

// CASH CROP ECONOMY AND FAMILY LABOUR  
ORGANIZATION - A CASE STUDY OF THE MUMIAS  
SUGAR OUTGROWERS SCHEME. //

EAST AFRICANA COLLECTION

BY

BRENDA RAKAMA

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RAKAMA, B  
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This thesis has been submitted for examination with my approval as a University Supervisor.

  
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Dr. E. N. Njeru

### **DEDICATION**

*To my mother for what she has made me*

*To my brothers and sister for their confidence in me*

*To Rocky and Louis.*

*To the 'Big Family' for the support they have provided.*

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Last but not, my appreciation and gratitude to my friend and fellow student, Consolata, for her constant encouragement.

(i)

**ABSTRACT**

In this study it was hypothesized that the introduction of a cash crop in a well established subsistence economy was likely to alter the household labour organization and use. The study centered on the simple theme of family labour use viz a viz the emergence of a cash economy characterized by sugarcane growing in the Mumias Sugar Outgrowers Scheme.

The Mumias Sugar Outgrowers Scheme area includes parts of Bungoma, Busia and Kakamega Districts in the Western Province of Kenya.

The Outgrowers Scheme comprises individual smallholder farmers who have signed contracts with the Mumias Sugar Company for the supply of sugarcane to the factory. Mumias area comprised predominantly a peasant economy before the introduction of the scheme.

The study traces the ripple effects that a simple decision such as growing sugarcane or not can have. It reflects the outcome of contradictions between old and new ideas superimposed on a social and economic structure that is ill equipped to undertake new developments. The imbalances emanating from the disrupted status

(ii)

quo reflect the intricacies generated by simple everyday happenings in outgrowers parcels of land. The Outgrowers largely succumb to the pressure on land and labour, two very crucial facets of a peasant economy.

Cultural factors affecting the division of labour have only exacerbated the domination by cane growing to the extent that the women, who are traditionally responsible for food crop/subsistence production are burdened even further. The minimal concentration on subsistence production affects the life of the outgrowers as a whole.

The quantities, quality and variety of food production suffer at the hands of the new economy. Food deficiencies, unequal exchange and eventually underdevelopment, the very factors targeted at the outset of the scheme become prominent features.

The study's theoretical orientation focusses on the whole question of capitalist growth and its effects on the other modes of production that precede it. The trend of development through such processes as industrialization and progression through agribusiness and multinational corporations is resisted. The Mumias Sugar Outgrowers Scheme is used as a case study.

The data was collected primarily through survey interviewing and complemented by observation, key informant interviews and

review of available records.

The study concludes that the mode of development a community is linked to must not only reflect on the economic factors and benefits anticipated by its initiation but there must also be recognition and consideration of the social dynamics that are likely to be sparked off by the events. The social effects may eventually render economic growth ineffective in real terms.

Several recommendations are submitted as remedial measures in so far as correcting the imbalances registered in the production processes are concerned. The recommendations underline the need to approach rural development planning with a fuller knowledge of the internal dynamics of peasant production in an exchange economy where foreign capital influences the production and therefore the consumption patterns of the peasant outgrowers.

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## **CHAPTER ONE**

### **INTRODUCTION**

Change is an inevitable fact in every society. It can be progressive or retrogressive in relation to the society that is affected. As an innovation gains momentum in a particular structure or society, that structure is likely to undergo a process of re-adjustment; for example, there may be a modification within the already existing structure to accommodate the new state of affairs, or there may be a complete overhaul of the existing structure to pave way for the new system. An agricultural economy is no exception to this state of affairs.

The Mumias area, like most parts of Western Kenya before the introduction of cash crops, reflected a peasant economy. In a peasant economy, production is mainly for the purpose of consumption and there is heavy reliance on the family for providing its agricultural labour requirements. The economic activities of family members centre around the maintenance of the capacity to reproduce labour and meet the social obligations of the household (Monsted: 1977:262). Thus a family is concerned with its direct consumption requirements and that which may be used for exchange purposes or sold in order to purchase the necessities which cannot be met at the household level. The household consists of the man, his wife or wives, children and dependents, down to the grandchildren etc. in the case of older families.

In peasant production, there is little concern for expanding production as long as the household's needs are taken care of. Besides, there are such limitations as lack of land, additional implements and family labour as well as the inability to hire labour as may be necessary for expanded reproduction.<sup>1</sup> Task allocation within the family is dependent on one's sex, the family size, and the stage in the family development cycle, i.e. what age has been attained by the offspring in the family, as well as the ability of the parents themselves.

The basic structure of the relationship involves a situation in which the direct producers apply their own labour to means of land which are owned by them and by virtue of this ownership retain the product of their labour. There is no exploitation of surplus labour in the direct sense.

The introduction of a cash in an area like the Mumias Outgrowers' area which depended on production for subsistence impinges on factors such as land and labour. Some people may argue

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In expanded production, if one bag of maize is planted initially and yields two bags of maize, in the next cycle, 1.5 bags will be planted, thus yielding 3 bags of maize. In the next cycle, two bags will be planted to yield four bags etc. This is unlike simple production, where if one bag of maize is enough for consumption, then only one will be planted at the beginning of each cycle to yield one for consumption and one for planting. Expanded reproduction is the essence of capitalist production which envisages an expansion of production in each successive cycle, depending upon the profitability of the enterprise.

that, with such an introduction, the inhabitants should be able to produce the same or even greater quantities of food on smaller areas of land (Mwandihi, 1985). This would be so because the awareness of the value and profitability of land would sharply increase thus bringing in more intense cultivation and modern farming methods to boost production. On the other hand, monetary evaluations of what is of more money-value (between the cash and food crops) could also arise. Thus some farmers may favour the cultivation of the cash crop to the exclusion of the cultivation for subsistence if in monetary terms, the cash crop appears more profitable, a concept referred to as "the subjective valuation of the transformation rates involved" (Cleave 1970: 60).

At such a juncture, the time allocated to food crop production becomes a concern in terms of the resources at the farmer's disposal especially labour and land. Labour is a crucial factor since as a subsistence farming unit, the household relies on its own labour for agricultural production. Thus, there is a limit as to how much the existing labour can be stretched. This issue of land is also crucial owing to the fact that most subsistence oriented families do not have the capacity to acquire more land for the purpose of cultivating the cash crop. In making such a decision, considerations have to be made within the existing resource base.

The Mumias Sugar Outgrowers Scheme was established through the

co-operation of the Kenya Government and the Booker McConnell Company from the United Kingdom of Britain with assistance from the United Kingdom Overseas Development Aids Funds. Extra capital was derived from East African Development Bank. The Scheme had the aim of generating an "economic take-off" for the relatively "poor and backward" Wanga Locations of Kakamega District.

The Outgrowers Scheme in Mumias had the following objectives:-

- (a) Creating wage-earning employment
- (b) Creating an import-saving industry
- (c) Achieving self-sufficiency in sugar production
- (d) Providing a further source of cash income for the farmers.

The Mumias Sugar Outgrowers Scheme is seen as an "agribusiness with a difference". While other agribusiness firms find the growing of cane on a large estate, expropriating land and

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. Quoted from Susan George's 'How the Other Half Dies!' W.W. Rostow's famous 'take-off' refers to a stage when growth becomes society's normal condition. Rostow saw it as an "industrial revolution tied directly to radical changes in the methods of production, having their decisive consequences over a relatively short period of time". There has to be a rise in the rate of productive investment, there has to be the development of one or more existence or quick emergence of a political, social institutional framework which exploits the impulses of expansion in the modern sector and gives growth an outgoing character.

. Agribusiness refers to all production and distribution of farm supplies, production operation on farms, and the storage processing and distribution of farm commodities and processed foods. (Ray Goldberg's definition of Agribusiness from Susan George's 'How the Other Half Dies!').

hiring labour to cultivate the cheapest way of organizing an enterprise like this, Mumias has to rely on small-scale farmers in line with the Kenyan Government's objective of providing cash income to small farmers. Granted, this can be regarded as a noble course. However, an argument ensues at this point. The agribusiness firms view their profit oriented approach as the only possible way to increase food production in the less developed countries.

On the other side of the coin is the argument that agribusiness is "capable of destroying everything it touches: local employment patterns, local food crop production, consumer tastes, even village and traditional family structure (George 1976: 159). This study concerns itself with the labour aspect of the traditional family structures and food production, as well as the effects that the cash crop economy (in the form of cane growing) has had on them.

The Mumias Outgrowers Scheme was established by the Mumias Sugar Company to cater for the supply of cane for the factory's requirements through small-holder farms as outgrowers. An outgrower is a farmer who has entered a contract with the Mumias Sugar Company to supply all the sugarcane produced on the contracted piece of land to the Company. The prospective grower has to be the registered owner of the land offered for cane cultivation (if this is not possible, then several farmers must be

able to offer a block amounting to the minimum acreage requirements). The prospective grower should reserve enough acreage for food production and pasturage of animals. In the contract, the Company provides ploughing, harrowing, harvesting and transport services to the farmer, while the farmer is responsible for planting, weeding, and the application of fertilizer to the cane. Payment is usually made after the harvest and this is done only once. The resulting harvest "boom" has been an irresistible force for most farmers within the thirty-two kilometer radius from the factory itself. The "boom" is popularly associated with the mushrooming of corrugated iron-roofed houses, joy rides to urban centres such as Nairobi and Mombasa, and the acquisition of a younger wife in the home. The increase in the number of small scale shops known as Kiosks, as well as the number of 'Matatus' (public service vehicles) are also evident during the 'boom' period in any given area.

For a farmer in the Mumias Outgrowers Scheme, there are specifications within the contract that he has to adhere to. Contract-farming is organized such that planting dates etc. may be specified as well as prices for whatever produce supplied. As contracting is a way of distributing production and marketing risks, the farmer assumes most of the production risks such as failure of crops through vagaries of nature and the costs of cultivating canes up to the harvesting stage. For the agribusiness firm, the production techniques are cheap to the extent that the

production costs are not taken into consideration as what eventually matters is the weight of the cane at the weigh-bridge. Peasant production's popularity arises from the whole concept of its 'cheapness'.

The peasant is cheap in the sense that in the final analysis, only the final product is the basis of evaluating his worth. His input during the whole cultivation exercise in terms of labour, money, etc. does not in any way influence the payment made. As he/she has to strive for a product that is as close to perfect as possible, usually, a lot of sacrifice is involved on his/her part. This is what leads to the popularity of peasant production.

The pressure to produce high quality products for both cash and subsistence purpose is likely to have some effect on the farmer's farming practices. This study focuses on the adaptive strategies that the outgrower employs in order to cope with the situation. These pressures may compel the outgrower to make certain decisions in regard to whether or not the family labour is capable of meeting the labour requirements of the crops at a given time; whether or not to continue adhering to the precepts of tradition in so far as the division of labour by sex is concerned, etc. One outgrower may choose to forego the production of crops for subsistence, especially those that are very labour-intensive and opt for those crops that are absolutely necessary for the family's basic requirements. Another outgrower may recognize the



added value to land due to the new cash crop and may intensify production of both the cash and food crops. The amount of labour available as well as the time needed for those production activities are therefore very crucial factors in the outgrower's operations.

The use of help from the extended family as was previously available in the Luhya tradition is one that the outgrower has to address himself/herself to. How much more can he/she rely on his/her cousins, uncles, etc. for help? These relatives may choose to assist on conditions of cash payment or else the outgrower has to organize the family to help out on the other farms. Reciprocity may exist at first glance in the sense that relatives are apparently helping their kinsmen, yet the relationship is based on an unwritten contract. This means that the outgrower's readily available source of labour is his extended family which may need that form of labour for their own farms. Therefore, there may arise a new form of inter-dependence whose nature is a function of the labour supply and demands dictated by the new monetized economy. Thus, even social relations become monetized.

The outgrower's participation in the Scheme is usually a function of the quest to improve the living standards of their families. This is further reinforced by the resultant sugar "boom" after a harvest. Granted, these two are sufficient 'pull' factors. The intricacies of consumption vs purchase power is an aspect amply

handled by Mwandishi (1985), and shall not be addressed by this study. However, the manner in which the farming households in the outgrowers Scheme have adjusted to the cane growing phenomenon is the focus of this study. The study addresses itself to the individual farming households with a focus on the processes involved in organizing this family labour to adapt itself to the new situation.

