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AN ANALYTICAL APPROACH TO RURAL DECISION - MAKING  
INTERIM RESEARCH REPORT

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WORKING PAPER 291



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ABSTRACT

This paper discusses the theoretical foundations and research methodology of a study of decision - making currently being conducted in a portion of Migori Division, Kenya. Drawing upon concepts from the literature of social exchange and "formal" economic anthropology, the study will provide an analysis of agriculturalists' decisions as they concern the production, exchange, and consumption of both material and social values in a rural, non-industrialized context.

Central to this approach is the hypothesis that rational decisions are based not only on material, but also on social advantage. The aggrandizing of social values therefore becomes a necessary part of an economic analysis, because what may seem rational in material terms may be irrational when juxtaposed with considerations of social value. In other words, the study recognizes a need to supplement purely economic data with relevant social data in order to produce more adequate analyses of agriculturalists' responses to incentives or economic alternatives presented to them by outside agents.

The theoretical and methodological discussions are followed by a description of the research locale and population. In addition, results of a preliminary survey of the area are presented in order to convey to the reader some general characteristics of the region.

## 1. THEORETICAL BASES OF THE RESEARCH

Though the theoretical foundations which ultimately underlie this research are to be found within the fields of classical economics, social psychology, sociology and anthropology, the research derives from discussions of a theoretical nature being conducted within that particular sub-discipline of anthropology known as economic anthropology. An additional stimulus for the research has been the desire to examine the relevance of certain aspects of these discussions for rural development.

Within the field of economic anthropology <sup>1</sup> concern over the applicability of classical economic theory to non-western societies has generated an intense, two-level debate. At one level, there is debate as to whether the theory might be fruitfully applied at all, with "substantive" economic anthropologists (e.g. Dalton 1961, 1969, 1971; Polanyi 1944, 1947; Polanyi et al 1957; Sahlins 1972) denying the theory's utility outside of a western capitalist setting, and "formal" economic anthropologists (e.g. Cook 1966, 1969, 1973; Edel 1969 Le Clair 1962; Schneider 1970, 1974a) affirming that data from rural, non-industrialized areas can be fit to the analytic categories

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1. The discussion here concern itself with the American school of economic anthropologists; the other major school being the French school (e.g. Bastide 1973; Godelier 1974; Meillassoux 1972; Terray 1972). While the Americans have concerned themselves with classical economic theory, the French have concerned themselves with the application of Marxist thought to the history and development of non-western societies. However, the boundaries between the two schools are not as distinct as they might seem. During the past few years, there has been an increased interest shown in Marxism by American scholars, and this trend has also been exhibited within the field of economic anthropology. Cook's (1973) article suggesting that formal economic anthropologists should shift their focus from exchange to modes of production is one example of this trend.

of the model.<sup>2</sup>

Substantivists can be described as institutionalists, in that their concern is to locate and describe institutions which facilitate the provision of sustenance to all members of a society. There are said to be three institutional systems operating in societies of the past and present, these being based on: (1) reciprocity, (2) redistribution, and (3) market exchange. This last institutional arrangement is said to be present only in Western, capitalist economies, and is the only system conducive to formal economic analysis.

Formal economic anthropologists, on the other hand, are primarily concerned with economizing behavior rather than with institutional arrangements. They have by and large adopted Lionel Robbins' (1962) definition of economics as being the science which studies human behavior as a relationship between ends and scarce means having alternative uses. Thus the emphasis is on analyses of choice and decision - making, rather than on description of institutional arrangements.

At the second level of the debate, formalists disagree among themselves as to whether their analyses should be applied only to material goods (Cook 1969, 1970, 1973; Edel 1969; Le Clair 1962), or whether they can be

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2. The descriptive labels, "substantivist" and "formalist" used to denote the two major groups in American economic anthropology have been taken from the writings of Karl Polanyi, who wrote (Polanyi et al 1957: 243):-

the two root meanings of 'economic,' the substantive and the formal, have nothing in common. The latter derives from logic, the former from fact. The formal meaning implies a set of rules referring to choice between alternative uses of insufficient means. The substantive meaning implies neither choice nor insufficiency of means...

applied to the social sphere as well (Barth 1966, 1967; Belshaw 1967; Schneider 1970, 1974a). The latter group of formalists is drawing upon the concepts of social exchange (Blau 1955, 1964; Emerson 1972; Foa 1971; Homans 1958) to contend that social values can be ordinally ranked and employed in economic analyses in order to enhance the explanations of allocative, or decision - making behavior.

