours every day. Rather, they get sick for periods of a day, several

days, or weeks at a time. Table III shows the actual number of weeks men and women reported illness and funeral attendance, <sup>(14)</sup> and the average number of days out of the 3 day sample that they lost during those weeks. It should be noted that illness during periods of peak labor demand can be very harmful to crop production for an entire season, giving health and even more important role in development planning and making households with few members quite vulnerable to major production losses due to the illness of a crucial member.

Children's labor is only marginally helpful in relieving the strain on women's time. Because of the high incidence of primary school attendance, children are available for relatively little agricultural labor for nine months of the year. During leave periods from school they are quite significant additions to the labor force, but this is only three months per year. Fortunately, in Kisii the August recess coincides with a peak labor use period in the agricultural calendar between growing seasons, when maize fields must be replowed and planted rather quickly. Thus, children can certainly be viewed as an asset in terms of labor input once they are old enough to assist on the farm. However, only half of the houses have children of the age to provide this extra labor power. Those houses who do have working children use them more for household tasks, often taking care of younger children, than they use them for agricultural labor. This, again, shows the importance of household chores and child care time as limiting factors on women's agricultural labor. Women with older children assign them to the former in order to free their own time for agriculture and other productive activities.

Table III: Reported Illness and Funeral Attendance: Frequency and Time Consumed per Three day Sample <sup>(a)</sup>

Household Member	Weeks reporting Illness	Days Ill per 3 day Sample	Weeks Reporting Funeral Attendance	Days Used per 3 day Sample
Men	4.9	1.2	2.0	1.2
Women	6.2	1.3	1.5	1.1

(a) All data based on an average of 17.4 visits per house.

All data represent averages for each category.



The sexual division of labor is also crucial for understanding the allocation of labor time between different crops. Following the pattern of decision-making we saw earlier, men spend a greater part of their agricultural labor on cash crops while women concentrate on food crops, as is seen in Table IV. Both the greater number of women laborers, due to polygamy and absentee men, and the slightly greater weekly total for agricultural work, results in women providing 54% of total family labor time, compared to 38% for men and 8% for children. However, men spend more than double the amount of time of women on cash crops each week, so they provide the majority of cash crop labor, despite being a minority of the workforce. The reverse is true, to an even greater degree, for food crops, with women providing by far the largest share of total labor time.

Table IV: Agricultural Labor (Hrs/week/person) on own farm

Category	Number of Respondents	Maize	Other Food Crops	Cash Crops	Total
All household:	38	2.8	0.9	4.3	8.0
Women	47	4.7	2.4	2.0	9.1
Children in School	24	1.1	1.0	0.7	2.8
Children on Leave	34	5.9	1.5	1.3	8.7
Group/Hired Labor (Total hrs. all year)		101	6.2	19.9	127.1
Households using group/hired labor					
Men	20	2.5	1.1	3.7	7.3
Women	29	4.8	2.1	2.2	9.1
Children in School	17	1.0	1.1	0.6	2.7
Children on Leave	17	5.2	1.9	1.2	8.3
Group/Hired Labor (Total hrs. all year)		187	33.6	92	312.5

(a) Group/Hired Labor data is a total for the year 1985 to date for the average household. Weekly averages are not given because this type of labor is used occasionally, not every week.

Table IV also shows the great importance of cooperative groups and hired labor. The former exist in three forms. Most common is the ekiombe, (plr. ebiombe) or self-help group, that is a product of independent Kenya. These started in the research area in the early 1960s and today are used chiefly for agricultural labor activities alone. A typical one would have 10 to 15 members that would work on a rotating basis on each member's land, working three days per week. It would also occasionally do contract labor for non-members with the money going into a common fund that is divided at Christmas for the purchase of meat, etc. for the holiday. Because each member must participate in working on the others fields in order to get his or her own plowed, it does not represent an absolute increase in labor time, though many people report they find working in a group rather than alone increases productivity. The second type of group labor is the egesangio, (Pl. ebisangio), a pre-colonial Gusi institution still very active today though losing ground to the ekiombe. Ebisangio are exclusively women's groups that usually range from 3 - 8 women who work together every day on each members field in rotation. Again this does not necessarily increase actual labor used, though is consciously entered into increase productivity and to force the members to work each and every morning on the farm in order to ensure that the other members will plow theirs when their turn arrives. The third type is the risaga (pl. amasaga), which is an occasional labor group called together for a specific task by the person who wants the work done. The friends and neighbors who arrive to work on the agreed upon day receive a meal, usually including meat, and a fair supply of the local beer after the job is finished. Amasaga have greatly declined in the last twenty years in favor of daily contract wage labor and have been very rarely used for agricultural tasks in the research area in the last several years. (15)

For those families using some type of cooperative or hired labor, their increased overall labor time is quite significant. For a family in which adult labor on the farm averages 16.4 hours per week, an increase of 312.5 hours since the beginning of 1985 represents about an extra 9 hours per week. Such labor is most

heavily used for maize production and secondarily for cash crop production, with relatively small amounts going to production of other food crops such as sweet potatoes and bananas, which are definitely given lowest priority by virtually all the farmers in the sample.