### PROBLEM STATEMENT

According to Elizabeth Hanger (1973), labour is considered to be the most abundant factor of production in Developing countries and emphasis is placed on the need for policies which give high priority to full mobilization and utilization of this resource. Such was one of the aims of the Mumias Sugar Outgrowers Scheme: to utilize the farmer's experience as a cultivator, his labour and that of his family (Beever and Glasford 1984:1).

Small-holder or peasant agriculture has been and is still the mainstay of the economies of most developing African countries. Because only elementary equipment is available for use on these farms, small-holder agriculture tends to be a labour-intensive system. The persistence of this system sometimes results from some of the following factors; in cases where traditional corporations are involved for example, it is considered advantageous to let the farmer bear the responsibility of cultivation. This ensures that any hazards encountered during the cultivation process are borne by

the farmer. The peasant farmer is also easy to supervise as he deals with the traditional corporation directly as an individual.

In other instances, the labour-intensive system may be a natural phenomenon. The use of family labour is inevitable as the use of any form of mechanization is not possible due to the costs involved. This system, therefore has to do with the small-holder's economic abilities. In other cases, the use of any form of mechanization may be impossible as the use of any other form of farming method is not economically viable. Most machinery is very expensive, hence purchasing it for use on small scale farms is uneconomical to the extent that the value of the land, plus its produce, even when doubled over a number of years is still much lower than the value of the machinery. Thus by a process of simple logic, the use of machinery cannot be considered.

The shift from a subsistence to a cash crop economy, or a combination of both may imply a shift in the allocation of duties within the family, especially for agricultural tasks. This study aims at finding out how the shift in the orientation of the economic activities of the small-holder within the Mumias Sugar Outgrowers Scheme has affected the family's labour organization.

Traditionally, like, most parts of Western Kenya, farming in the Mumias area was subsistence-oriented and the division of labour was mainly by age and sex.

Men undertook the heavier tasks involving excessive physical energy such as hunting, land clearance, protection of clan territories, etc. In general these were tasks which women were not considered strong enough to undertake. Women's work centred in and around the home, not only because they were considered incapable of heavy work, but also because of the task of childbearing and childrearing that they had to undertake.

Scholars have argued that the inclusion of capitalist relations in any enterprise is bound to result in structural changes oriented towards the fulfillment of capital's requirements (Kayongo-Male and Walji 1984: Galeski 1973: Monsted 1977 to mention a few). The emergence of capitalist relations in agriculture is usually associated with the emergence of wage labour as well as production for the market. Production within the production unit e.g the family is increasingly oriented to exchange rather than the fulfillment of consumption requirements. There is also a growing differentiation within the peasantry as stratification begins to form along with unequal access to land, labour and other resources. In some cases, there may be an increased state of landlessness and out-migration besides the growth of an agricultural proletariat which exists at the periphery of the landed classes.<sup>4</sup>

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<sup>4</sup> Agricultural proletariat refers to agricultural workers or labourers, a landless peasantry. A people whose position as landless or near landless forces them to sell their labour in agricultural enterprises for their basic survival.

It is a concern of this study to find out how capitalist relations have emerged as may be manifested in selected aspects of its (capital's) operation.

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Capital refers to material forms such as natural resources and reproducible producer and consumer goods and commodities, as well as the human forms such as may be inherited and acquired abilities of producers and consumers. Capital has to do with owners of means of production (may be in form of money, technology and other material resources) and the producers (labourers); who are not party to the ownership. Labour is commoditized in that it can be sold for some exchange value, just as everything else. There is a domination by market through which surplus factor in capitalist production as it is the basis of profit which is the most important aspect of capitalist production. Capital may be local or foreign. Foreign capital may be in form of Transnational firms by way of agribusiness, for example. Foreign capital tends to superimpose itself on the already existing structures in a community and may not necessarily have positive effects on the communities affected.

## JUSTIFICATION OF THE STUDY

The Mumias Sugar Outgrowers Scheme in the Kakamega District attracts interest due to its dependence on sugarcane grown by small scale farmers. It makes a suitable site as traditionally it was a farming community and had an orientation towards small farm holding, thus implying the importance of family labour in its operations.

While the factory expected to grind 11.55 million tonnes of sugarcane by 1984, 1.37 million tonnes of these were to be supplied by small holders whose average was 1.34 hectares (Beever and Glasford 1984:1). By December 1987, the Outgrowers' total acreage amounted to 35,171 hectares under sugarcane. This acreage involved about 34,065 small holders.

The fact that a new crop now features in this agricultural scene to the tune of 35,171 hectares under cultivation of cane warrants some investigation into how the small holders' family labour structure adapts itself to the sugarcane cultivation requirements. The expectation may be either the family becomes purely a cash crop producer or is both a subsistence and cash crop producer.

Previous studies carried out on the Mumias Sugar Company have tended to focus on the economic aspects of sugar production; that

is how successful the Company has been in meeting its production targets (Beevers and Glasford 1984, Barclay 1977) and also how Rural Development has come about through cane growing in the Mumias area (Barclay 1977). Emphasis also seems to have been focused on economic aspects such as trade-off's between food and cash crop production and the inability of farmers to meet their own subsistence needs despite access to more income via sugarcane production. This study intends to provide a concrete picture on the intricacies of actual physical labour and labour organization - ie. labour process (hours allocated for each crop) as portrayed by the farmers's working schedule.

Insight should also be provided on the relationship between the Mumias Sugar Company and the small holders. Thus the way in which cane production has fitted into or shattered the traditional labour organization is an important area of focus. The Company does not specify the nature of labour to be deployed on the farms, although it usually gives specifications in the area of planting dates etc.

The homogeneity of the community in terms of cultural background is seen as an added advantage to the suitability of the study site. It is easier to trace the traditional labour structure as represented by the Luhya community.

The study focusses on the household's agricultural tasks

related to production for subsistence and sugar cane farming.

## OBJECTIVES OF THE STUDY

This study aims to achieve the following objectives:-

- i) To determine the extent to which capitalist relations have penetrated the organization of family labour to meet its (capital's) demands. The study will therefore address itself to matters pertaining to the commoditization of labour within the area as it is one of the resultant features of capitalist production. It shall also address itself to the possibilities of an increased orientation towards exchange rather than the fulfillment of consumption requirements within the peasant family unit.
  
- ii) To determine the family's mode of adaptation to the demands created by sugar cane production for subsistence in terms of physical labour, labour hours spent on crop cultivation, and the general division of labour.

These objectives will be met through the following hypotheses:-



## **Hypothesis 1**

The allocation of family labour to competing production demands leads to a change in the household's labour structure.

Thus:-

- a) competing labour requirements by the food and cash crops lead to a decline in the time allocated to food crop production.
- b) coinciding labour needs for both sugarcane and food crops have necessitated extended working schedule for the women.
- c) Competing production demands for food and cash crops necessitates the use of hired labour for household chores.
- d) Sugarcane production had led to the use of hired labour in food crop production.
- e) Competing production demands for food and cash crops leads to a decline in the split in the family's farm work along the sex lines.

## **Hypothesis 2**

The commercialization of labour transforms the household's labour organization from a peasant one to a commercial enterprise.

## CHAPTER TWO

### THEORETICAL FRAMEWORK AND LITERATURE REVIEW

#### THEORETICAL FRAMEWORK

The realization that 80% or more of the world's population resides in the rural areas has considerably shifted the attention of 'Developers' to the rural area. If rural areas are reasonably developed, then indeed, one can assume to a certain extent that the area in question is developed, for the rural population represents the bulk of the population.

A popular strategy adopted for developing these rural areas in the Developing countries is through Rural Industrialization Programmes, some of which are implemented by Multinational Corporations (MNC's) from the Developed world. MNC's operations via Agribusiness have become popular owing to some perceived outstanding advances. This is the fact that the MNC's profit-oriented approach to increasing food production in the less developed countries provides the only mechanism for real progress and decisive action (George: 1976:159).

The stronghold for MNC's operations in Agribusiness is the employment of the resources of the local economy as fully as

possible. This often relates to two crucial factors; labour and land. Many Agribusinesses cite development and social uplifting of living standards as crucial facets in their development strategies.

The Mumias Sugar Outgrowers Scheme was expected to effect the following:-

- the creation of wage employment;
- creation of an import-saving industry;
- achievement of self-sufficiency in sugar production; and
- the provision of a further source of cash income for farmers.

Going by the above cited expectations, record sugar production and farmer enlistment into the outgrowers scheme have been achieved by Mumias Sugar Company. It is, however, necessary to study and analyze who is dominating the development on the outgrowers.

The feasibility study carried out by Bookers International in 1967 did not take into account the predominant social forces playing in the local scene and how these forces were likely to benefit or suffer from a development project that would required substantial farming labour input.

The peasant (named outgrower) in the Mumias Outgrowers Scheme is integrated into a market circuit whose control is basically foreign dominated in the guise of an Agribusiness.

The position of the outgrower could be explained in terms of modes of production, with the peasant and capitalist modes dominating the scene. The Mumias area reflected a peasant economy before the introduction of the sugar economy, representing capitalist production.

The theory of capitalism and its growth would assist in defining the focus of the study on the Outgrowers Scheme.

A peasant economy is basically characterized by the following; production geared towards the fulfillment of consumption requirements with a heavy reliance on the family for agricultural labour requirements, and a tendency towards the domination by use value of the product.

The capitalist mode of production is essentially characterized by the following; the social production (mainly labour relations), the labour power itself, and the means of production themselves becoming commodities. Capitalist growth is dependent on a market, the emergence of wage labour, and a surplus. The domination by surplus, which creates profit, is the focal point of capitalist production.

The growth of a capitalist mode of production depends on the environment in which it develops. Thus different pre-capitalist economies would provide the impetus for the transition of an

economy ranging from pre-capitalist relations to a mixture of pre-capitalist and capitalist relations. More often than not, the expectation is a domination of pre-capitalist modes by the superceding capitalist modes.

Capitalist relations in agriculture are associated with the following basic changes in a peasant economy: production for the market as opposed to production for subsistence; privatization and increasing polarization in the land ownership pattern; landlessness and the emergence of an agricultural wage labour on an increasingly permanent basis.

The whole character of labour relations does undergo changes related to the orientation of labour to remunerative benefits. This is in direct opposition to social obligations and simple reproduction as in peasant production.

Peasant subordination under capital would take two main forms.

- i) Peasant work gains exchange value as in the sale of their products on the capitalists market.
- ii) Capital succeeds in controlling the process of peasant production by means of credit agreements ensuring product. The relative returns of different products is determined in the wider economy where prices are

influenced in accordance with national policies.

Foreign capital would tend towards a few differences in the capitalist mode of production. In Agribusiness, for example, MNC's would play a crucial role in the injection of capital. Ideally, this should increase food resources and contribute to their equitable distribution. MNC's should also adapt existing technology to the conditions prevailing in the local situation.

Top on this list would be the utilization of family labour as a basic reproduction strategy. This adaptation occasionally amounts to the exploitation of certain local resources availed by the local situation. Foreign capital would normally force the peasantry to intensify production and reduce or cut down on consumption. More often than not, the production process is left to the farmers, particularly where the use of modern technology is impossible. Thus the basis for evaluating the peasant farmer would be his product and not the inputs. The process involves unequal exchange where the peasant is normally the loser. He/she would normally lose because he/she normally covers production costs, while capital does not pay for the peasant's labour power.

MNC's are capital-oriented organizations. They base their production on expansion where more and better inputs are a prerequisite. This system of expanded reproduction is super-imposed on a peasant economy which focuses on simple production ie. enough

to feed the family and take care of other basic family requirements.

The pre-requisites of expanded production (for example, more seeds, more fertilizers, and land) in capitalism result in the articulation of capitalist mode of production with pre-capitalist modes. The nature of this articulation and its consequences for the pre-capitalist mode are a function of the character of that capital itself, and of the internal structure of the pre-capitalist mode. Thus the establishment of capitalist formation necessarily implies the transformation or even the destruction of formerly dominant modes of production.

To operationalize this process, the focal points would be the labour process and resource allocation with an accent on labour and time. The manifestations of the effects of capital on labour and resource allocation contain the major facets of this study. Competition for resources of labour, time and land is expected to be fierce. The extent of the above mentioned domination and disfigurement would be dependent on the social environment. This, of course, would vary from place to place.

Thus, different intervening factors may ensure the preservation, persistence, or destruction of certain features observed in a pre-capitalist mode.