George Homans (1958) and Peter Blau (1964) have gone further than most in proposing that interpersonal human behavior can be viewed as an exchange between the parties involved. In fact, they have suggested that all human interaction, and therefore society itself, can best be understood from the stand-point of exchange.

Exchange can be carried out between relatively equal partners, in which case alliances are formed, or they can be conducted between individuals and their subordinates, in which case systems of rank (involving status, prestige, and variable amounts of power) are formed. (Cf. Bennett 1968) A fact of primary importance is that these exchanges may involve both material and non-material values. A good example of an exchange of values of the latter sort was described by Blau (1955), where he observed the exchange of time and expertise (by superordinates) for deference and obligations (by subordinates) in a bureaucratic setting.

Thus as stated by Harold K. Schneider (1974a : 148) :-

Social exchange may now be defined as that kind of exchange in which in return for some 'material' or 'social' value the recipient returns obligations ... that are expressive of subordination to the giver and which are called by many different names, e.g. subservience, serfdom, deference, clientship, respect.... But social exchanges can off-set each other, in which case an alliance is created that is manifested by expressions of respect and friendliness between the parties involved.

Continuing, he writes (Schneider 1974a : 150);-

... decision makers engage in acts of production of material (and social) wealth not only for the purpose of feeding themselves and for the pleasure derived from these goods but also in order to

...obligate others to them and thereby increase their social power. That which the economic man seeks in order to maximize his profit and utility is a balance of material and social wealth.

This research is based on concepts derived from formal economic anthropology, and the literature of social exchange. It is an analysis of decision-making as it concerns the production, consumption and exchange of both material and social values in a rural non-industrialized context.

An additional stimulus for the research derives from discussions by development theorists on what should be the proper scope of analysis of rural development. In particular, it derives from discussions on how best to analyse and understand rural agriculturalists' responses to incentives and economic alternatives presented to them by outside sources (primarily government agencies, but also private business).

Some theorists, oriented towards psychology, have argued that agriculturalists' personalities must be considered when studying acceptance or rejection of alternatives presented to them (Hagen 1962; Mc Clelland 1961, 1963). Other theorists, primarily classical economists, have argued that it is sufficient merely to consider technological or material economic factors when analysing agriculturalists' decisions (Rostow 1962; Schultz 1964). The latter approach has been more generally applied than the former approach (due perhaps to the prohibitive costs of the former), and yet, in certain situations, predictions and analyses derived from this latter approach have proved inadequate. This seems to be due to the fact that wide ranges of variables are held constant, which has reduced the ability of theorists of the latter group to account for seemingly irrational behavior on the part of rural agriculturalists who are faced with alternatives considered to be economically viable by outside agents.



A third theoretical position has recently emerged whose adherents argue that while it is not necessary to focus one's analysis on the personality, it is also insufficient to deal solely with technological or economic variables (Epstein 1962, 1968, 1973; Hill 1970; Ortiz 1973; Salisbury 1970). These theorists have analysed decision-making within its social context, which they hope will offer a more adequate explanation of the dynamics of response to development programmes.

This research project is most closely related to the work being done by this third group of development theorists, in that it recognizes a need to supplement purely economic data with relevant social data in order to produce more adequate analyses of rural development. (cf Schneider 1974B, 1975) By utilising concepts drawn from social exchange literature and formal economic anthropology (i.e., by analysing individual allocations of social and material resources with alternative uses to various ends), it will be possible to include social data as integral (rather than merely contextual) to the study of agriculturalists' responses to economic alternatives facing them.

## II. RESEARCH STRATEGIES

The aim of this research project is to collect detailed, quantified information on consumption, exchange and production in a particular rural setting. Depth of analysis is to be substituted for the sort of breadth one normally associates with survey research. In real terms, this means that both the sampling universe and the research sample will be smaller than those selected by survey researchers.