Examining overall agricultural labor time for those houses using group or hired labor, (in Table IV) we see that such labor reduces the amount of time men work on their own fields but does not reduce women's labor time on their own fields. Hired labor is chiefly used to replace absentee men due to off-farm employment and, in a few cases, men who simply engage in very little agricultural labor. For women, who form the bulk of the membership of cooperative labor groups (only one ekionbe has a significant, though minority, number of men), working in the groups does in fact increase absolutely the amount of labor time used in agricultural production. They maintain the same hours per week of labor time on their own farm as non-members but also participate in the group work on other members' farms and on contract labor for non-members. For the nine women in the sample currently participating in ebisangio or ebionbe, their average daily labor time in agriculture was 2.7 hours, 0.6 hours greater than for the entire sample. This difference corresponded with increased overall labor time to 10.2 hours per day compared to the 9.9 average for the entire sample, and reduced labor time for household chores (2.4 hours per day compared to the total sample average of 3.2). Four of these nine women are in houses in which they can count on the labor of other women--daughters or daughters-in-law--to take up the burden of household chores. It is worth noting that while virtually all women were part of some cooperative labor group in the past or present, many of them quit these groups because they conflicted with the demands of household chores at home, especially for young women with young children and no older daughters or visiting sisters to take care of these young children. In the past, several attempts have been made to start ebisangio in the evening hours, thereby greatly increasing the total hours spent in agriculture. Most of these were reported by members to have failed (and none currently exists) because of the necessity of staying at home in the evening (after 4 p.m.) to prepare dinner, etc.

The question of labor availability for agriculture remains a crucial issue in agricultural development efforts. In the sample of Kisii, admittedly only a tiny community, women's labor is certainly not in surplus, though men's labor could be considered to be underemployed if illness is discounted and/or a 10 hour day is assumed to be full employment. The two options for agricultural development policy then, it seems, are to induce the underemployed male labor onto the farm or reduce non-agricultural labor time for women, allowing the "surplus" created to shift to agricultural activities.

#### Land Use and Labor: The Complex Interaction

Land is, of course, a crucial resource in all agricultural activities. Agricultural development involves, in most government programs, increasing labor use per hectare of land and increasing the amount of land under cultivation. In Kisii, the land frontier was filled by 1930 and subsequent land ownership changes have involved buying and selling outright between families and subdivision among brothers. Virtually anyone would say that there is no "unused" land left in the District, except perhaps in some relatively isolated pockets of lower population density. Most of the district, relative to much of the rest of Kenya and Africa, appears to be very intensely cultivated.

The introduction of high-value cash crops--what Clayton called Kenya's "agrarian revolution"-- has had a profound effect on overall land use in Kisii. Starting with coffee in the 1930s, then tea from the 1950s, and pyrethrum in the 1960s and 1970s, cash-crop production in Kisii has seen fairly constant expansion. In the research area, only one of the 38 households does not grow coffee. It was late in introducing the crop and instead opted to become one of the earlier tea growers in the area, consciously deciding that tea was a better option for the land they had available for cash crop use. Only 12 households currently have mature tea, but an additional 5 have nurseries started that, if successful, will result in their beginning to produce tea in three years. Three of the households already producing tea are currently increasing the acreage under the crop, as other houses within these households opt to plant the crop. Tea is popular currently because

of the generally high price it has had for the last several years, and last year in particular. Chewing sugarcane has also rapidly expanded in the last 6 - 8 years, as a large market has developed not only in Kisii but via long-distance transporters to market in Nakuru and Nairobi. Currently, 28 households in the study grow sugarcane for sale. While farm income figures are not yet available, I believe that the combination of widespread cultivation and profitability makes sugarcane the number one overall income earner in the area, surpassing tea because of the larger number of growers. Interestingly, much of this expansion has also been an absolute expansion of land under cultivation, as a large number of growers have planted along river beds on land previously unused (other than for woodlands).

This cash crop production has brought with it a change in relations between men and women and changes in the sexual division of labor. As we saw earlier, men both control decision-making and earnings from cash crops, and provide labor for these crops to a much greater degree than do women. Over time, then, it can be safely assumed that men have withdrawn labor and land from food production and put it into cash crops. Women, continuing to be by and large responsible for producing food crops, thus have less land and family labor for that task and thereby become increasingly dependent on the earnings men receive from cash crops and other sources in order to hire labor and meet basic family subsistence needs. (The other possible assumption is that all land and labor used in cash crop production was previously unused and therefore no loss in terms of food production has occurred. While data are not yet available to show the extent to which this is true, undoubtedly some labor and land currently devoted to cash crops was previously devoted to food.) The increased dependence of women, however, cannot be equated with increased impoverishment of women. The degree to which men use their cash earnings in support of family subsistence varies from family to family and over time. No direct relationship can be assumed, but the structural change in terms of economic relations between men and women nonetheless exists. Previous to the rise of cash crops, both men and women were dependent on food production and the dependency relationship between them was of a different nature from that which exists today, because both were tied to family food production without other viable options. (16)