A big variation occurs between capital that evolves naturally



e.g. as from feudalism where the accumulation slowly evolves into capital, and where capitalism is superimposed on a thriving mode of production that is different.

Within the feudal system, a surplus of modest size is realized. This surplus increases consistently, such that the increasing trade and break up of feudalism naturally evolves into rising capitalism.

Superimposed capitalism would have a different effect. This is so because the society affected would have a different technological and social complexity to be carried out in a different cultural definition of the productive tasks and division of labour, etc.

Seemingly, capital is expected to preserve or destroy the mode of production it supercedes in various forms.

The implications of this theoretical orientation is a central issue in rural development. The nature in which capitalism acts on the peasants is crucial to the scope of self-sufficiency and the sustainability of such an economy with regard to the social dynamics involved.

As development projects aspire to achieve self-sufficiency in certain areas, do they focus on the natural mode of transition the

new development is bound to unleash? Does capitalism always overhaul labour relations or are some elements of the old economy preserved?

The adaptations, the changes and the stagnation experienced in the social arena of this economy greatly determine the character of development or industrialization that would result. Are the farmers in control? Are they in communication with the forces of production that confront them? The end-product of the interaction between a peasant and capitalist economy largely depends on the character of the peasant economy and how well it can hold to domination by capital. For example, what would the character of capital be in a place where basic labour relations are culturally determined as is in the division of labour by sex; where possibilities of expanded production are hindered by local resource endowment, especially land and labour? Negative repercussions could be effected.

The implications of this process for outgrowers should be a prime focus for any developer and more so if the resulting effects on the social and economic scene nullify the apparent benefits of such a programme.

### APPLICATION:

The objective of this study has been to determine the extent to which capitalist relations have penetrated the organization of family labour to meet capital's demands and the family's mode of adaptation to the demands created by sugarcane production and production for subsistence in terms of physical labour, labour hours spent on crop cultivation, and the general division of labour.

The study thus addressed itself to the following issues:

- a) Manifestations of competing labour requirements with a special focus on food production vis a vis cash crop production. Are any new practices evident in the outgrower scheme which have been effected by sugarcane production?
  
- b) The extend to which basic peasant characteristics - (i.e dependency on family labour, utilization of communal groups, adherence to the prescribed traditional division of labour) have been transformed. What are the commercialization levels of the above? To what extent have these succumbed to the standard domination by capital and what unique characteristics have presented themselves in this situation? In a nut shell, how does the Muiias Outgrowers Scheme deviate from or conform to

the generalized theory of the capitalist mode of production? How has this therefore affected the character of the peasant economy in the Mumias area?

The experience of the Outgrowers in the cash economy will be a vital contribution to the debate of the peasant and capital interaction.

## LITERATURE REVIEW

The division of labour refers to the pattern of allocating the obligations of production and reproduction within the family. It combines both the reproductive power and the ability of the workman and is a necessary condition of development in societies (Durkheim 1971:94).

### (a) PRODUCTION FOR CONSUMPTION

In most traditional societies in the Western Province of Kenya, many of which reflected peasant economies, the economic activities of the family members were centred around the maintenance of the families' ability to reproduce labour and meet the social obligations of the household. Simple commodity production is a form of production in which the producer aspires to take care of his consumption needs. For example, if one of maize meets the requirements of the household, then the farmer produces only two bags of maize. Of these two, one is consumed by the family, while the other bag is kept for the next production cycle. This one bag that is put back into the production cycle yields two bags of maize at the end of the season, and this process becomes the mode of production. There is no real expansion involved.

Thus, in most economies, subsistence had to be provided for "the non-productive members of the household

e.g. children, the very old and the sick,  
etc."

It also generated a 'replacement fund' for means of production used up in the annual economic cycle such as seeds, fertilizer, or those implements that become worn out after a long period of use such as hoes, axes, ploughs, etc. Thus, in a subsistence economy, people produce not only enough for a bare subsistence, but it does mean that they expect to use what they produce in meeting their own needs, and not in trading for other goods which are acquired through the medium of money or other items. (Mair: 145). There is an exclusive dominance of production of use - values.

According to Kongstad (1980), in the traditional society, the community was the unit of simple reproduction. It is an undisputed fact that work was allocated mainly according to age and gender groups in the community. There were duties seen as female duties while others were seen as male duties.

Guyer (1980) compared the notion of division of labour to other rudimental instructions in society owing to its quality of being multifaceted. The following were stated as the facets of the division of labour: the amount of work done at home by each partner; what task each partner does i.e. the degree of adherence to male or female roles i.e. stereotyping of the set traditional roles; and the role of specialization i.e. the number of tasks performed exclusively by one partner.

Women's work in traditional societies was related to the exigencies of child care. It was 'repetitive interruptible, non-dangerous ... tasks that (did) not require extensive excursions'. (Guyer 1980:356).

Women's work was centred in the home, not because they were incapable of the heaviest work, but because women were the childbearers. Pregnancy, childbirth, and breastfeeding made it necessary and convenient for the woman to stay close at home.

Thus,

"by a process of easy generalization, childbearing leads to childrearing, to feeding and clothing children, to providing similar services for the husband ..... the wife comes to be responsible for a large package of household tasks." (Biddle and Thomas 19:265).

On the other hand, a strong universal tendency for men to be allocated tasks within the production sequences beginning with the more "dangerous and distant" existed:

Tasks such as hunting, breaking of fresh ground and territorial protection was the area of man. Monsted summarizes this effectively.

"Man with his superior strength (could) better undertake the more strenuous physical tasks such as mining, quarrying, and clearance, and house building. Not handicapped as (was) woman by the physiological burdens of pregnancy and nursing, he (could) range further afield to hunt, fish, herd and trade. The woman (was) at no disadvantage in lighter tasks which (could) be performed in or near the home....The human societies (had) developed specialization and cooperation between the sexes along this biologically determined line of cleavage." (Monsted 1977: 263).

Carolyn Barnes (1983) argues that a common pattern of gender - based divisions of labour existed up to the end of the nineteenth century among those groups currently located in the crop-producing regions of Kenya. She however hastens to add that these ethnic groups, which included the Luos, Kikuyus, etc. attached varying importance to crops in comparison with livestock. Within any of the given groups, this relative importance depended on factors such as number of livestock, epidemics, cattle raids and droughts, as well as ecological zones (1983: 42).



It is clear that subsistence production was the domain of women in the household, aided by children. Their work was performed all-year round while the work done by men, mainly clearing the bush, was largely restricted to a short period during the agricultural year.

The division of labour was mutual in character and catered for the simple survival of the family. As for communal labour and mutual arrangements, the division of labour was for the clan's survival, or the extended family living in the scattered homestead of the area.

According to Monsted, in the pre-colonial period, the division of labour was a complex process dependent upon many factors such as sex, the existence of an opposite sex sibling, and cultural prescriptions. For example, where children in a family belonged to one sex then they had to perform tasks usually prescribed for the opposite sex.

During the nineteenth and twentieth centuries, different societies were at quite different levels of technical and cultural definitions of the productive tasks to be done and the division of labour to do them.

Carolyn Barnes, for example, writing on the division of labour observes that in some situations in Kenya, women's biological

reproductive functions were used to justify their work and place in society (1983:61).

Mair has made an interesting observation. According to her, in some societies, some men think some kinds of work "beneath their dignity in many parts of Africa. They take this attitude towards agricultural work or parts of it" (Mair 1965:150). Guyer, however, suggests that throughout the 'tribal' world, this male attitude (of superiority) has typically included simple long fallow agriculture, which has usually been linked or relegated to women and the domestic sphere. A given historical change might bring into relief the effect of the changing values of different activities or products on the allocation of labour across the sex-specific divide (Guyer 1980: 357). This historical change, she says may involve conversion of one food crop into a cash crop. Where, for example, rice has been grown mainly for subsistence, its conversion into a money-generating activity will almost automatically see to a participation by the males in a household.

As part of their preparation for life, children in most societies throughout the world since time began have been encouraged by their parents to learn skills, do things for themselves and generally help in the tasks related to the needs of the family. The experience is said to have been particularly valuable to those living close to the land, where tasks were shared within the family at planting and harvest times and where

children learnt to come to terms with the world around them in a personal way by handling, seeing and experiencing for themselves (Kayongo-Male and Walji 1984).

Children's work patterns related to age and sex, with sex becoming more and more important in determining the kind of work with increasing age. Girls assisted in the farm in most parts of the East and West Africa at approximately eight years, while boys began at about 7 years. In Bangladesh, for example, male children could become net producers as early as twelve years. They participated in animal husbandry. One of the facts that determined when a child began working was opportunity. This included the physical aspects of the household such as land, livestock, tools or machines or large equipment. Kayongo-Male and Walji also saw the subsistence economy, poverty, large families, the attitude towards the female of the species, traditional patterns of labour as conspiring to demand the use of children as labourers (1984:3).

On the overall, women performed most of the tasks involved in the growth of crops (which were predominantly food crops). Men mostly carried out the clearing of bush and broke fresh ground. In cases where breaking of fresh ground was not involved, then women were largely responsible for tilling the earth. In some countries of West Africa, men tended the more permanent food crops like bananas and yams. In East Africa, this was a domain of women, being a food crop.

(b) **PRODUCTION FOR THE MARKET**

While traditionally, the community may have been the unit of simple reproduction, the decomposition of the community to individual households due to changing conditions of existence has altered its trend. Some of the conditions include land adjudication and ownership of title deeds which in effect mean an individualization of land formerly seen as communal property. These alone may induce a change in the pattern of land use.

A changed orientation to meet 'market' demand is also an important factor that brings about change. According to Bernstein (1976), the relations of production of the domestic mode are destroyed leaving the individual cells, the household, to confront capital in a direct relation. Capital refers not only to such material forms as natural resources and reproducible producer and consumer goods and commodities, but also such human forms as the inherited acquired abilities of producers and consumers (Encyclopedia Britannica Vol 15:878). In capitalism, a surplus above subsistence is a precondition for the existence of any form of social organization. In a capitalist economy, there is a domination by market through which surplus is distributed. Labour is commoditized in that it can be sold for some exchange value just as everything else.

Bernstein further states that the tendency of the search for cash incomes to meet the needs of simple reproduction is precisely to individualize the basis of simple reproduction (1978:11). In such circumstances, communal labour as a general practice of the communities, including socially related families in a location vanishes. In some cases, it is manifested in some rudimentary form as low-paid women's labour as was the case among the Hausa in West Africa.

The introduction of cash crop production could lead to changes in land utilization patterns since both land and labour have been switched from the production of food for home consumption: Mwandishi argues that the introduction of a cash crop or of the plantation may mean a divorce of agriculture from

"nourishment as the notion of food value ...  
to the overriding claim of 'market' value,  
thus bringing problems of nutritional  
deficiencies". (1985:22)

Bradby's theory of the establishment of capitalism in any social formation expands Bernstein's conception further. To Bradby, the establishment of capitalism in a social formation

"necessarily implies the transformation and in some sense, the destruction of formerly dominant modes of production" (Bradby 1975:127).

Thus, a different form of production where

"reproduction of households takes place increasingly on an individual basis through the relations of commodity exchange. The relations between households, whether at the village level or at the level of the regional, national or international division of labour are increasingly mediated through the place each household occupies in the nexus of relations of commodity production and exchange." (Bernstein 1978:424).

Writing further on the destruction of a peasant or subsistence economy, he (Bernstein) is of the stance that the natural economy (subsistence economy) is destroyed through the penetration of commodity relations in a more or less systematic fashion. Labour is withdrawn from use-value production and hence undermines the material reproduction of peasant economy. Material elements of reproduction of rural production are carried out either through the exchange of labour power for wages or through the production of cash crops.

Writing on Western Kenya, Kongstad has argued that the internalization of capital exchange relations in the cycle of reproduction had already become a feature, characterizing the

economies of most 'large-scale' peasant families in Kenya. As capital deepens its interference in the reproduction cycle, whether through the intensification of commodity circuits or through coercion by state regulations, or by transnational or agribusiness interest, the family economy will change. Its organization as the allocation of work to different tasks and the labour process will be more scheduled to meet the technical conditions of cash cropping (Kongstad 1980:21).