T. Scarlet Epstein (1962, 1967) found that over the course of more than two years of research in India, one field worker and one or two assistants could gather detailed statistics on no more than 50 to 60 households per year. Both she (Epstein 1967: 159) and Schneider (1974a: 186) caution field

workers against selecting too large a sample when the goal of the research is the collection of quantified statistics. Heeding the suggestions of these scholars ( and taking several other factors into consideration), it was decided to limit the sampling universe to approximately 200 households, and to limit the research sample itself to 40 households.

After isolating a sampling universe and randomly selecting a research sample, it was decided that the over-all research strategy would be first, to collect detailed economic statistics over the course of two agricultural seasons; and second, to collect information on social exchanges within the research area.

Economic data will be collected from the 40 sample households. Regarding consumption units, this data, in general, will include expenditures and income from the sale of factors of production (i.e. labor, land, capital, or management skills). Regarding production units, this data will include outlays for factors of production, productive output and revenue from the sale of what is produced. Exchange data will include supply, demand and price statistics collected over the course of the research.

The data of social exchange will be collected primarily from the 40 sample households, but certain information will be drawn from the entire population. This will involve the determination of : (1) what non-material goals or ends people have, and how these are ranked relative to one another (e.g. positions of prestige or influence in the research area, etc.); (2) what resources or means are available for reaching these goals, and how these resources are distributed among the population; and (3) how these resources are strategically allocated (i.e. exchanged) with reference to the stated ends. In other words, data collection involves the determination of what constitutes social wealth, how this wealth is presently distributed, and how it is attained using either material or non-material resources available

to individuals. Thus, systems of rank and alliance will be isolated, along with the exchanges which create them.<sup>3</sup>

Prior to arrival in Kenya, it had been decided that the research would be conducted within Migori Division. This decision was based primarily on two factors. First, anthropological literature (particularly of an economic nature) concerned with the Luo is scant. Second, within the Luo area, government resources and energies related to rural development seemed particularly directed to this region due to its selection as a Special Rural Development Programme area. It was concluded, therefore, that the division offered opportunities for both an anthropological study of the Luo, and also a study of farmers' responses to government and private initiatives in the field of rural development.

### III. LOCALE

The research is being conducted within Wasweta I Sub-Location, an administrative Unit of Suna East Location, Migori Division, South Nyanza District. This sub-location is located approximately 40 kms. east of Lake Victoria, 23 kms. north of the Kenya - Tanzania border, and 70 kms. south of Kisii. The total area of the sub-location is 58 sq. kms., and its population as of 1969 was 8, 596, giving it a population density of 146 people per sq.km. (Republic of Kenya 1970 : 48). The major population centre situated in Wasweta I is Migori township, which in 1969 had a population of 2,066 (Republic of Kenya 1970:49).

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3. Fredrick Barth (1966,1967) describes these systems (along with all patterns of human interaction, i.e. society) as being mere "epiphenomenon" of underlying interpersonal exchanges. Thus these systems ( and society) are not to be viewed as being permanent, but rather as being in a state of constant change. It is this view of society as continually in a state of change that sets social exchange theorists apart from most traditional anthropologists who tend to view society as functionally stable and resistant to change.

Altitude within Wasweta I ranges from 1,325 meters at the lowest point of the Migori River Valley, to 1,585 meters in the north-eastern portion of the sub-location. The highest percentage of land suitable for cultivation lies between 1,355 and 1,475 meters..

Rainfall is bimodal, with long rains falling from March to May, and short rains falling during October and November. Rainfall averages approximately 1,500 mm. in the area ( SRDP 1970 : 6), and is sufficient to permit the cultivation of two crops during the year.

Wasweta I lies between the Kanyamkago and Kuria Hills in the Migori River Valley. The higher, north - eastern portion of the sub-location (actually the lower reaches of the Kanyamkago Hills) has fertile, well-drained, red to brown clay loams, while the remainder of the sub-location has shallow, brown to grey compacted sands or clays. The soils in the sub-location are quite stoney, and there are also extensive seasonal marshes with black cotton soil.<sup>4</sup>

The research has been confined to one portion of Wasweta I whose area is approximately 10.5 sq.kms. This research area lies south-east of Migori township, and is composed of four smaller land units known traditionally as SWANG. Altitude, rainfall, and soil types of this area are typical of those described for the sub-location as a whole.