For all 38 households in the study, the land under all types of use -- agricultural, grazing, and housing -- was measured and compared with overall land size obtained from the land registry.<sup>(17)</sup> The results at first blush appear rather surprising. (See Table V) An overall average of 62% of total land is cultivated and another 15% is accounted for by grazing land, compounds (most of which also serve as grazing areas), and a small amount of land under cultivated fodder. The remainder is used for fences, paths, and woodlands. The latter are significant in that, despite the population density, none of the 38 households has to go beyond its own borders for its woodfuel supply. This is a major achievement, in that only a handful of households use charcoal in addition to wood for fuel, with the vast majority using wood alone. Thus, while the average land size is only 1.6 has. per household, the land appears to be far from totally cultivated. This rate of agricultural utilization is similar to that of Wanjare Location as a whole and Kisii District obtained by the 1983 Land Use Survey done for the Lake Basin Development Authority.<sup>(18)</sup> This survey showed active cultivation at approximately 52% of total land for Wanjare Location and 45% for the entire district. The difference between the current results and theirs can largely be accounted for by the inclusion of temporarily fallow land as part of "agricultural" land in the current research and the 1983 survey's inclusion of all land, including publicly owned. Thus, the actual intensity of cultivation is probably nearly identical in the current research area and the Location as a whole two years ago.

How can a very densely populated district in which all land appears to be used actually have only 77% of the total land under productive use? The answer to this lies in the very nature of smallholder mixed farming itself. Each household, in its attempt to meet both its cash and food needs, grows a variety of crops in a number of very small fields, most of which have hedges around them taking up substantial amounts of room. These are required to keep livestock, etc. away from crops. The dense population requires a number of paths crossing each piece of land for the constant foot traffic to and from all households. Finally, the woodlands, which most households replant as needed, provide for each family's fuel needs and at least partially provide building

Table V: Land Use: 1985 Long Rain

Total Size (Ha.)	No. of Households	Overall Use			Crop (% of cultivated land)					Other Land: Rented or borrowed, bought			Crop (No. of cases) (a) Maize (b) Other
		(% of total land) Agriculture	Grazing, Fodder & Compounds	Pure Food	Pure Cash	Dual Crops (a)	Mixed (b) Food and Cash	Fallow	No. of Cases	Ave. Size (Ha.)	% of Total Home-Land		
less than 1.0	10	63	16	52	17	7	22	3	6	0.16	20	6	1 (Ground-nuts)
1.0-1.5	14	63	15	45	15	18	16	6	7	0.19	14	6	1 (Finger-millet)
1.6-2.0	5	66	15	46	19	9	18	3	3	0.67	40	3	2 (Ground-nuts)
2.1-2.5	4	50	12	41	10	16	26	8	2	0.78	33	2	1 (Nuts)
more than 2.5	5	59	12	41	10	22	18	13	2	0.67	18	2	0 (Tea)
Total	38	62	15	46	14	14	19	6	20	0.36	22	19	5

(a) Dual crops are those that are cash crops that can also be consumed at home: sugarcane and sweet bananas account for most hectare in this category. Others are groundnuts and pineapples. These all are grown principally as cash crops, so can be classified as such for analysis, even though small amounts are consumed at home.

(b) This includes pure cash and/or dual crops interplanted with food crops.

(c) All of these cases are rented land, except one piece borrowed free and three cases of bought land, all in the largest two holding size categories.

(d) The number of cases is greater than total no. of cases renting land because some households planted more than one crop on a piece of land while others rented more than one piece of land.

materials for housing. The efficiency of the system can be questioned, but the limitations placed on land under cultivation will last as long as mixed smallholding agriculture does. Population pressure may slowly inch total cultivated land upwards, though increased housing and other infrastructure needs will push in the opposite direction, putting very real physical limits on the percentage of land that can be put under cultivation.

Examining the breakdown of land use data by size of total holding in Table V shows more than anything else, a lack of clear pattern. Intensity of cultivation, surprisingly, does not appear to be related to total land size. Only two clear relationships seem to exist. One is the percentage of land committed purely to food crops, the vast majority of which is maize and beans intercropped. This has a noticeable tendency to decline as land size increases. Food is given priority and households with less land must increase the share they devote to pure food production in their attempt to meet subsistence needs (though none of these households, in fact, succeeded in meeting their food needs this year from on-farm production). Also, the amount of land that is fallowed increases with increased total holding size. Members of the smallest households consistently reported that they do not fallow land because of land shortage and requirements for meeting next year's food needs, even though they are fully aware of the benefits of fallowing land in the absence of chemical fertilizers. At the other end of the scale, the only two households who consciously fallow and cultivate in set rotation are the two largest holdings, having 7.95 and 4.6 has. each.

The amount of land rented outside the household increases in absolute terms with increased holding size, but shows no clear pattern in terms of frequency of renting nor percentage increase in total land for the household. The extent of intercropping of food and cash crops, in most cases considered bad husbandry by the Ministry of Agriculture, does not show any clear pattern relative to land size.<sup>19</sup> A seemingly likely hypothesis would be that smaller land size puts pressure on farmers to intercrop to make maximum use of land in the short term, while larger holdings would allow pure stands of adequate size for both food and cash crops. This is not the case in the research area.



Again, the factor of labor comes in to play in understanding land use allocation. Table VI shows land use allocation for the 20 households in the labor-use study discussed above. These are stratified by the average amount of agricultural labor each household performed per day per hectare of land. The results are striking. Intensity of cultivation is dramatically affected by the amount of labor used on the farm.