Labour process refers to facets of labour such as division of labour, the cultural prescriptions of organizing labour such as communal labour groups, as well as the time specifications as to when certain crops should be planted, weeded, etc. To Kongstad, the difference between cash and food crops is important in relation to the internal division of labour in the family. Food crops for household consumption are more often cultivated by the wife and children alone without hired labour, while the husband and hired labour will often work on cash crops together with wife and children. The introduction of cash crop production changes the family patterns to the effect that their economic orientation will be more and more to satisfy the needs of capital surplus production and less to satisfy the family subsistence needs.

John Cleave's observation on Kenya is that reports of traditional labour breaking down or proving flexible in case of need are found from many areas. That with the introduction of cash

crops, there are no major agricultural operations which are not undertaken by men and none is closed to women either. In Meru, for example, women are noted to have taken a wide range of tasks that were formerly a male prerogative, although few cases were noted of men performing tasks traditionally regarded as women's work.

Cash cropping is perceived as altering the relative values of men's and women's products because their market prices are influenced by external interests. That in most circumstances, it is clear that the assignation of tasks on the basis of sex has an ideological origin - that is the relationship\* between men and women, and is strongly influenced by cultural prescriptions which, though not explicitly stated, have to do with the observations earlier made. These have to do with the physiological disposition of women, the associated childbearing and rearing which tend to keep them near the homestead, etc.

Thus as a society undergoes economic transformation, the nature of its productive units and the allocation of work between men and women changes.

Lwechungura argues that although tradition/culture may inhibit participation in activities that are regarded as the prerogative of the other sex, this factor is not immutable and sometimes changes in response to economic stimuli. For example, where rice growing becomes a cash activity with planting being done by men rather than



women as was the case before when it was a food crop. Rural relations have been transformed. Relations between men and women have acquired a new sexual division of labour as agriculture gets commercialized (1980:124).

Lwechungura's points are worth revisiting in this study given that he was focusing on the incorporation of males into a predominantly traditionally prescribed division of labour. He focuses on a re-deployment of male labour into crop production. The study would revisit the issue with a view to examining the situation where females get involved in the process. As the situation stands, if the women are the chief subsistence producers problems should not arise. The wife would continue with her role as food crop producer. However, Mwandishi (1985) had this to conclude on food crop viz-a-viz cash crop production or simple vs expanded production.

"Expanded cash crop production reduces the availability of land and household labour for subsistence food and this reduces women's control over husband's income". (Pg 10)

Mwandishi does not delve into details of how this process of loss of control due to the issue of cash crop intervention comes about. His focus is more on the income generated from sugar cane production and how this fails to address the problem of food

purchase for the family. This study aimed at tackling those details to give a wholesome picture.

Discussion of expanded production is often tied to issue of labour commercialization. Kongstad's (1980) position is that basic farming organizations such as communal labour vanish with commercialization of farms. He however, notes interesting differences in the Western Kenya Sugar cane belts such as Muhoroni, Trans Nzoia, and Chemelil where relatives and communal groups play a significant role. This state of affairs, notably, is one of the prevalent features of the capitalist mode of production, disfiguring the modes that precede it, depriving them of their functionality and subjecting them to its own without radically disintegrating and destroying them (Samir Amin 1976). The modes of production preceding the capitalist mode of production and which are found to be functional to it are preserved, not because of their good per se, but in so far as they are beneficial to the capitalist mode of production.

Cleave's (1974) argument brings in an interesting line of thought in this debate whether or not communal labour prevails. He argues that although several researchers note the existence of communal labour systems, variously based on kinship and age groups, or neighborhoods, there is little evidence of their efficiency. This is usually measured by how much work is done by a certain number of persons in a given period viz a viz how much in terms of

food etc. that the host spends on them. Do they equal each other or which of the two outbalances the other? Cleave considered the Kamba systems of community labour in Kenya as providing some flexibility in an economy of rather rigid labour demands. For those receiving it on a non-reciprocal basis, it is a cheap form of labour. The payments made are usually much lower than those made to individual labourers.

Among the Hausa in Northern Nigeria, for example, the term "gaya" is used for communal labour that is largely voluntary, usually rewarded in food or drink, and is not necessarily reciprocal. It has the reputation of being notoriously inefficient and lackadaisical in terms of time.

In Zaria (Northern Nigeria) the two common forms of hired labour "Kwadigo" paid per hour and "jinga" paid in piece rates, cost four and six times as much per hour as "gaya" and this probably is some reflection of relative productiveness (Cleave 1974: 174).

Those groups largely influenced by improved communications and commercialization are said to prefer the "jinga" and "Kwadigo" to the "gaya" who notably provide poor work and prove to be more expensive for the host.

In Northern Uganda, the "Wang tic" which is mutual help over

an organized communal labour group is now less common where ox-cultivation has replaced the hoe, and a feature of the introduction of commercial tobacco growing to peasant farms in Urambo, Tanzania where a rapid diminution of the importance of communal labour have been witnessed. Communal labour is said to be making slowest progress in the areas where commercial small-holder agriculture has developed furthest (Cleave 1974: 174).

While this argument is presented with the examples from other places, Kongstad, whose study was based on division of labour in Kenya found that the role of relatives have become very important in the more commercialized areas such as Muhoroni, Trans Nzoia etc.

If as earlier indicated the incorporation of capitalist relations in a subsistence economy is reflected in the breakdown of the traditional practices, for example, where does Mumias Outgrower fall on this continuum on one end there is alleged increased utilization of relatives (including commercial labour) in the more commercialized area, while the other end reflects a cut-off with the traditional practices once commercial interests set in on the farm.

If communal forms of labour are disappearing with capitalism, can the same be true for the sexual division of labour as well as the family-based process of production with the rise of commercialized agriculture? This is a question the study would

like to consider.

The degree to which farmers have turned to production for the market is also said to be reflected in the extent to which land and labour have been devoted to cash crop production; that hired labour is noticeably important in some of the areas in which production for sale has gone highest. Under such circumstances, labour is usually hired for cash crops and is normally used in peak agricultural seasons. On most commercial farms, casual labourers are used, while family labour constitutes the main labour force outside the peak periods (Cleave 1974: 36). Kongstad visualizes the development of a complex pattern in the division of labour where a husband employs farm labour for his cash crops, and at the same time, the wife has to sell her labour to get money for food or household expenses. This state of affairs may be related to the subdivision of family economy where responsibilities for the supply of food and daily necessities are the wife's, whereas the husband may work free from the obligations of reproducing labour and be free to direct his concern and attention to the business of the cash crops (Kongstad 1980: 34). Rigidity leads to wastage of resources.

An argument that Kongstad and Cleave may have to contend with is that presented by Galeski. To Galeski, a rational agricultural enterprise has to rid itself of the main characteristic of peasant farming; mainly the family character of labour. He states that in

such an enterprise, the complete separation of the domestic economy from the farm takes place, and a split between the dual social roles of the peasant farmers' activity (as owner, and at times administrator and as worker carrying out specialized tasks) occur.

He continues to argue that the transformations of the peasant farm into an enterprise, and its increase in size or in degree of specialization and volume of production leave little room for the family even if the family avails itself to some extent, to the services of specialized enterprises (Geleski 1972:161).

Barnes on the other hand, was of the opinion that land devoted to a cash crop is likely to absorb a higher proportion of the population of available household labour. This argument is based on the fact that as a piece of land is used for commercial production, the people involved realize its importance as a profitable asset. Thus, they may strive to utilize it to its maximum capacity by using intense cultivation methods, hence stepping up production, as well as introducing modern farming techniques. This activity would be aimed at maximizing production(1983:53)

For Mogens and Kieler (1983), the integration of peasants into agro-industrial complexes on a contractual basis subjugates the production process to the control by capital in a more or less rigid sense; that the control over the production process that

capital exercises, and the integration in a developed sphere of circulation, have an impact on the farmers involved. Thus the agricultural tools, the labour process, and the land issue of the farmers change in a technological, organizational and in a scientific sense (1983: 24). The peasants tend to be more concerned with the production for cash and their family labour tends to be more involved in production for the market rather than for subsistence. Labour tends to be more commercialized in the sense that people work for wages. The households are subjugated in the sense that they do not have control over their product. In the Mumias Outgrowers Scheme, for example, the Trans-national Company as represented by Mumias Sugar Company is the direction-giver. Small-holder's possibility of renewing his contract is subject to the demands made by the Company; those who do not meet the laid out requirements cannot have their contracts renewed. Thus, the Multi-national Company has the authority.

The above authors observe that in the sugar schemes, farmers are involved to a very small degree in the cultivation of cane. The Company prepares land by ploughing, harrowing and furrowing. Afterwards, they are (outgrowers) provided with seeds and fertilizer. The Company also takes care of the harvesting and the transportation of cane. Family obligations are seen to be limited to planting, weeding, and fertilizer application. They portray an image of family labour displaced by capital.

Kimmange's observation on the incorporation of peasant farmers into agro-industrial production is worth mentioning at this juncture. To him, the assumption underlying this incorporation is that the farming households's response is rational and effective, taken in full awareness of the "opportunity-cost" involved. The snag may be that the farmers, who until the new introduction will be almost exclusively subsistence producers, when confronted with pressure of demands from the agricultural extension services of the processing Company, (which they will be fully aware has the backing of state) will be unable to make a rational opportunity cost-based decision as to the use of his time and labour. In order to take on new activities and yet still maintain subsistence, rural households may be forced to either hire more wage labour or turn to the market for a portion of their food crops, thus cutting down on the labour input on food crops (Kimmange 1987: 4). Kimmange is opposed to Galeski to the extent that the separation of domestic from commercial production does not signify peasant rationalism but lack of rational judgement in view of limited resources or priorities. What is the situation in the Outgrowers' Scheme?

### **(c) FOOD AND CASH CROP PRODUCTION DEMANDS**

As a farm shifts its orientation towards cash crop growing, the general view is that there emerges a competition between cash and food crop production (Monsted 1988, Kongstad 1980). Competition



for resources is a common attribute where land is in relatively short supply.

Lwechungura (1980) has observed that from micro level farm surveys carried out, it has been shown that farmers express shortage of labour as the most serious constraint to output. This is contrary to the classic postulate of a general existence of surplus labour. The supply of labour has to be looked at from two levels; firstly, the number of workers in small-holder agriculture who are household members (able-bodied men, women, and children), augmented by the occasional use of hired and communal labour; and secondly, the time available for each member of the household for farm activities if they are employed in other non-farm sectors (Lwechungura 1980).

Monsted's view on the effect of introducing a cash crop in an already established subsistence economy is an increased pressure on women to work more. This he sees as resulting from the commercialization of social relations. For Monsted, although women usually engage in the work of tending food crops in the farm directly, they are the main laborers on the cash crop, together with children of over eight years of age. The survey further showed that women still had to carry out the greatest job of tending both cash and food crops, hence the reduction of time to suit production demands of both crops (Monsted 1980).

The introduction of a cash crop among the African peasantry forces the sub-division of land and organization of time into two: One of the food crops, the other for cash crops. Bradley (1975) argues that capitalist penetration occurs in stages that include the following:-

"Household production in the sphere of exchange; the expansion of these links into the sphere of production so that household production becomes subordinate to capitalist production, and .....the total re-organization of production according to capitalist social relations" (1975:222).

Capital draws upon the capacity of peasant producers to work harder and to re-allocate their labour among new activities.

Changes observed in such cases include a difference in the allocation of work in the household and agriculture from men to women, as women take over more of the work and responsibilities in agriculture. In addition, processes subjected to an improved technology and commercialization often shift from women to men or remain with the men e.g ploughing by tractor or ox-plough etc.

The issue of a peasant's limited land, labour and capital are also an issue of concern. It is John Cleaves' observation that the use of labour and its adjustment to the demands of both food and

cash crops is of exclusive concern to the African farmer. The use of his time and that of his labour will reflect his response to the competing demands. The use of an available stock of labour may depend on a number of exogenous factors, including the existence of an effective demand for the product of that labour, and on the availability of other complementary factors such as land. It may result in the drastic reduction of acreage under food cultivation, if not total withdrawal of its cultivation. It has been argued that the advent of a capitalist economy on a predominantly subsistence economy tends to change the family's operation as production is geared more and more towards satisfying the needs of capital for surplus value and less to satisfy family subsistence needs.