#### IV. POPULATION, SETTLEMENT AND LAND OWNERSHIP

The current population within the research area is slightly more than 1,500 persons. Of this total population, 80.1% is Luo, 14.4% is Luhya, 5.0% is Gusii, and 0.5% is Kikuyu. The Luo population can be further divided into two distinct groups: the Luo Suba, whose ancestors were

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<sup>4</sup> Information on soil types has been taken from the Migori/Kuria Integrated Rural Development Project: Second draft (S.R.D.P. 1970: 3,6).

predominantly Bantu - speaking peoples,<sup>5</sup> and the Nilotic Luo, or those whose ancestors were predominantly Nilotic. The Luo Suba compose 86.1% of the Luo population (or 69.0% of the area's total population), while the Nilotic Luo compose 13.9% of the Luo population (or 11.1% of the area's total population).

Settlement within the research area has been a recent phenomenon due to the former presence in the area of the Masai. The Luo Suba were the first of the present - day occupants to settle in the region. In about 1910, the first homestead was built by the chief, Chacha. Immigration to the research area by the Luo Suba was steady during the years 1917 to 1948; it is said that during this period Chacha gave land freely to all those who came. After 1948, those immigrating were required to pay for their land.<sup>6</sup>

The Nilotic Luo who reside in the area came in two "waves," one during the period 1962-1967, and a second beginning in 1971 and continuing to the present time. These immigrants have come mainly from Karachuonyo (in South Nyanza) and Central Nyanza.

The Luhya, on the other hand, have been entering the region steadily (one or two settlers per year) ever since about 1956. These Luhya belong primarily to the Maragoli sub-tribe.

The Gusii only began to settle in the area in 1971, but they have been immigrating steadily (again, one or two settlers per year) since that time

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5. Historically, the Suba are said to be related to the Gusii, Kuria and Girango peoples of Tanzania, and perhaps to certain Bantu-speaking populations which immigrated to South Nyanza from Uganda (Ogot 1967:193ff.; Ochieng' 1974: 12, 29-45). The Suba were present in South Nyanza when the Luo entered and began extending their sphere of influence southwards. As contact between the two groups continued, the Suba became "Luo-iyed," and were assimilated by the Luo (Ogot 1967:217). For the most part, the Suba now consider themselves to be Jo-Luo.

6. One informant has said of this period that the practice of buying and selling land was introduced by the Luhya who were then moving into parts of South Nyanza.

The one Kikuyu family in the area arrived in 1975.

There are 188 homesteads in the research area. Out of this total number of homesteads, it has been found that 154 are controlled by landowners, while the remaining 34 are auxiliary households (i.e. married sons or brothers living with the landowners, homes for co-wives widowed sisters, or mothers, etc.). A look at the pattern of land acquisition by landowners in the research area reveals the following:

TABLE 1. MODE OF LAND ACQUISITION BY LANDOWNERS

GROUP AFFILIATION	INHERITANCE	PURCHASE	TAKEN FREELY	GIVEN LAND
LUO SUBA	78 (78.8%)	7 (7.1%)	11 (11.1%)	3 (3.0%)
LUO	1 5.3%	12 (63.2%)	4 (21.0%)	2 (10.5%)
LUHYA		24 (100%)		
GUSII		11 (100%)		
KIKUYU		1 (100%)		
TOTALS	79 (51.3%)	55 (35.7%)	15 (9.7%)	5 (3.3%)

V. RESEARCH METHODOLOGY

The first phase of the research entailed the isolation of a population within which the research could be conducted. The delineation of population boundaries served to create a sampling universe from which individual units could be randomly selected for intensive interviewing.

It had been previously decided to limit this population to approximately 200 individual units, or homesteads. This necessitated the search for population units below the size of the sub-location.<sup>7</sup> It was then that

7. Given the 1969 population of Wasweta I (8,596), it was estimated (based on an assumed average of 6 to 9 people per homestead) that the sub-location contained between 1,000 and 1,500 homesteads.

the population unit known as the gweng was discovered.