The amount of intercropping of cash and food crops is also dramatically affected, though not necessarily in the direction one might assume. One reason sometimes expressed by smallholders in the study for intercropping was to save labor time, particularly in weeding. Intercropping maize and coffee means the latter is weeded when the former is is. This could lead one to assume that labor-short households would intercrop more frequently than labor-abundant ones in order to save time. The reverse is the case for the 20 households in question. Labour-abundant households intercrop at a much higher rate than labor-short households. This, I believe, is the result of an interaction between labor availability and land shortage. Land shortage is such that most households would like to intercrop, but only those with a large amount of labor power actually can. This is heightened currently by the depressed coffee market and extremely low coffee prices to farmers. Virtually all farmers expressed the conscious need to insure that every piece of their land is productive in the current year. A number specifically stated they had began intercropping coffee recently because of the extremely low price and their desire to get more production of some sort from the land in question. Those that have relatively little labor-power simply cannot do this, spending their labor-time on pure stand food crops which are given top priority.

Renting of land to expand overall holdings is also more understandable when viewed from the vantage point of labor use per household. Only 25% (1) of the 4 households in the lowest category in Table VI rented land, while this figure increased to 50% for the next category and a full 100% for the 10 households with larger amounts of labor relative to their land. Large amounts of labor available for agriculture not only greatly increases intensity of use on the homestead land, but also expansion beyond the homestead. Those renting land to others, it should be noted, are generally labor short households unable to exploit their land fully themselves.

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Table VI: Land Use: Long Reins: Stratified by Labor/day/ha. (20 households) (a)

Hrs/day per ha. of total land	No. of House-holds	Overall Use: (% of total land)		Pure Food	Pure Cash	Dual Crops	Mixed Food & Cash	Fallow	Ave. Total Size (Ha.)	Other land No. of cases	Months forced to buy maize this year to date
		Agriculture	Grazing, Fodder and Compound								
Less than 3.0	4	42	11	46	33	8	6	6	1.1	1	5.25
3.1 - 4.0	6	56	19	41	14	16	20	8	1.6	3	3.10
4.1 - 7.0	7	62	16	51	13	11	23	1	1.5	7	3.40
Greater than 7.0	3	73	13	43	9	16	30	1	1.2	3	4.00

(a) See notes for Table V.

The existence of fairly significant amounts of land renting, given the limited use of home land, is interesting in and of itself. This can only be understood in terms of the physical limits to cultivation intensity discussed above, and the labor savings associated with renting land rather than opening woodlands, etc. on the homestead. As we shall see, cash income spent on land rental is a significant agricultural investment and would certainly not be undertaken if viable alternatives existed on the household's own land. This is especially true in that this expenditure generally does not directly produce cash income, since the vast majority of rental land is used for maize production, not cash crops. This is due to the increased percentage of land on homesteads devoted to cash crops and the fact that all major cash crops in the research area except groundnuts are not a season crops, but longer term. Most land rental is for periods of 1 to 3 seasons ( $\frac{1}{2}$  -  $1\frac{1}{2}$  years). Longer periods are generally not offered by those with land to rent out. They are usually renting their lands because of lack of labor, to use the land themselves. This is a situation that can often change quickly leading the landowner to use the land himself rather than rent it out. Thus, longterm rentals are rarely entered into.

With the extremely limited amounts of capital invested in agricultural production (see following section), land and labor remain the crucial factors in understanding smallholders' resource uses. The use of land itself is heavily dependent on the amount of labor available for agricultural activities. Households able to provide relatively large amounts of labor per hectare cannot only cultivate their own land much more intensely than other households, but also have the labor (and need) to rent land elsewhere to increase their total cultivated acreage. This does not mean that they are necessarily wealthier or more able to meet their household's needs from farm production. Table VI shows the degree to which the households in each labor per hectare category were able to meet their maize requirements from their own production this year. Households in the middle ranges of labor per hectare, which also have larger total hectareage, were able to provide more of their needs than those with large or small amounts of labor relative to land size. Those with the least amount of labor for agricultural use also have the smallest amount of land. These families include three nuclear families and one lone man whose wife left him a number of years ago. Two of these households rent substantial parts of their land to others because of their inability to cultivate it themselves due to both labor shortage and low paid wage labor

on the part of male family members. The three families with the most abundant agricultural labor are neither the poorest nor richest in the area, but are multi-house households on relatively small pieces of land. In one case, all of the economically active men work off the farm, but two of the four hire wage laborers to replace themselves in agricultural work. In another case, the three adult married men spend most of their time on the farm, engaging in occasional wage labor when available, but are all active in an ekionbe that increases their agricultural labor time. The ratio of labor to land is not a matter of wealth directly, but of personal family circumstances. One cannot assume that either the land abundant or labor abundant household will necessarily be wealthy or poor. The relationship between labor availability and intensity of cultivation has clearly important policy implications. For agricultural development policy encouraging intensive land use, those with relatively large families who can apply their abundant labor to the farm are fulfilling development goals more so than small families unable to use the land intensively. But another development goal-- food self-sufficiency-- is not fully met by households in between the extremes who seem to be closer to balancing within the household the conflicting need for agricultural labor and demand for food by these laborers. One fact is clear though: those with very little labor power can neither use their land to its fullest potential nor provide for their own food needs. They are generally the poorer rural households in almost all ways. Unless such a household is fortunate enough to have a highly educated and well-employed son who contributes to the farming operation by hiring wage labor, minimizing household population does not appear to be a path to prosperity for the smallholder farmer.