The pricing policy, for example, where a big variation between the values of the cash and food crop exists, may exacerbate this process. The relative returns to different products is determined in accordance with national policies. Pricing policies may discriminate against the production of mass consumed staples and encourage production of quality and luxury food and other agricultural exports (Mwandihi, 1985:22). This differentiation would be reflected in the utilization of both labour and time; with commercial production for subsistence. The relative returns of each product would determine the resource allocation especially land and labour.

A dissenting view to the effects of cash and subsistence food production imbalances as determined by the introduction of cash crops is reflected in cleaves (1974) writings. To him, for many areas, the addition of cash crops to subsistence production constitutes a doubling or even greater increase in the value of family farm production. This is achieved by farmers bringing more land under cultivation and committing additional family labour to agricultural production. Thus the returns from the cash crop would greatly elevate the inputs purchased into food production, thus stepping up production on both ends. The awareness of the profitability of land sharply increases bringing in more intensive cultivation and modern farming methods stepping up production. The peasant farmers are therefore able to produce the same or more amounts of food compared to the period before. Such an introduction would spark off production of greater quantities of food on even smaller portions of land.

The study aims to clarify the trigger-off effect that cash crop production has had on the outgrowers organization.

A point already noted in this introduction review by Mogens and Kieler was that even though the Mumias Sugar Company had taken over some of the functions on the farms, there were some left to the Outgrowers. Barclay (1972) pointed out the fact that sugarcane has a much longer growing cycle than maize and sorghum, but its time of initial planting may coincide with other crops at the onset of

either the long (March-April) or short (October-November) rainy seasons.

After the cane shoots have grown to a height where the top canopy is over the intervening rows, weeding requirements are minimal and the maintenance of the crop generally demands little further effort from the farmer. But during the early months of the crop cycle, weeding control tends to be very demanding. Peak weeding requirements for cash crops may occur simultaneously with those for other food crops, and the availability of labour then becomes a critical issue (Barclay 1972:270).

Below is a chart showing the normal pattern of the cultivation of the different crops in most parts of the Kakamega District of Kenya.

**Table 1: Task and Month for Carrying Out Task:**

CROP	PLOUGHING	PLANTING	WEEDING	HARVESTING
Maize	Dec-Jan	Feb-March	March-July	Aug-Oct
Beans	Dec-Jan	Feb-march	March-July	July-Sept
Groundnut	April-March	May-July	July-Sept	Sept-Dec
Wimbi	Dec-Jan	Feb-March	March-June	July-Sept
Millet	Dec-Jan	Feb-March	march-June	July-Sept

**(d) FROM TRADITIONAL TO MODERN TECHNOLOGICAL INTRODUCTION**

Often, when development programmes are introduced, the family's division of labour may be altered drastically. The introduction of labour-saving devices would be expected to have a major impact on family division of labour according to Kayongo-Male and Walji (1984). With mechanization, rational organization and other features of the contemporary enterprise come into play.

In El Espinal (Andes), for example, the effect of capitalist development has been to incorporate increased numbers of women into labour-intensive manual tasks of production while at the same time,

reaching new areas of male specialization in agriculture based on access to technology. The picture created by these authors is one whereby a new division of labour occurs in certain areas of the labour process.

Some technological devices save manual labour of men, while some have been unable to do this.

Kongstad (1980) came to the conclusion that:-

"the conditions of buying and selling labour and benefiting from mechanization or improved technology is determined by land distribution, and also by the crop pattern and ecological conditions which together provide the framework for the labour profile for different areas" (pg 36).

He says that the growth of new crops such as coffee, tea, pyrethrum, etc. quite clearly expand the labour inputs needed in agriculture as few processes are mechanized. Higher technology and increased productivity, for example in maize, where there is need for fertilizer to be spread and weeding without mechanization, the work burden increases (Kongstad 1980: 35). Technological changes are limited to tractor ploughing and this is the only area where labour is saved.

The relationship between the use of machines in agriculture and the need for labour is a changing one, and as mentioned by Kongstad, has to be studied at various stages of mechanization.

Milica Zarkovic's (1987) analysis on the family with a special focus on women came to the conclusion that technological changes brought about by the Green revolution in India did not alter the agricultural activities performed by women substantially, although it did influence female participation as dictated by Indian cultural norms. Women found themselves involved in activities they did not undertake traditionally. For example, due to the introduction of pump sets, women engaged themselves in irrigation.

Deere and Leon's (1982) research on Andean agriculture has something on structural changes in agriculture. According to them, the introduction of modern technology should serve to facilitate women's participation in agriculture. This is because technological innovations often did not depend on pure physical strength. But the experience in Andean agriculture demonstrates that the result of technological development is to create new 'male only' agricultural tasks. The use of pesticides is widespread in this area and fumigation is a task which only the men of the peasant households carry out. The use of fumigation apparatus does not require excessive strength. Are there any new 'male only' jobs created in the outgrower scheme as well? Are the females at a loss due to technological introductions within the scheme? These are the questions the study aimed at providing answers for.



## CHAPTER THREE

### METHODOLOGY , SITE SELECTION AND DESCRIPTION

#### **Techniques of Data Collection**

The chief method of collecting data was survey interviewing. Others included the use of key informants, observations and official records.

#### **Survey Interviewing:**

A questionnaire was used for interview schedules. The questions were administered to the respondents by four Research Assistants and the researcher. The responses were recorded directly on the questionnaire sheet at the time of interview.

#### **Key Informants:**

For these the researcher herself did the interviewing. No questionnaires were used. The discussions were based on natural flow of conversation. The key points were recorded in a note book.

The advantage of this method was in its promise of providing vital information upon further probing with regard to the key issues. It allowed for natural flow of information which gave

extra information that the researcher may not have included in the planning process.

Officials from Mumias Outgrowers Company (MOCO) were also visited. The officer in charge of the Outgrower scheme availed information pertaining to the outgrowers, their distribution in the scheme, and the general trend of events in the scheme.

Officials from the sugar Company also provided information on food production vis a vis cane production, as well as their perceptions regarding the future of the outgrowers. Their vigilance in maintaining standards did not escape the researchers eye.

Officials at the Kenya Sugar Authority were also visited. The Sugar Authority is a body charged with the responsibility of managing sugar factories at the national level. This was useful in obtaining from its management, information on the objectives of the outgrowers scheme and the presentation of the area in general in the pre-cane production era.

**Observation:**

This acted as a cross-check on some of the information given. It was possible to check on some of the crops grown, acreage and general issues such as labour usage on the farms.

### **Official Records:**

These were used to supplement the information obtained from the survey interviews.

### **Sampling:**

The outgrowers scheme is organized such that farmers are from within a radius of 32 km from the factory itself. The area has been divided into three regions: the southern, western and eastern zones respectively. Because of the zoning, stratified sampling was used.

Stratified sampling ensures that different strata in a population are well represented in the sample. It also retains the factors of accuracy and precision.

By December 1987, the total number of outgrowers in the scheme was 34,081. 200 farmers were interviewed in the area, representing 0.0059 of the population.

The Mumias Sugar Outgrowers' scheme has been expanding steadily over time. Of the three regions, the eastern zone has participated longest, having begun in the 1970s. For this reason, 100 farmers were interviewed from the eastern zone, and 50 each from the two other zones. The outgrower population was at 13,299 in the eastern zone, 8,961 in the western zone and 9,507 farmers in

the southern zone.

To ensure random selection within the zones identified the following strategy was employed: A list of the outgrowers was obtained with the zones indicated.

For the eastern region every 132nd farmer was interviewed. For the Western region, every 179th farmer and every 190th farmer for the south was interviewed. This strategy ensured randomness in sample representation.

#### ***Unit of Analysis:***

By nature of its involvement in the production process, the family formed the unit of analysis. This is because the study aimed at examining the family labour processing, the household's engagement in agricultural production for both sugar cane and food crop cultivation.

#### **SITE SELECTION AND DESCRIPTION**

##### ***Location:***

The Mumias Sugar Outgrower Scheme is an area comprising all those farms within the scheme whose radius extends to 32 km away

from the Mumias sugar factory. It therefore includes sections within the following districts: Kakamega, Bungoma and Busia respectively. The Outgrowers scheme is divided into three zones, namely the southern, western and eastern zones.

As per December 1987, the total acreage under the cane crop in the Outgrower scheme was 35,212.38 hectares. This acreage comprised of 3,714 fields. The number of registered outgrowers by then was 34,081 farmers.

The eastern zone had 14,993.74 hectares of cane, 1530 fields and 13,299 farmers. The western zone had 1,127 fields, 8,9161.58 hectares of cane, and 9,507 farmers. The southern zone had 1,057 fields, 8,961.58 hectares of cane, and 9,507 farmers.

The population of outgrowers is rising steadily. Apart from the fact that the Mumias Sugar Company is encouraging this rise by expanding its services in terms of distance covered, and the company's benefits such as better roads, transportation, etc. the people around the outgrowers scheme have been encouraged by the 'boom' incentive that rocks the various areas after harvest.

#### **Population:**

The population density for the Kakamega area was 295 persons

per square kilometer as per 1979 population census. The density for Busia and Bungoma areas is much lower, with that of Bungoma recording 163 persons per square kilometer as of 1979.

#### **Temperatures:**

These vary from an annual minimum of 14-18 degrees centigrade and a maximum of between 26-32 degrees centigrade.

#### **Rainfall:**

The outgrower zone is well endowed with a climate and rainfall pattern well suited for cane cultivation. The rainfall averages 70" a year, and is fairly evenly distributed over the twelve months of the year. A prolonged dry season is experienced only during the months of December-February, a period that usually coincides with land preparation activity. Most crops are grown during the long rains spell, with the weeding taking place after a period of three weeks due the growth of weeds. Not only are food crops favored for planting at this time of the year, but also cane planting for those farmers involved in the activity during that year. What is witnessed, therefore, is a cluster of activities patterned by the seasonal distribution of rainfall.

**Soils:**

The soils are generally well-drained (this is one of the conditions that determine a farmer's eligibility as a participant in the Outgrower scheme). They are of a moderate chemical composition, although they are generally deficient in nutrients, particularly the phosphates and nitrates. The use of fertilizers to correct this situation is thus a priority within the sugar growing area for both the food and cane crop cultivation.

**Farming Patterns:**

Most of the outgrowers are small-scale mixed farmers. The food crops planted include maize, beans, millet, sweet potatoes, papaw, vegetables, cassava, bananas, and groundnuts. Maize and beans are the dominant food crops.

The livestock includes mainly the indigenous zebu cattle, sheep and goats (although the latter are usually on quite a small scale).

As stated before, the farming exercise during the year starts in December-February when land preparation takes place. Planting of crops occurs in February-march, when the rains appear.

Depending on the rate of weed growth, weeding takes place any

time between late February and July. Some crops require more than just one round of weeding, hence the reason for weeding continuing till July.

### **Cane Cultivation:**

Cane can be harvested three times from one plant whose growth period can be averaged at five years. The first crop which is referred to as the 'plant crop' is harvested after 22 months. Two ratoon crops, that is the subsequent cane that grows after harvest is harvested at intervals of eighteen months respectively. A third ratoon crop harvest is considered uneconomical due to low sugar content.

Planting of cane usually takes place during the offset of the long rains or occasionally during the short rains. The cane seed is usually about one foot long and is supplied by the Mumias Sugar Company.

The weeding of cane is an intensive exercise. It has to be done seven times before the cane forms a canopy over the rows. Usually, after this canopy has formed, weeding stops. For some farmers, one round of weeding takes them a whole month. For others the weeding of cane alone requires a staggering 900 hours or more before it reaches the 'canopy-formation' stage. Apart from watching out for possible fire outbreaks, and keeping the area



surrounding the cane crop clean, there is not much that the outgrowers do after the canopy-formation stage. Usually, the area is kept clean by planting vegetables and sweet potatoes around the cane crop.

The harvesting and transportation of cane is the Company's responsibility.

#### **CONDITIONS FOR ELIGIBILITY INTO TO THE SCHEME**

A minimum plot size of one hectare is the set limit in the outgrower scheme, although smaller plots are often accepted. This minimum is set due to economic reasons; a field of less than one hectare is considered uneconomic as regards the operation of land preparation equipment. Although a field may comprise plots of several owners, the plots are distinct, and the growing of the cane remains the responsibility of individual plot owners. The company tries to ensure that a farm is not completely contracted for cane, and that the farmer retains a 'large enough' area to produce food crops for the family. This is certainly one of the more difficult rules to enforce. It may have been followed strictly at the beginning of the scheme, but at the moment, quite a number of farmers have left space just enough for their houses and a little for their livestock. Unless this regulation is physically enforced, it is almost impossible to keep to it.