It was necessary to visit each gweng, because figures on the sizes and populations of these units are not kept. After having visited four adjacent gweng (Ngege, Nyamware, Lichota Masera, and Lichota), and having isolated the 188 previously mentioned homesteads, it was decided that this group would compose the research population.

It was during this first phase of the research, too, that a preliminary survey of the area was conducted in order to determine some general characteristics of the population. The information elicited was grouped into seven categories: (1) population, (2) land, (3) labor, (4) capital goods, (5) livestock, (6) crops, and (7) visits by, and to staff of the Ministry of Agriculture.

The second phase of the research involved the selection of a sample of households which would be subjected to intensive interviewing and close scrutiny regarding their economic performance. It had been previously determined that this sample would contain 40 units.

Initially, it had been thought that a simple random sample would be taken. However, it was later decided that a stratified, random sample based on tribal affiliation would be more appropriate, due to the fact that a large percentage of the homesteads contained non-Luo families. It was felt that a comparison of Luo and non-Luo economic performance in the area might prove interesting.

The sample was selected from landowning households.<sup>8</sup> This meant that the sampling universe contained a total of 153 units: 118 were Luo

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8. Each of the 34 auxiliary households was attached to its "patron" homestead, and so they too were indirectly included in the sampling universe.

24 were Luhya, and 11 were Gusii.<sup>9</sup> Roughly 80% of the 40 sample households chosen were Luo (i.e. 32 units); 15% were Luhya (6 units) and 5% were Gusii (2 units). The Luo, Luhya, and Gusii households were separated into three distinct groups, and then were numbered consecutively within each group. Following this, a random numbers table was used to first select the 32 Luo units, then the 6 Luhya units, and finally the 2 Gusii units.

The third phase of the research involves the collection of detailed economic information from the 40 sample homesteads. Before the interviewing began, field measurements were taken at each of the sample homesteads. This provided more accurate data on crop acreages than could be gained via questioning.

With respect to the gathering of information on agricultural production, four sets of questions are being employed which deal with specific periods in the agricultural cycle. They are concerned with field preparation, planting, weeding and harvesting, and are designed to elicit data which can be fitted into the following categories: (1) labor requirements and costs, (2) capital requirements and costs, (3) livestock (work oxen) requirements and (where applicable) costs of hiring, (4) decision-making loci with respect to the various aspects of production, (5) particulars on farming technique, (6) information on the introduction and utilization of crops (with special attention being focussed on hybrid maize and sugar cane) (7) reciprocal arrangements (alliances) exhibited in agricultural production, (8) distribution of agricultural produce (i.e. amounts marketed, amounts consumed as food, amounts distributed as payments for factors of production, such as labor or rent on land, and amounts distributed to relatives and friends), etc.

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9. The single Kikuyu homestead was not included in the sampling universe because it represented only 0.6% of the total of landowning homesteads, a percentage too small to allow for meaningful comparison.



In addition to these four sets of questions concerned with agricultural production and marketing, several other sets have been designed for the collection of detailed information on other topics of particular relevance to the research. These question sets fall under the broad headings of: land, labor, capital, livestock, population, education, marketing, household income and expenditures, income from auxiliary occupations, etc. Information gathered by means of these question sets is supplemented by information gathered in open-ended interviews which are also being conducted.

The final phase of the field research involves the collection of data on social exchange. There are no sets of specific questions to be asked concerning this information as there were for agricultural production and other aspects of the material economy. The information is gathered, in this case, by means of open-ended interviews on selected topics such as kinship status hierarchies, formal and informal positions of power, voluntary organizations, religious organizations and their internal hierarchies, reciprocal arrangements (alliances), patron/client relationships (particularly between long-time residents of the area and JODAK, who are recently arrived "strangers"), and other related topics. The collection of these data has taken place during the latter half of the field research period because a certain degree of knowledge of the situation in this area is needed in order to broach the proper subjects with relevant questions.

#### VI. PRELIMINARY FINDINGS

The following represents a summary of the findings of an initial survey of the research area. The summary is presented here not as a preliminary analysis of decision-making, but rather as a means of conveying general characteristics of the area to the reader. The information is presented under seven categories: (1) population, (2) land, (3) labor, (4) capital,

(5) livestock, (6) crops, and (7) contact with Ministry of Agriculture staff.