#### OFF-FARM INCOME AND AGRICULTURAL INVESTMENT: THE MINOR ROLE OF CAPITAL

Smallholder households, as I asserted earlier, must be viewed as multi-purpose units. A large amount of time, income and effort is both spent and generated from non-agricultural activities. The question for those specifically interested in agricultural development is what effects this has on agricultural production. We have already seen the extent to which male and female labor is both used and generated (via hired labor) in off-farm employment and business. An examination of how overall off-farm income is used for both agricultural and non-agricultural use reveals the very limited nature to which smallholders find it prudent to invest in agriculture.

Table VII: Sources and Uses of Off-farm income (1981 - 1985)

Sample	No. of people	No. of job/Businesses	No. Reporting	Shs./mo.	Ave. years per job or business	Subsistence (a)		Education (b)		Housing (a)		Marriage (b)		Land (b)	
						No. on farm	Shs./mo.	No. Reporting	Shs. Over 5 yrs	No. Reporting	Shs. over 5 yrs	No. Reporting	Shs. over 5 yrs	No. Reporting	Shs. over 5 yrs
All	1164	164	103	252	2.8	60	34	43	2541	34	1726	6	1300	38	876
Men: Wage Labor	59	78	52	597	2.9	34	11(c)	22	5406	23	1653	5	1440	21	1456
Men: Businesses	14	17	14	341	2.5	11	6(c)	7	613	6	2200	1	200	5	430
Women: Businesses	44	59	36	140	2.7	13	8(c)	11	180	4	564	-	-	11	223

EX R E N D I T U R E S

(a) Data for subsistence, earnings and housing are incomplete, so 'No. Reporting' are those from whom data has been obtained.

(b) Data for education, marriage and land are complete, so 'No. Reporting' are those who made expenditures in each category.

(c) Because data is so incomplete, it is useful to give earnings information for those in each category from whom subsistence data have been collected:  
 Male Wage Labor: Earnings = 405/- mo.  
 Men: Businesses: Earnings = 250/- mo.  
 Women: Businesses: Earnings = 113/- mo.

As Table VII shows, 116 people in the 38 households are engaged in 164 different off-farm activities of some sort in the last five years. These vary from quite highly paid office workers in Nairobi to nurses and teachers living at home but working off the farm to part-time agricultural laborers for whom the current wage is Ksh. 5 for a 3-5 hour morning of work. The income generated from these activities, whether earned in Kisii or elsewhere, is potential capital for investment in agriculture. However, the goals of a multi-purpose rural household involve overall reproduction and, if possible, economic advancement. Thus, off-farm income is used in a wide variety of activities other than agriculture.

The data in Table VII reveal that, as is not surprising, men have access to much higher levels of off-farm income than do women. With the exception of four women employed in wage labor (2 teachers, one nurse, and one part-time maid), women engage in rural businesses, almost always retail of some sort. These provide earnings that are only 23% of the wages of 59 men who have held some type of wage labor. The lowest paid wage labor in the area is part-time agricultural labor, the overwhelming majority of which is performed by men. Even this averaged 130 shillings per month, only 10 shillings less than the average business woman's profits. The profit level for men's businesses, because they often start with investment capital earned from previous wage labor and therefore can have larger-scale businesses (such as small bars, restaurants and general stores), is more than double that of women's businesses.

The type of expenditure men and women make also varies greatly, as does the amount of these expenditures. Based on the data currently collected, over the last five years the women in the study spent an average of 75% of their business profits on subsistence needs. Men employed in wage labor spent a greater absolute amount, but only 27% of their total wages, on family subsistence on the farm. This does not include amounts spent on subsistence at the place of work if the worker was not living at home. However, of the 34 male wage-earners for whom subsistence expenditure data are available, only 7 live off the farm. Hence, their subsistence elsewhere would not be a very large amount when averaged over all 34 wage-earners. In the categories of education and housing, men spent far more both absolutely and in percentage terms than did women. Men who made expenditures in education, spent nine months of total wages for the last five years on average, and those who invested in housing for their family spent an average of 3 months total wages. The women who made such

expenditures on the other hand, spent only 1.25 months' earning on education and 3 months' on housing. Thus, in percentage terms, both men and women making expenditures on housing spent the same relative amounts. However, far more men spent in both these categories than women, making their overall average much higher, in both percentage and absolute terms.

Men with local businesses spent more on housing and less on education compared to their counterparts in wage labor jobs. The high level of spending on education by male wage laborers reflects the very high expenditures of those supporting students in secondary school. Very few people, men or women, can afford these high secondary fees if they are not employed in a relatively well-paying job. Hence, the data on educational spending by male wage earners includes a number who are not necessarily educating their children, but are spending large sums educating their brothers and, to a lesser degree, their sisters.