The prospective farmer has to be a registered land owner of the piece contracted for cane cultivation. However, people have been known to 'lease' land to those without the facility and usually receive some 'commission' after harvest. The outgrower and the adjoining landholders must be able to offer a block of at least fifteen acres, for advance of the Company involved.

For one to be included in the outgrower scheme, (i.e within a 32 kilometer radius from the factory), the soils offered must be drained, and relatively free of 'murram' (plinthite and impermeable clays). Soil samples are usually subjected to various tests in the Company's laboratories. Similarly, the plot has to be accessible to the Company tractors for the land preparation exercise and to the trailers at harvest time. This condition has not been a big problem as the Company itself has organized for all-weather roads within the scheme, plus many feeder roads into the 'remotest' areas within the scheme.

## CHAPTER FOUR

### FAMILY LABOUR CHARACTERISTICS

The first section of this chapter will focus on the organization of time within the households before and after the introduction of the Outgrower scheme. Focus will be on the effects that any changes have had on the family's labour organization.

The second section deals with the existing labour relations before and after the inception of the Outgrowers Scheme and how they differ from the two eras.

All the discussions in this chapter are based on results from the research work carried out in the Outgrowers Scheme.

#### (a) ORGANIZATION OF LABOUR TIME

Like in any other farming community, the farmers in the Mumias Sugar Outgrowers Scheme base their farming calendar on the rains. Thus, active farming activity begins in the month of December till January when land preparation for most crops takes place. These include crops such as maize, millet, beans, wimbi, etc. From the study carried out, 99% of the sample are involved in this task yearly without fail.

The planting of crops such as maize, millet, beans, groundnut and cassava takes place with the onset of the long rains; i.e. from February-March. The wet months of April and May are utilized for intensive weeding, obviously due to the rapid growth of weeds with the rains prevailing.

From the sample, 90% of the planted maize, 93.5% of the planted beans, and 86.4% of the planted millet are recorded during the months of February and March. During the April-May season, 91.5% of the beans growers are involved in weeding, 60.7% of cassava and 95% of maize growers are involved in weeding.

Below is a table indicating the farming calendar for individual crops and their tasks.

**Table 2: Main Food Crops Grown and their Cultivation periods**

CROP	LAND PREPARATION	PLANTING	WEEDING	HARVESTING
Maize	Dec-Jan	Feb-March	March-July	Aug-Oct
Beans	Dec-Jan	Feb-March	March-July	July-sep
Millet	Dec-Jan	Feb-March	March-jun	July-sep
Wimbi	Dec-Jan	Feb-March	March-jun	July-sept

The pattern of farming activity is still as it was before the inception of the Outgrowers' Scheme. Thus, the introduction of cane has not affected the farmers in terms of the seasonal involvement with the rains still determining the whole system. The system was impossible to disrupt as it was climatically determined.

Focussing on the actual crops grown, a significant decline in the variety of crops grown before the establishment of the scheme and after its inception has been witnessed. Maize and beans remain the predominant crops grown as 92.5% of the sample are involved in its cultivation.

The table below gives a breakdown of the variation experienced before and after the establishment of the scheme. As each farmers's pre-scheme period varied owing to their different years of involvement within the scheme, no year was used or fixed as a demarcation between the pre-cane and post cane cultivation eras. Some got involved in the scheme as early as 1971 while others registered as late as 1986.

**Table 3: A Comparison of the Outgrowers involvement before and after the scheme's establishment**

CROP	PERCENTAGE OF GROWERS BEFORE SCHEME STARTED	PERCENTAGE OF GROWERS WITH THE SCHEME ESTABLISHMENT
Maize	94	96.5
Beans	80	82
Millet	48	19
Cassava	50	0.6
Potatoes	40	10
Groundnut	23.5	6
Vegetables	19.5	5
Bananas	23	2
Wimbi	27	

During the growing season, the need to work on several crops and to operate within a limited period become serious constraints to the farming activity. Thus, for farmers who face problem of labour, millet cultivation stopped. From the survey, the average number of hours required for its cultivation during the growing season was 290 for an average of four people on 3 acres of land under the crop.

Necessity for survival purposes is the reason cited as being behind the continued involvement of families in the growing of maize and beans. From the sample, 73.5% of the sample cited maize as their staple crop. Thus, its extinction from the farming

activity is unlikely as they would have to purchase it from the market for subsistence purposes. Only 5% of the sample cited maize as a source of income.

From the study, it was noted that there was a reduction of land under food crop cultivation by an average of 11.5%. The table below demonstrates:

**Table 4: Acreage under Food for the periods before and after the schemes' establishment**

	BEFORE SCHEME'S ESTABLISHMENT	PRESENT STATUS
Average Acreage	3.92 (acres)	2.5 (acres)
Minimum Acreage	1	0
Maximum Acreage	19	19
Standard Deviation	3.063	2.36

There is an average loss of 1.42 acres on food crop production when the two periods are compared.

This loss may be part of the explanation for the decline that has been witnessed in the variety of food crops grown. While this may be the picture created at the average level, it is important to point out the fact in some cases some of the Outgrowers have more acreage under food cultivation presently compared to the period before. There are others who have no plots reserved for food crops, especially for maize which is the staple crop.

From the study, it was observed that 64.5% of the families are involved in working extra hours during the busy rainy season to cope with the workload during the weeding and planting seasons. The breakdown of what crops are worked on during the extra hours, usually between 4.30 p.m and 6.30 p.m in the evenings is shown below:

**Table 5: A breakdown of Crops Worked on During the Evening's extra Working Hours**

CROP	NUMBER OF FARMERS INVOLVED IN CROPS CULTIVATION	% OF TOTAL SAMPLE	VALID
Maize	8	4	7.4
Cane	6	3	5.6
Vegetables	10	5	9.3
Maize + Cane	9	4.5	8.3
Cane + Vegetables	31	15.5	28.7
Maize + Vegetables	19	9.5	17.6
Maize + Beans	13	6.5	12
Maize + Beans + Cane	11	5.5	10.2
<b>TOTAL</b>	<b>107</b>	<b>53.5</b>	<b>99.1</b>

The fact that over 50% of the sample are involved in working extra hours is worth noting. It is also significant that of this 50%, the combination of work on cane and vegetables has the highest percentage involvement i.e 15.5%. Usually, work on vegetable cultivation is not considered important enough for allocation of some time during the normal working hours. Thus, the women have to



squeeze in some time from their busy day to work on the vegetable plots. Most of them regard the evenings as the best time since they are expected to be part of the cane labour force during the earlier part of the day.

The fact that cane is one of the two crops in the highest combination of percentage is also worth noting. The Outgrowers cited the following as the most important reasons behind their concentration on sugarcane when busy; vigilant supervision from the Company; that cane is a major source of income; and that the more they concentrate on its cultivation, the higher the output from the cane crop. Cane has therefore forged its way to the top of the list of priorities within the Outgrowers' farming activity.

#### **b) TIME ALLOCATION TO CROPS**

As previously stated by Cleave, the degree to which farmers have turned to production for the market is reflected in the extent to which land and labour are devoted to cash crops. Labour, in this context, is determined by the number of hours or time allocated to the various crops. The findings for the pre-cane and present periods were as follows:

**Table 6: A Comparison of Labour Hours Spent on Food Crops for Pre-Cane and Present Cane Cultivation Eras**

TASK	AVERAGE NO. OF HOURS SPENT BEFORE SCHEME	AVERAGE NO. OF HOURS SPENT AT PRESENT
<u>Maize</u>		
Land Preparation	58	27
Planting	27	21
Weeding	85	57
harvesting	24	25
<u>Beans</u>		
Planting	29	17.8
Weeding	82.8	37
Harvesting	28.5	19
<u>Millet</u>		
Planting	28.7	15
Weeding	89	71.9
Harvesting	28	23
<u>Vegetables</u>		
Land Preparation	11.9	11.8
Planting	7.7	7.4
Weeding	11.8	11.2

An observation at the general level indicates a decline in the average number of hours spent on food crops, especially, for the task of land preparation, maize weeding and the weeding of beans. As previously indicated, this could be a direct result of the general decline in the acreage under food cultivation. As for the decline in land preparation hours, one cannot exclude the effects of the ox-plough as a factor which has eased the work tremendously.

The allocation of land between cash and food crops can only be examined in the light of the ratio of land devoted to cash and food

crops viz a viz the total acreage.

It must be pointed out at this point that if one used the statistics from the findings for the average acreage of land this would be very misleading. This is because of the extremes found especially within a few large land holdings which distorted the image.

As 62.5% of the sample owned between 2 and 7 acres of land, it was thought reasonable to compute an average from this range. Thus the average was computed at 4.5 acres. The average acreage under cane was 2.16 acres, while that of food crops was 1.71 acres. Therefore, cane accounts for 48% of the total acreage while food crops accounted for 38% of the total acreage. Usually, at registration, the prospective Outgrowers are required to have at least 2.5 acres remaining from their total acreage for the cultivation of food crops and for the pasturage of animals. As may be expected, this condition is not enforced with equal rigidity.

The time (in terms of labour hours) taken to weed a crop of cane to maturity takes an average of 290 hours for the seven (7) times that the cane has to be weeded. This is 5 times more than the hours spared for weeding maize (i.e 57 hours), 7.84 times more than that spared for weeding beans (i.e 37 hours), 41.43 times more than that spared for weeding vegetables (i.e 7 hours), and 4 times more than the time spent on millet (71 hours).

In brief, the inclusion of cane growing in the farmers' calendar has involved enormous additional hours.

Apart from care for vegetables, which are predominantly tended by the women, the other extra working hours do not reflect a significant differentiation along the gender lines. Thus, for those who work during the extra evening hours, maize remains a family affair.

From the sample involved in extra working hours, 50.65% involved both men and women, while 29.2% of the sample involved the combination of men, women and children.

Work on cane during the extra working hours is a family affair with men, women and children involved during the busy seasons.

The situation, as reflected by the study, portrays an involvement of the whole family in the extra working hours. Women, of course, have an extra share of the burden in the sense that the crops which were predominantly a 'female-affair' traditionally still remain so, and it is upon them to see how best to fit into the rest of the programme. Most of the food crops fall into extra working hours, extending female labour.

Although it has been established that the outgrowers were engaged in evening farm work even before the advent of the scheme,

what is significant is that out of all those who acknowledge working extra working hours in the evenings (i.e 53.5% of the total sample), 58.4% are involved in some cane task one way or the other.

#### 4:3 CANE PLANTING AND HOUSEHOLD CHORES

The 'elasticity' of the women's working day is one of the greatest measures of adaptation they have taken to suit the new situation. In 71.5% of the sample, housework still remains the woman's area of operation. Only 4% of the sample depended on hired labour for their housework. The table below gives a breakdown of involvement in household tasks:-

**Table 7: Members of Outgrowers' Family Involvement in Housework**

MEMBER OF FAMILY INVOLVED IN HOUSEWORK	NUMBER OF RESPONDENTS	% OF TOTAL SAMPLE	VALID %
Wife	143	71.5	72.2
Children	6	3	3
Maid	8	4	4
Wife + Maid	2	1	1
Wife + Children	38	19	19.2
No response	2	1	-
<b>TOTAL</b>	<b>200</b>	<b>100</b>	<b>99.4</b>

A glance at the table reveals that there is a 91.5% involvement of women in household tasks.

In cases where a maid was employed, the wife was invariably in paid employment. The common forms of jobs included nursing, and teaching. The business-women, especially where a shop was involved also found that they needed maids for their housework. These were the families where 'permanent' structured houses were to be found, families generally accorded a high social status within the communities.

For the ordinary woman, the day begins earlier than it did before and ends later. Firewood has to be gathered before day-break, lunch has to be prepared early in the morning or late in the night (as in the case of maize and beans). If there are little children who have no care at home, they have to be strung on the back as work goes on the farm. 'Elasticity' of the day and endurance of the great physical needs created have become a basic survival tactic. The working day had to be stretched to longer hours so that what would have been ideally used for rest, especially during the busy season, has to be used for more farming activity. The woman has therefore to cope with more strenuous and longer working hours.