(1) As was noted in section IV above, the population of the research area is 1,505 persons. Of this total population, 80.1% is Luo (69.0% Luo Suba, 11.1% Luo), 14.4% is Luhya, 5.0% is Gusii, and 0.5% is Kikuyu. There are 188 homesteads in the area, and the average number of occupants in each homestead is eight. With respect to marriage, approximately 36% of the household heads are polygamous, while 64% are monogamous.

(2) Out of 188 homesteads in the area, 154 are landowning units. Of this total number of landowners, 51.3% inherited their land, 35.7% purchased their land, 9.7% took their land freely, and 3.3% were given their land (see TABLE NO.1 above). The following table indicates the average size of the land holdings, and the average cultivated area for each of the tribal groupings:<sup>10</sup>

TABLE 2. LAND HOLDINGS AND LAND USE

TRIBAL AFFILIATION	LUO SUBA	LUO	LUHYA	GUSII	KIKUYU	TOTALS
AVERAGE SIZE OF HOLDING (ACRES)	25	6.5	6.6	5.7	5.0	18.25
AVERAGE CULTIVATED AREA (ACRES)	4.8	2.2	2.9	3.2	4.0	4.0

(3) Within the research area, 40% of the households have hired labor for various agricultural activities. This cash labor is employed primarily during field preparation and weeding. Cash laborers are, for the most part, residents of the area who work as individuals or as members of church groups.

<sup>10</sup> The information contained in this table was gathered through questioning of the informants. The accuracy of the figures collected will vary with the informant's familiarity with concepts of land area, such as acres and hectares, but the table still gives a reasonably accurate overall picture of land use in the area.

However, most of the labor which is required by a production unit (i.e. homestead) is supplied by a pool of relatives or friends who receive agricultural produce for their labor rather than cash. It is within this non-monetary labor market, too, that one finds most of the reciprocal labor arrangements (alliances).

(4) Regarding capital goods, the survey gathered information on which households owned plows, and which had hired tractors (no one in the area owns a tractor). It was found that 58% of the households owned plows, but that only 6% of the households had ever hired a tractor.

Those hiring tractors fell into two groups. One group was composed of elders in the area who had hired tractors in the 1960's. The second group was composed of younger men who had made use of tractor-hire services from Tanzania in the 1970's. It should be noted that not one of those persons who hired a tractor ever did so more than once. In other words, the residents of the area who have experimented with the technology have concluded that it is not economically viable.

(5) The following table gives information on livestock numbers and ownership in the research area.

TABLE 3. LIVESTOCK NUMBERS AND OWNERSHIP

TYPE OF LIVESTOCK	TOTAL NUMBER IN AREA	AVERAGE NO. OWNED	PERCENT OF POPULATION OWNING LIVESTOCK	PERCENT OF POPULATION OWNING 10 OR MORE ANIMALS
CATTLE	608	6	61.8%	10.5%
SHEEP	209	5	26.3%	3.3%
GOATS	374	6	40.1%	8.6%

With respect to work oxen, it was found that 52% of the households own at least one ox, 43% own two or more oxen, and 13% own four or more oxen.

Informants complained of cattle thefts in the area (between Luo and Kuria), and it was found that 36% of the households in the research area had had cattle and other livestock stolen at one time or another. This high incidence of theft is said to be a major reason why the cattle population is lower here than in other Luo areas, particularly to the west.

(6) All of the households in the research area grow maize: 55.9% grow the local variety, while 44.1% grow hybrid maize. Other crops grown (with percent of population growing the crop in parentheses) include: cassava (52.6%), beans (42.8%), sorghum (42.1%), sweet potatoes (23.7%), groundnuts (17.1%), finger millet (16.4%), potatoes (1.3%), green grams (0.7%), sesame (0.7%), and tobacco (0.7%). Vegetables grown include: tomatoes (25.7%), cabbages (15.8%), onions, (12.5%), peppers (0.7%), and turnips (0.7%). In addition to these vegetables, some households grow varieties of green vegetables (mainly pigeon peas) for their leaves. Permanent crops being grown include : bananas (43.4%), sugar cane (17.8%), sisal (3.3%), and pineapples (1.3%). Some households also maintain orange, guava, and pawpaw trees.