The importance of examining these non-agricultural expenditures is to put agricultural expenditures in perspective. Table VII shows the number of wage earners either buying or renting land to expand household cultivation over the last five years. For business women, expenditure on land does represent a significant use of off-farm income when compared to expenditures on education and housing. However, this is dwarfed by the investment in rental or permanent land made by male wage earners. For men, however, land represents less expenditure than either housing (though only slightly less) or education. The latter is especially large relative to any other use of male earnings, including investment in land. A man's investible income is spent, to a large degree, not on agriculture but on education for his children and/or his siblings. This reflects the continuing view among rural Kenyans that education and off-farm employment are the route to wealth, not large investments in agriculture. The level of investment in land is as large as it is for male wage laborers because the category includes several men - teachers, clerks or drivers - who have bought land in other, usually fairly distant, parts of Kisii, planning for the future when they will leave the home land to their less fortunate brothers and move to the recently purchased land.

Table VIII: Expenditures of off-farm income on agriculture (1985 to date)

Sample	No. of Respondents Total 1985	Earnings (b)		EXPENDITURES (d)				Capital Ave. Shs. for those Reporting investing in agriculture				
		No. Reporting	Shs/mo.	No. Reporting	Ave. Shs. for all those investing in agriculture	Ave. Shs. for those reporting	No. Reporting					
Men: Wage Labor	49	27	658	9	357	119	17	944	595	24	138	123
Men: Business	9	5	194	3	155	93	4	88	71	5	37	37
Women: Wage Labor	6	4	297	-	-	-	-	-	-	4	36	36
Women: Business	39	26	164	9	131	45	7	228	61	21	79	64

(b) Total No. of people with off-farm income in 1985 in each category.

(c) Data for earnings are incomplete, so "No. Reporting" are those from whom data is available.

(d) This is the amount spent in each category averaged over all people in that category who spent on any one of the three types of agricultural investment.

(1) For all expenditures, data are complete so "No. Reporting" are those who spent in each type of agricultural investment.



Though land is significant in terms of overall agricultural investment of off-farm income, it is less than investment in hired labor for the current year. Investment in hired agricultural labor, often replacing the men who have jobs off the farm, is the largest category of investment in agriculture from off-farm income, as can be seen in Table VIII. While investment in capital, chiefly in the form of hybrid maize seeds and (in a minority of cases) fertilizers, is undertaken by the largest number of wage earners of all types, the amount of money involved is quite small. Hybrid maize and other seeds simply are not very expensive relative to labor and land, and fertilizer is usually applied, when applied at all, in relatively small amounts.

Male wage earners spent much more on hiring wage labour than on either land or capital inputs this year. On the other hand, businesswomen spent more on capital inputs than on either land or labor. Both land and labor require larger amounts of expenditure than capital inputs, as can be seen in the figures averaged over only those who actually invested in each category. This larger amount of expenditure per investor means that those individuals with higher incomes, chiefly wage earning men, make these investments, leaving the smaller expenditures for seed and fertilizer, to their wives who have lower incomes. Of course, in a number of families, the wage earning man will pay for most or all of the investment in agriculture in all categories. The women investing in capital inputs are those whose husbands do not have an off-farm income, or have a relatively low one. These women are left with the task of providing all inputs from their business incomes. In many of these cases, hybrid seed is the only expenditure on agriculture because of lack of funds to invest in either hired labor or land, regardless of needs.

Examining off-farm income and its uses is important when we compare agricultural investment from off-farm sources and from farm sales directly. Table IX does just that, showing the great importance of off-farm sources relative to on-farm. In all categories of agricultural investment, male wage labor produced a much larger amount than did income directly from farms themselves. This is equally true for the relationship between male wage labor and women's businesses.

Table IX: Agricultural Investment

Source of Funds	No. of Cases	Entered Land		Capital Inputs- 1985			Monthly No. of cases	Hired Labor - 1985				
		1984 No. of Cases	1985 No. of Cases	Long Season No. of cases	Short Season No. of cases	Monthly No. of cases		No. of cases	Occasional No. of cases			
All	71	23	28	204	53	87	58	50	12	138	31	391
Farm Income	27	4	5	158	12	67	18	19	1/2	80	10	122
Male Wage Labor	28	11	9	329	18	134	15	91	11 1/2	140	12	591
Women: Businesses	24	4	9	131	14	51	17	51	1	130	6	43

The latter invest very little relative to men in all aspects of agriculture. The difference is not nearly as great when viewed in terms of percent of earnings. But given the much greater number of male wage earners investing in the major expenditure items of land and labor, male wage labor remains the dominant source of agricultural investment.

In the multi-purpose smallholder household, off-farm income is, and has been for a long time, a crucial element in understanding agricultural production. Labor time used by off-farm activities detracts from the total labor available for cultivation. This is particularly true for men who work and live outside their home area. But these same men often invest in hired labor on the farm to replace their own labor, which they have withdrawn to pursue more remunerative endeavors. The extent to which these men re-invest on their farm depends on the other needs the household faces. Both education of children or brothers and investment in improved housing are selected for greater shares of male wage earners' investible income than is agriculture. Because women engaging in relatively "low-wage" rural marketing businesses use the vast majority of their cash income to meet family subsistence needs, they have very little available for investment in agriculture or anything else. The reproduction of the household and its economic advancement, therefore, depend on the income controlled by the man in most cases. The wife of a man who, for whatever reason, is unwilling or unable to invest at adequate amounts in improved housing, expanded agricultural production, and their children's education will in almost all cases be an impoverished woman. Her options for breaking out of this poverty are very slight. No rural business option can provide the needed cash income, and child care, farming requirements, and lack of alternative employable skills leave her with few alternatives outside the home area.