#### **4.4 THE DIVISION OF LABOUR**

In the pre-cane growing era, the task of land preparation for most crops was a man's job. Only 2.2% of the sample had women

The land preparation for millet and other crops portrays more or less a similar distribution. From the study, it was noted that where men were involved exclusively in land preparation, it was almost certain that the use of the ox-plough was involved.

The planting, weeding and harvesting activities for most crops in the Outgrowers scheme at present are a family affair. Men, women and children are involved. Thus, as regards the major crops i.e maize and beans, it is evident that more and more women are becoming engaged in male-dominated tasks, and more team work between men and women is beginning to appear.

However, the tasks that were strictly 'female' such as sweet potatoes, cassava, and vegetable cultivation have not changed hands. For example, while 69% of the sample involved women only in the cultivation of cassava, 69% in sweet potatoes for the period before, 76.9% indicated tasks on vegetables as a female task right from the land preparation to harvest stages.

In the cane growing era, 88.8% of the sample indicated that vegetable tending is still a 'female'-only task, while 52.8% indicated cassava as a female area of operation. It was also indicated that 76.5% of the sample still associated all tasks on

sweet potato cultivation as a female affair. In some instances, the cultivation of these crops has been abandoned altogether. For some, men were actively engaged in vegetable cultivation only when it was for commercial purposes. Hired labour is also utilized in some instances.

Cash cropping alters the relative value of men's and women's products as market prices are influenced externally. The following demonstrates:-

**Table 9: A Distribution of the Family Involvement in cane Planting**

MEMBER OF FAMILY INVOLVED IN CANE PLANTING	NO. OF SAMPLE INVOLVED	% OF TOTAL SAMPLE
Men	4	2
Women	9	4
Men + Women	44	22
Women + Children	8	4
Men + Women + Children	125	62.5
Not Applicable	10	5



**Table 10: A Distribution of the Family's Involvement in Cane Weeding.**

MEMBER OF FAMILY INVOLVED IN CANE WEEDING	NO. OF SAMPLE INVOLVED	% OF TOTAL SAMPLE
Men	2	1
Women	8	4
Men + Women	43	21.5
Women + Children	4	2
Men + Women + Children	126	63
TOTAL	183	94.5

The task of removing the left-overs after the harvest, known as 'amakokho' is also carried out by the family. However, if a family has big sons of over 17 years, it is the sons who usually carry out this task. Occasionally, hired labour may be used for this task.

#### **THE ROLE OF RELATIVES / KIN GROUPS**

The role of relatives in farming activities has been vividly portrayed through systems such as communal labour, known as "buhasio" among the Luhya. These communal groups usually operated on the basis of kinship, age groups or neighborhoods. Communal labour groups often consisted of women groups or boys and girls (sometimes) separately.

The use of communal labour was predominantly in the Mumias Outgrowers' zone before the planting of sugar cane began. Seen as a source of fostering unity, a strategy for a faster working pace, and a tool for making work light for families especially with big farms, communal labour was more or less a way of life for the extended family. Thus, it was not purely for economic purposes alone, but also had a social value. It was part of the social system as it integrated members of the communities or neighborhoods. Families of all calibers participated in this exercise. Communal labour was commonly used for planting, weeding, and harvesting tasks for maize, millet, groundnut and beans. In a few instances, it was the main method used in land preparation especially if it involved a big farm.

In the Outgrower scheme presently, relatives remain an important factor in the family's labour input. The table below indicates.

**Table 11: Mode of Assistance by Relatives**

MODE OF ASSISTANCE	FREQUENCY	% OF TOTAL SAMPLE	% OF USER'S SAMPLE
Individually	95	47.5	80.5
Communally	7	3.5	5.9
Both Individually and Communally	14	7	11.9
Not used	82	41	
TOTAL	198	99	98.3

It is evident that 59% of the families in the sample benefit from the help of relatives presently. From this category of beneficiaries however, only 3.5% have assistance on "communal labour" basis. Even from the percentage of users (i.e the valid percentage) it is evident that 80.5% of them assist at individual rather than communal level.

The relatives are predominantly from the husband's kin group. There is no crop reserved for assistance from relatives as such. They usually help on whatever crop requires help.

Relatives do assist in the Outgrowers scheme, but this is more at individual rather than communal level. However, direct

remuneration is still more the exception rather than the rule. Most people help with the expectation that they will also be helped - hence it is an issue of mutual labour exchange. The table below shows the response to the question of mode of payment when relatives assist:-

**Table 12: Mode of Payment for Relatives who Work on the Outgrowers Plots**

MODE OF PAYMENT	FREQUENCY OF RESPONSE	% OF TOTAL SAMPLE	VALID %
Money	13	6.5	11
Food	3	1.5	2.5
Not paid	100	50	86.2
Not applicable (do not use hired labour)	84	42	-
TOTAL	200	100	99.7

The notion of the efficiency of a communal group was already put to question in chapter two, including the notion of opportunity-cost which plays a vital role in these families' agricultural programmes. Relatives turning up to help have a more definitive function; i.e. 'I help to be helped'. Here, the obligation to reciprocate is a strong factor.

Thus, neighbouring unrelated communal groups cannot be

overlooked in the Mumias Outgrowers Scheme. While 49% of the sample consents to the use of unrelated communal groups for farming activities' i.e all weeding, planting, and harvesting tasks, of these 94.9% of them are paid in cash. The table below indicates:-

**Table 13: Mode of Payment for Unrelated Communal Groups that Assist on Farms**

MODE OF PAYMENT	FREQUENCY OF RESPONSE	% OF SAMPLE	VALID %
Money	93	46.5	49.9
Food	4	2.0	4.1
Money + Food	1	0.5	1
Do not use unrelated communal groups	102	51	N/R
TOTAL	200	100	100

From the study, it was observed that the communal groups used in the pre-cane growing era consisted of relatives. The dominant mode of remuneration was through mutual labour exchange. Neighbourhood groups are presently used to a moderate extent, but unlike the pre-cane era when they were either given food or offered similar services (reciprocity), the mode of payment for those involved is predominantly cash. The church and women groups were commonly cited.

## HIRED/WAGE LABOUR

The utilization of hired labour is not an entirely new concept in the outgrowers scheme zone. However, what is significant is the intensity with which it is now applied; for some families it is a must. While the farmers consent to having used hired labour before for tasks such as land preparation (usually involving the ox-ploughing), and weeding when resources allowed it, the majority of the farmers found recourse in extended family labour relationships. Thus, reciprocity rather than remuneration was a stronger factor in the labour relations.

Noticeably, most families have abandoned the food crops that were very demanding such as wimbi, millet and simsim, and concentrated on staples such as maize and beans. This is hardly surprising as the smallest cane farm takes an average of one hundred and seventy five hours for one acre of cane when an average of three people weeded it to maturity.

Apart from the fact that cane cultivation involves personal responsibility in terms of whether one opts to use labour or not, the pressure from supervisors from the Company, the threat from deterioration of quality due to weeds, cane is in itself a very demanding crop thus making it hard for most farmers to do without hired labour. This is especially difficult when the cane has grown to such a (height) that the cultivators have to wear sack-clothing

and gumboots to shield themselves from the blade-like cane leaves. In any case, for most outgrowers, there is more land under cane than for all the food crops put together. Thus, sheer plot size under cane alone demands more labour as compared to the food crops.

The reasons indicated for hired for various crops are indicated below:-

Reasons for hired labour	Frequency of response	% of total sample	Rank
Large size plots which demand more labour by itself	15	4.5	4.1
High crop labour requirements and need to be supplemented by hired labour. (Food crops are not labour intensive)	151	74.5	1.7
High yield and high value crops	15	7.7	2.7
High yield and high value crops which are labour intensive	4	2	4.3

**Table 14: Reasons for Preferential Utilization of Hired Labour on Crops**

REASON FOR USING HIRED LABOUR	FREQUENCY OF RESPONSE	% OF TOTAL SAMPLE	VALID %
Some crops require careful tending which is best done by family	1	0.5	0.6
Some crops' labour requirements are tedious and have to be supplemented by hired labour. Plots also too big for family alone	153	76.5	88.7
Some plots are too big for family labour alone	15	7.5	8.7
Big plots and tedious work, while some work cannot be done by hired labour due to theft	4	2	2.3

The mode of payment for the labour is strictly in money form. The term 'contract' worker is in fact used to refer to this kind of labourer by the outgrowers.

Farming activity in the outgrower scheme is of a mixed nature. This involves contracting at both group and individual level,



mutual labour exchange amongst relatives individually, and, of course, the family unit or the household labour. Predominantly, family labour remains the backbone of labour supply to the family farm.

One may hasten to say that what is being witnessed is more of a transitional stage, rather than a permanent state. The question arises as to whether the small peasantry in such situations (where foreign capital is not dominant) is not frozen in a semi-proletarian, semi-peasant status and this incapable of completing the transition to capitalism given the restraint, and the demands made by the Trans-national Corporations which benefit from this state of affairs. Thus, the requirements of a fully capitalistic or commercialistic enterprise, based on the notion of profit have not been fully attained to meet the full requirements of capital as implied by the likes of Samir Amin - that is "wage labour, free labour, and a sale of labour power" (pg 6). The question also arises as to whether Trans-national Corporations are interested in seeing that the Outgrowers complete this transition.

#### **MODERN TECHNOLOGY AND THE OUTGROWERS SCHEME**

If there is anything one would attribute as a developmental factor accruing from the involvement in cane growing to the farming activity of the farmer in the Mumias Sugar Outgrowers Scheme, then

it cannot be modern technology. This has neither happened through the 'trickle down' process or through the direct introduction of modern technology.

The possibilities of using a labour-saving device on sugar cane farm can only be possible at the land preparation stage i.e ploughing, harrowing and furrowing. Beyond that stage, a tractor, for example, cannot be used. This is why small producers, where family labour is intensively used are so useful.

As the Mumias Sugar Company undertakes the task of land preparation for every farmer in the scheme, all the outgrowers are exposed to 'tractor-technology' automatically. The farmers themselves are not involved in this, neither is the rest of the population as the tractors used by the Company are usually hired and paid for. Thus, it is something outside their control.

At best, the farmers use ox-ploughs to weed cane at the very early stages (up to 30 cm high). Most of the farm work, be it on the cane or food crops, is carried out manually using jembes, pangas, slashers, etc. The Outgrowers scheme has not made a significant overall improvement in the aspects of technology. The number of farmers who use tractors on their food crop plots is insignificant. On the overall however, the introduction of cane has created more jobs for men as cane-cutters who work for the Company. No women have ventured into the tedious cane-cutting business as yet.

Fertilizers are used on cane and also for the maize grown in the area. However, the application of fertilizer on crops is not a new practice in the area. The job is not confined to any particular age group or sex.

'Disease-free' and high grade seed cane is supplied to the outgrowers by the Company.

However, credit has to be given to the Mumias Sugar Company for trying to 'avail' some technology to the farmers. Through its subsidiary MOCO, the outgrowers have had access to credit facilities for maize, beans and fertilizer.

## CHAPTER FIVE

### DATA ANALYSIS

This chapter focuses on data analysis. The major statistical tools/methods of analysis include measures of association and significance tests including coefficient of correlation and of determination, multi-regression, the chi-square test and T-tests.

The tests have been used to analyse the variables in focus, i.e. time allocation on food crop production before and after the outgrowers scheme was established, the family's mode of adaptation to performing household tasks in view of the competing production needs, and the division of labour. An attempt is also made to analyse to what extent the outgrowers scheme exudes features of capitalist mode of production, specifically, the degree to which land has been allocated for cash crop production vis-a-vis food crop production, and hired labour vis-a-vis use of family labour, including the extended family.

#### A) ALLOCATION OF LABOUR TO FOOD VS CASH CROPS

There is a significant decline in the time allocated to the various crops by the farming households as most of the tests on the

time indicate( Refer Appendix 2). When a t test was carried out for the difference between the two periods for all the food crops, the t value was 9.652. The alpha level used was 0.05 as in all other cases. Since the critical value for 187 degrees of freedom is 1.96, it is shown that the decline in the time allocated for food crops is significant and not a chance fluctuation.

Thus, evidence points to the fact that the cultivation of the cane crops can be associated with a decline in the time families do spare for their already established subsistence economy. The influence is negative to the extent that the time allocated for subsistence production has declined.