Most households (51%) use neither commercial nor natural fertilisers on their fields. The reason most often given for the lack of use of both natural and commercial fertilisers is that the land in the area is rich enough without them.

Manure from cattle, sheeps, goats, and chickens is used by 46.4% of the population to enrich their fields. Only 2.6% of the households have ever used commercial fertilisers, and at the present time there are only two users in the research area.

As noted above, 44.1% of the households indicated that they were presently planting hybrid maize. Another 15 households indicated that they had grown hybrid maize in the recent past, but that they were not growing

it this year. This would indicate that at some point during the past three or four years, perhaps 54% of the households were growing hybrid maize.

Almost all of those farmers who do not use hybrid maize seed (i.e. 55.9%) said that they were prevented from using hybrid seed because the cost was too great.<sup>11</sup> Most of those persons who had grown hybrid maize in the past, but who had stopped, said they had done so because the output was not much better than that of local varieties of maize, and that, therefore, the expense was not justified.

The adoption of hybrid maize has been a recent phenomenon in the research area, as shown by the following:-

TABLE 4. HYBRID MAIZE ADOPTION BY YEAR

YEAR	1967	1971	1972	1973	1974	1975	1976
NO. OF ADOPTIONS	1	1	4	4	12	29	13

When the users of hybrid maize were asked whom they had learned about hybrid maize from, 53% responded that they had learned from government agricultural staff, while the remaining 47% said they had learned of hybrid maize from neighbours.

These statistics on hybrid maize use are presented with a major caveat. It seems that some farmers who say they are using hybrid maize are not using purchased seed, but rather are using seed off the cobs of harvested hybrid maize, even though hybrid vigor is lost to this second generation of seed. More detailed information on this situation is currently being gathered.

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11. At the time this survey was being made, a bag of hybrid maize was selling in Migori for 27/=. The price has since risen to 32/= per bag.

(7) The last category of information collected during the initial survey of the research area concerned visits made by the staff of the Ministry of Agriculture to homesteads, and visits by farmers to the staff. It was found that 43.6% of the areas' homesteads had been visited by staff, and that 45.7% of the farmers had, at one time or another, visited members of the Ministry's staff.

REFERENCES CITED

- Barth, Fredrick  
1966 Models of Social Organization. Occasional Paper No.23.  
London: Royal Anthropological Institute of Great Britain  
and Ireland.
- 1967 On the Study of Social Change. American Anthropologist  
69 : 661 - 669.
- Bastide, R.  
1973 Applied Anthropology. New York : Harpers. (Orig.pub. 1971  
in French)
- Belshaw, Cyril  
1967 Theoretical Problems in Economic Anthropology. IN Social  
Organization: essays presented to Raymond Firth, ed. M Freedman.  
Chicago : Aldine.
- Bennett, John W.  
1968 Reciprocal Economic Exchanges among North American Agricultural  
Operators. Southwestern Journal of Anthropology 24: 276-309.
- Blau, Peter M.  
1955 The Dynamics of Bureaucracy. Chicago: University of Chicago  
Press.
- 1964 Exchange and Power in Social Life. New York: J. Wiley and Sons.
- Cook, Scott  
1966 The Obsolete "anti-Market" Mentality. A critique of the sub-  
stantive approach to economic anthropology. American Anthropolo-  
gist 66 323-345.
- 1969 The "Anti-Market" Mentality Re-examined: a further critique  
of the substantive approach to economic anthropology.  
Southwestern Journal of Anthropology 25: 378-406.
- 1970 Price and output Variability in a Peasant-Artisan Stone-  
Working Industry in Oaxaca, Mexico: an analytical essay in  
economic anthropology. American Anthropologist 72: 776-801.
- 1973 Economic Anthropology: problems in theory, method and analysis.  
IN Handbook of Social and Cultural Anthropology, ed.J.  
Honigmann. Skokie, Ill : Rand Mc Nally and Co.
- Dalton, George  
1961 Economic Theory and Primitive Society. American Anthropologist  
63: 1-25.
- 1969 Theoretical Issues in Economic Anthropology. Current  
Anthropology 10: 63-80.
- 1971 Economic Development and Social Change: the modernization of  
village communities. Garden City, N.Y.: Natural History Press.
- Edel, Mathew  
1969 Economic Analysis in an Anthropological Setting: Some methodo-  
logical considerations. American Anthropologist 71: 421-433.