The implications of this for agricultural production and development are significant to say the least. For either a land or labor short household there will be very little that can be done to rectify the resource imbalance if there is not a relatively well-paid wage laborer, almost inevitably a man, who is also

willing to invest at the required amounts in land or labor. Many households without such an income source are able to invest in some land or hired labor, but at lower levels of investment and less frequently than households with an adequate source of off-farm income. Hence, such "income short" household generally cannot "make up" the resource imbalance created by land pressure or labor shortage.

#### CONCLUSION

As stated at the outset, this paper is a report of research underway so conclusions must be viewed as tentative. But conclusions do, indeed, present themselves. Government agricultural development policy attempts to induce smallholder farmers to increase labor inputs into agricultural production and, if possible, increase capital inputs also. The NEP specifically assumes that the former is possible for all households and is therefore the number one stress of the program. The focus in Kisii, and in most other Districts, is on changing maize and beans husbandry to increase food production. Other crops, both cash and food, are by no means ignored, but maize and beans, being the staple crops, receive the most attention. The husbandry changes encouraged by the extension effort require more labor during the crucial periods of plowing, planting, and weeding.

The analysis of household resource use in one small part of Kisii can shed light on the NEP and on the broader directions development policy might take. Labor remains the key factor at issue. This research shows that women's labor is certainly not in surplus, and at periods of peak labor demand is probably quite strained. This is not due to agricultural activity, but to the overall demands on a woman's time as she maintains all aspects of a rural household. Illness and pregnancy are the other factors that put great strain on women's labor, making health policy crucially intertwined with agricultural policy. Male labor, on the other hand, does appear to be in surplus. If one finds a 10 hour day to be "fully-employed" then it is in surplus at a rate of 25%. On the other hand, if a less ambitious target of, for instance, 8 hours per day, were applied, then male labor is only

very slightly in surplus and female labor is working overtime at a rate of 25%.

This conclusion seems to leave development policy with two options. First, policy could attempt to reduce the time needed by women for activities that are not directly "productive" in the standard sense of the word, and could attempt to lower time lost to sickness by improving health services to women. Because of a lack of highly remunerative options, women's labor time released from household work and sickness would, by and large, probably be re-allocated to agricultural production, particularly in the crucial peak periods of labor demand in the agricultural calendar. The other option would be to induce male labor into agricultural activity. This, presumably, could best be done via pricing policy, which is a frequently used policy tool in recent years. However, if the focus is on food production, pricing policy may not automatically produce the desired results. If a man can leave meeting the bulk of food expenses for subsistence on the farm to the woman, he will be less inclined to use his own labor for food production. What might be required is a very major shift in "terms of trade" for agriculture and food in general. In that the smallholders in my study are almost all food deficit, they are not likely to sell maize until they can produce all their own needs. Pricing policy will not induce male labor to work for their own needs unless the man is paying for the food deficit and pricing changes result in his paying more than previously. Without indepth study into that issue separately, we cannot come to a definitive conclusion, but because of the different roles of men and women in the household, we cannot assume that pricing policy will have the automatic results often assumed.

The other typical goals of agricultural development policy include increasing intensity of land cultivation per household and increasing capital inputs when possible. The former, as we have seen, is highly dependent not just on land pressure alone, but on the inter-action of land pressure with labor availability. Hence, the most important policy measures are probably those mentioned above for increasing labor inputs. Capital inputs, on the other hand, might be a separate issue. The focus on policy must be on

inducing male wage earners to allocate a greater portion of their investible income to agriculture because these wage earners control by far and away the largest potential source of investment in agriculture. Again, pricing policy seems to have potential for achieving these policy goals, but it is subject to the same possible constraints regarding food production as discussed above. As long as the economic structure of the rural society remains what it is currently, with men having many more options and less dependence on the family farm than women, guaranteeing that men farmer will invest in food production on that farm is not possible. Certainly many of them will, but others can easily choose to continue investing in non-agricultural goals for the family or simply in not investing in family needs to any great extent, leaving the women to achieve what level of household reproduction they can from their own income. (This, admittedly, is an unusual but by no means non-existent phenomenon, at least in the research area from which this research was drawn).

Finally, the overall level of wealth of the household is of great importance in understanding reaction to development policy. Contrary to policy assumptions of surplus labor, the poorer households in the research area are often labor short. They also often lack the off-farm income needed to hire labor to use their land fully. As a result, they are unable to meet their own needs or to comply with extension recommendations that require increased labor, if nothing else. Certainly not all of the poorest households are labor short, but many of them are, making their participation in agricultural development rather difficult.

Labor remains, it seems, the crucial issue in agricultural development. But the assumption implicit or explicit in many development policies do not necessarily match the resource availability and allocation found in the household. Because rural households have a variety of functions and goals, non-agricultural as well as agricultural; and because men and women within those households have different structural positions and access to resources, policy must be targeted to specific household members who will be in a position to respond in a matter beneficial to the household while also meeting development goals. This means focussing on women's labor time as a crucial constraint and men's control over cash input both for land expansion of labor abundant households and labor augmentation for land abundant households.

Endnotes

<sup>1</sup> Sara Barry "The Food Crisis and Agrarian Change in Africa: A Review Essay", African Studies Review, 27:2, June 1984, pp. 59 - 110.

<sup>2</sup> Jane I. Gwyer, "Household and Community in African Studies", African Studies Review, 14:2/3, June/September 1981, pp. 87 - 137.

<sup>3</sup> This is based on interviews with various MoA officials, Mr. Zelig Matmar, a Consultant for the NEP, and my personal observation of the extension staff operations.

<sup>4</sup> I have attempted and made some progress in learning ekesusii -- the Gusii language -- so I can understand some of the interviews directly. But the research assistant is still quite necessary for high quality interviews.

<sup>5</sup> This sample was then checked for representativeness of the larger community in terms of household size, crops grown, etc. and found to be quite representative.

<sup>6</sup> This method of collecting data on agricultural labor and household budgeting on a weekly basis was seen as the most feasible method. More frequent interviews would have pushed the limits of even the most patient respondents. The results are highly accurate, I believe, for the household budget information but less so for agricultural labor. Faulty memory of some respondents has led to data that I think underestimates the amount of labor time for the weekly totals in agriculture. The 3 - day sample of all labor time is quite accurate I believe.

<sup>7</sup> In the research area, the eamate land was expanded by one young man who is now one of the elder men of the area. He moved into what was unused land and after various attempts by the opposing eamate to physically remove him, the matter was taken to the colonial authorities. The latter ruled that because he had opened up unused land he had the right to keep it. Prior to his using it, it was used by the local mission, who abandoned it. After seeing it open, he moved across the river, knowing he was crossing the clan boundary. This is probably one of the most recent (1930s) examples of this phenomenon.

<sup>8</sup> By Gusii custom, the youngest son has responsibility for caring of his aged parents. In the past, he was compensated for that with additional land, but I have found no evidence of

an actual case of such compensation in the memory of anyone living. The increased importance of lands as plot-size shrink undoubtedly was the death knell of this custom of land compensation for the youngest son. In most cases I have seen, if an aged parent becomes seriously sick, needs a new house built, etc., more than one son will contribute as needed.

<sup>9</sup>This is very true today. In the research area there are two cases of women who lived away from their husbands for ten years or more until his death and then moved back to claim their land. One of these women was childless, and after returning to her land "married" (paid bridewealth for) a younger woman who was unmarried but already had a son, thus securing her position on that land because she (with her brother's help) paid the bridewealth for the younger woman, the latter's son will inherit the land. Hence, the widow is now holding the land for this son.

<sup>10</sup>See Daniel Benor and James Q. Harrison The Training and Visit System (Johns Hopkins University Press, Baltimore 1979).

<sup>11</sup>I define "household" as the unit that the Gusii generally refer to as omochi in ekegusii or "village" in English. It is a family with a male at the head whose members all live on a piece of land that has not been physically divided (with fences) among them. The male head may be dead, but if his sons and/or widow(s) are alive and living together without final and complete division of the land, it is still one omochi. A "house" is any unit that farms certain pieces of the household's land and eats together. A nuclear family is both household and house, but a polygamous household usually includes as many houses as there are wives. A married son and his wife are also a separate house if they have separate fields they cultivate and eat separately.

<sup>12</sup>In such houses, one woman can often do these tasks, freeing the other for other types of labor. It should be noted, though, that this cannot lead to an argument in favour of polygamy as labor saving, in that in virtually all polygamous families each wife forms a separate "house". Multi-women houses consist of a wife, her grown daughter and/or a daughter-in-law. For the latter, it is several years after marriage before she will be allocated separate fields and thereby form a separate house within the household.

<sup>13</sup>Illness was often reported in terms of an entire day, rather than periods of hours. One day of sickness for either a man or woman was considered as ten hours of potential labor lost. As we have seen, this does reflect the average woman's day, including sickness itself, but over-estimates for men. Adjusting this downward for men would simply strengthen my overall argument of surplus male labor.



<sup>14</sup>Funeral attendance is included because of the Gusii custom of stopping all work for one or two days when anyone in the area has died. The number of families who will do this and the length of time the cessation of work will last depends on the importance of the deceased. Only close relatives will usually stop work when a child dies, but the entire research area and a large number of families beyond it stopped work when a well-known elderly man died.

<sup>15</sup>This decline is an interesting phenomenon, universally blamed locally on the rising importance of money in the local economy and the increased variety of goods money can buy compared to the set meal and beer from working in a risega. On the other hand, many respondents also noted the time consumed in hosting a risaga and younger, wealthier respondents universally stated their preference for contract labor because of the time needed for amasaga so ~~labor-savings~~ might be an important factor in their decline.

<sup>16</sup>Actually, this applies most purely to the pre-colonial period. The rise of wage labor during colonialism began the process that continued with the introduction of cash crops.

<sup>17</sup>Because of sub-divisions of holdings that have not been re-registered as sub-divided, five household's lands were measured by me overall, in addition to measurement of each piece of used land within the holding.

<sup>18</sup>Lake Basin Development Authority. Integrated Land Use Survey. (Prepared by Ecosystems, Ltd., Nairobi), November - December 1983.

<sup>19</sup>The most common form of cash/food intercropping is maize and coffee, though maize and young sugarcane is not uncommon. The maize/coffee mix has been found in research to be particularly deleterious to the production of both crops when compared to pure stands. This, of course, assumes land is available for adequate pure stands of both.