- Emerson, R.  
1972 Exchange Theory, Part I: A Psychological basis for social exchange. IN Sociological Theories in Progress, Vol.2, ed.J. Berger et al. Boston: Houghton-Mifflin.
- Epstein, T. Scarlet  
1962 Economic Development and Social Change in South India. Manchester: Manchester University Press.  
1967 The Data of Economics in Anthropological Analysis. IN The Craft of Social Anthropology, ed.A. Epstein. London: Tavistock.  
1968 Capitalism, Primitive and Modern: some aspects of Tolai economic growth. East Lansing: Michigan State Univ. Press.  
1973 South India: yesterday, today, and tomorrow: Mysore villages revisited. London: Macmillan.
- Foa, Uriel.  
1971 Interpersonal and Economic Resources. Science 171: 345-352.
- Godelier, M.  
1974 Un Domaine Contesté. L'anthropologie économique. Paris: Mouton.
- Hagen, Everett E.  
1962 On the Theory of Social Change: how economic growth begins. Homewood, Ill.: Dorsey Press.
- Hill, Polly  
1970 Studies in Rural Capitalism in West Africa. Cambridge: Cambridge University Press.
- Hamans, George  
1958 Social Behavior as Exchange. The American Journal of Sociology 62: 597-606.
- Le Clair, E.E., Jr.  
1962 Economic Theory and Economic Anthropology. American Anthropologist 64: 1179-1203.
- McClelland, David C.  
1961 The Achieving Society. Princeton: Van Nostrand Co.  
1963 The Achievement Motive in Economic Growth. IN Industrialization and Society, ed. B. Hoselitz and W. Moore. New York: Humanities Press.
- Meillassoux, Claude  
1972 From Reproduction to Production: a Marxist approach to economic anthropology. Economic Society 1: 93-105.
- Ochieng', William R.  
1974 An Outline History of Nyanza up to 1914. Nairobi: East African Literature Bureau.
- Ogot, Bethwell A.  
1967 History of the Southern Luo, Volume I: migration and settlement 1500-1900. Nairobi: East African Publishing House.



- Ortiz, Sutti  
1973 Uncertainties in Peasant Farming: a Colombian case.  
London School of Economics Monographs on Social  
Anthropology No. 46. New York: Humanities Press.
- Polanyi, Karl  
1944 The Great Transformation. New York: Holt, Rinehart.  
1947 Our Obsolete Market Mentality. Commentary 3: 109 - 117.
- Polanyi, K. et al.  
1957 Trade and Market in the Early Empires. New York: Free Press.
- Republic of Kenya  
1970 Kenya Population Census, 1969: Volume 1. Nairobi:  
Government Printer.
- Robbins, Lionel  
1962 An Essay on the Nature and significance of Economic Science.  
London: Macmillan.
- Rostow, W.W.  
1962 The Stages of Economic Growth: a non-communist manifesto.  
Cambridge: Cambridge Univ. Press.
- Sahlins, Marshall D.  
1972 Stone Age Economics. Chicago: Aldine.
- Salisbury, Richard F.  
1970 Vunamami: economic transformation in a traditional society.  
Berkeley: Univ. of California Press.
- Schneider, Harold K.  
1970 The Wahi Wanyaturu: Economics in an African Society.  
Chicago: Aldine.  
1974a Economic Man: the anthropology of economics. New York:  
Free Press.  
1974b Economic Development and Economic Change: The case of  
East African Cattle. Current Anthropology 15: 259-276.  
1975 Economic Development and Anthropology. Annual Review of  
Anthropology 4:271-292.
- Schultz, Theodore W.  
1964 Transforming Traditional Agriculture. New Haven: Yale  
Univ. Press.
- Special Rural Development Programme  
1970 Migori/Kuria Integrated Rural Development Project: second  
draft. Migori.
- Terray, E.  
1972 Marxism and "Primitive" Societies. New York : Revolution  
Press.