It has also been established that 56% of the land under cultivation is under cane. However, this average (x) hides the variation encountered as some of farmers have less than 1.25 of their land under food cultivation, some with none at all. Those farmers who strain their land resources to meet the Mumias Sugar Outgrowers Company requirement of a minimum of one hectare of land are most affected. These are usually the outgrowers with small plots. Hence, poorer farmers fare the worst according to this scheme requirement. They give up their subsistence requirements from the money they get from cane, hence the establishment of a class of poorer outgrowers.

The average monetary returns per acre of sugarcane is Ksh

9,300 with variations depending on proximity of the parcel of land to the factory itself due to transport cost involved.

On average, maize yields stand at approximately 16 bags per hectare. At the price of Ksh. 300 per bag, the returns are averaged at 4,800 per hectare. The prices are usually much lower during harvest time.

Thus, as Cleave had earlier observed about cash crop growing viz a viz food crop production, an outgrower's response may depend on factors such as the existence of an effective demand for the product of that labour as well as the availability of land (Cleave, 1974). The 'boom' associated with cane growing is an incentive that excites farmers in the outgrowers scheme. The possibilities of getting Kshs. 10,000 in a lumpsum for a family that has never handled such a lumpsum of money obviously has negative implications for the growing of maize, beans, etc.

Thus, market value and nourishment value came into conflict with the market value and incentives as represented by the cash flow from the scheme gaining more and more attraction.

It was also established that the length of time a farmer has been in contract with MUSCO was inversely related with acreage under food. The coefficient of correlation value was  $-0.0626$ , while the coefficient of determination was  $0.0391876$ , thereby

explaining 0.39% of the variation of acreage under food. This signifies a declining interest in farmers expanding their resources on activities they do not consider as viable as cane cultivation. This experience reflects an already established fact about capital and its inherent characteristic of being exclusive as a mode of production. Production within the family tends to be focussed more on the demands of capital as represented by cane and less on satisfying the family's subsistence requirements.

#### **B) CANE GROWING VS WOMEN'S EVENING WORK SCHEDULES**

The gestation period for sugarcane is over one year. The 'plant' crop, which is the first sugarcane crop, matures in 22-24 months, while the subsequent crops, known as 'ratoon', take 18-22 months. A cane crop cycle is therefore approximately 5 years from the establishment of the 'plant' crop to the second 'ratoon' crop.

Evening working schedules are not purely a function of cane growing, although cane growing has necessitated the involvement of some families in this work programme. Of the families who allude to working extra hours in the evening, 62% are engaged in cane activity one way or the other. Since this predominantly is a family affair in that men, women, and children are all involved in it, evening work is therefore not unique to the female gender. Vegetables are one of the major crops worked on during extra working hours and this directly involve women. Thus because they

are involved in other tasks such as the planting and weeding of cane, maize etc. during the day, one finds that the women have a tighter time-management programme than their male counterparts. Women are also highlighted as the most affected when it comes to changes resulting from sugarcane growing as they have to work longer and more tedious work schedules. Usually, this also affects female children in the households.

Thus, evening working schedules have been positively associated with the onset of rains. A change has been observed in the intensity of the whole exercise, especially before the sugarcane forms a canopy. During the rains, the problem of rapid weed growth affects both the cane and food crops thus making evening work schedules a must for families.

### **C) COMPETING PRODUCTION DEMANDS VS HOUSEHOLD CHORES:**

From the study, there was no obvious connection between the establishment of the sugarcane outgrowers scheme and the use of hired labour for household chores. The use of hired labour for domestic chores is significantly low; only 4% of the household's hired labour for this purpose.

This hypothesis did not therefore receive any supportive evidence from the study. Household chores remain a domain of the woman and her daughters. In households where there are no girls,



the boys have to take up these tasks.

These findings could also mean socio-economically, given the sample, most households, are of the middle peasant category which is essentially a non-labour hiring, self-sufficient peasantry.

#### **D) CANE GROWING VS HIRED LABOUR FOR FOOD CROP PRODUCTION:**

The connection between the inclusion of cane on the crop list and the use of hired labour for food crops is a subtle one. What became evident and explicitly so, was the fact that there has been an upward trend in the number of people involved in hiring labour for food crops. While only 57.5% of the farmers used hired labour for food crops before the scheme was established, now only 10% of them do without any hired labour on their food crops. On the average, those who utilize paid labour on the food crops hire about nineteen people a year for the food crops.

The major reason given for the necessity of using hired labour on their food crops is that the weeding of cane and food crops usually coincide. Due to the threat of poor quality from badly maintained cane and maize (especially), as well as pressure from the scheme's field inspectors, the outgrowers find that they must employ paid labour to help out on the food crops, which are usually the staples (maize and beans).

For those who have been in the cane business for over five years, hired labour for food crops has become part of their activities. Due to the cash flow from cane harvest, the farmers find that they are in a slightly better position to remunerate hired labour. The use of hired labour is especially inevitable during the first months of cane growing. This is because all the farming activities depend on the onset of the rains, making it impossible to obtain a more even spread of labour use through the year. Thus, the seasonal peaks are dealt with by complementing household labour with outside labour. When, for example, the planting of cane literally coincides with that of maize, the wife will be more involved in maize and its labour requirements while the man organizes for the planting of sugarcane. For example, cane seed has to be planted within four days of delivery if the good quality has to be maintained. Weed control is also done manually as pesticides are considered hazardous to the environment.

The relationship between cane growing i.e. acreage under cane and the number of hired workers on food crops was tested using the coefficient of correlation test. The coefficient of correlation value was 0.799, the coefficient of determination was 0.00638. Thus, acreage under sugarcane accounted for 0.638% of the variation in the total number of employees on the food crop farm. Although the association is weak, nevertheless it indicates that those with larger acreage under cane were more likely to hire more labourers on their food crop farms.

A very strong relationship was found between the total number of workers on the farm and those hired to work on the food coops. The coefficient of correlation value was 0.9188, the coefficient of determination was 0.844. Thus, explaining 84% of one variation in the total number of employees on the farm.

Another test of the significance or impact of cane cultivation on food crops was carried out on the association between the total number of workers on the food farm viz a viz those on sugar cane. The coefficient-correlation value was 0.7488, the coefficient of determination 0.56, thus explaining 56% of the variation in employees on the food crops. This reflects a very high degree of association, and suggests that those who hired labour for cane were more likely to hire labour for food crop production.

#### **E) COMPETING PRODUCTION DEMANDS VS THE DIVISION OF LABOUR:**

With the introduction of cane growing in the Outgrowers scheme, no agricultural operations remain exclusively a male domain. Women have been fully incorporated. The only exception is the cutting of cane, which remains a 'male-only' task. However, this is a job undertaken by the Company and not by the individual household.

At the general level, there are no stringent rules or observations on who does what in so far as the farm work is

concerned. However, those tasks which were traditionally regarded as tasks for the female remain so. This affects the cultivation of crops such as vegetables, cassava, and sweet potatoes. Apart from the few farmers who grow vegetables for commercial purposes, this still remains a predominantly female task. Thus, the women and female children are not exempted from carrying out other activities (just as the rest of the household) due to this extra obligation.

'Vegetable-work' is, for most women, reserved exclusively for the evenings. It usually takes them 1-2 hours each day to carry out the job for a period ranging from 2-4 weeks (for the planting and weeding). A lot has to do with the attitude that still surrounds the cultivation of vegetables for household consumption. For the few families who grow vegetables for commercial purposes, the males are fully involved in the seedbed preparation, transplanting etc. This is typical of Cleave's prediction that the "division of labour is reported to be breaking down, particularly as men interest themselves in crops that can be sold (1970: 172).

From the study, it was obvious that the women could do with more help since the introduction of the cane crop, especially with some of the 'female-only' tasks. This has to be emphasized as 96% of them have to cope with household chores notwithstanding the other tasks.

However, as need slowly suppresses the values cherished by

society, it is expected that a gradual relenting of attitudes will be the dominant factor. For now, Women may find it impossible to participate in other areas of development the more they get integrated into the market economy.

The apparent position is purely transitional i.e from a 'traditional' economy to one based on commodity relations. One cannot predict at this stage whether there will eventually be a 'purely' capitalistic economy, though one can say with some degree of certainty that given present trends, it will be a commodity relations. Deviations come from both the stress of necessities of the moment and from the slow process of change which the introduction of a new crop is bound to unleash.

#### **F) FROM PEASANT TO COMMERCIALIZED LABOUR RELATIONS:**

The nature of labour relations on the farms within the outgrower scheme is a very complex one. In this hypothesis, an attempt is made to break down the variables commonly associated with labour relations as was discussed in the literature review. These included factors such as communal labour (a distinction is made between those consisting of neighbors within the locality of the farm, and labour consisting of relatives), hired labour and household labour as they interact with one another. An attempt is made to find out the extent to which traditional traits have been eroded.

(i) Family size and hired labour:

Within the outgrower scheme, it was established that the commercialization of the farms was 56%. This is the ratio of land under cane to the total acreage belonging to the outgrowers.

A coefficient of correlation test ( $r$ ) was therefore carried out between the total number of active farming household members and the total number of hired workers on the farms.

These two were inversely related. The  $r$  was  $-0.528$ . The coefficient of determination was  $0.278$  thus an increase in the total number of active farming household members in the scheme would be related with a decrease in the total number of hired workers. This accounted for 28% of the variation in the number of hired workers.

(ii) Farm and Hired Labour

A coefficient of correlation test was carried out to establish any linear association between farm size and the number of workers to work on the farm, its value was  $0.1108$ . The coefficient of determination was  $0.00122$ , thus showing that the size of the farm accounted for  $0.122\%$  of the variation in the total number of employees on the farm. One would expect variables such as total number of active members in the household who participate in farm

work, for example, to be a major mitigating factor since family labour has been proved to be the backbone of labour in the Mumias area.

iii) Acreage under cane and the use of hired labour

The distribution was portrayed as follows:

**Table 15 (a): The Association Between Acreage Under cane and the use of Hired Labour**

ON HIRED LABOUR	SMALL		MODERATE		FAIRLY LARGE		LARGE		
	No	%	No.	%	No.	%	No.	%	
Do not use hired labour	7	7.75	10	14.2	3	7.69	-	-	20
Use hired labour	81	92.5	60	85.8	36	92.3	3	100	180
Total	88	100	70	100	39	99.99	3	100	200
Percentage	44		35		19.5		1.5	100	

$$X^2 = 2.098$$

Degrees of freedom = 3

The  $X^2$  falls below the critical value of 7.82. Only at an alpha level of 0.7 does this value become significant. Thus, from this distribution, cane farm size per se has an insignificant impact on the use of hired labour.

iv) Food Production and Hired Labour

The association between the total number of employees on the food plot and the acreage under cane was found to be positive with an r value of 0.1141. The coefficient of determination was 0.0130, thus 1.3% of the variation in the total number of employees on the food plot.

It was also established that there is a negative relationship between the length of time a farmer has been in contract with the scheme and the labour deployed for food production.

The r value was -0.458; the coefficient of determination was 0.000209, thus accounting for 0.2% of the variation in the hiring of labour for food crops. While this association can be termed as statistically weak, it is worth noting the inverse relationship slowly altering the 'peasant' structure of operation in the Outgrowers scheme. Although family labour is no longer the sole provider of labour on the farms' requirements, it still remains a significant source of labour. At the same time, the use of hired labour is employed to complement family labour.

The fact that the number of employees for food cultivation greatly influences the total number of employees on the farm receives strong statistical support in the study. The r value was 0.9188, the  $r^2$  was 0.844 - thus explaining 84% variation in the



total number of employees.

A possible explanation as this deviates from the impression created by Kimmange (1987) and Cleave (1974) who argue that concentration on food receives minimum attention is that some of the Outgrowers had just began their contracts (as late as 1986) and this may have weighed down on the effects that a longer term might have had.

Also, the fact that weeding of cane is a long term process undertaken at least seven times forces the farmer to utilize labour on the food farm which is for a much shorter term. In this regard, the money required for weeding cane would be more than that required for food crop weeding.

The other operative factor would be the awareness of the value of land by some outgrowers with bigger farms, who on realizing the importance of giving food crops as much attention as possible, use large numbers of employees on the farm.

v) ACREAGE UNDER FOOD/CANE CROP VS HIRED LABOUR:

To test for the effect of these three variables together, having established the relationship of each with hired labour, a multiple regression was carried out.

The method used was stepwise multi-regression to test how much of the variation in hired labour would be regressed with the three independent variables. These were, acreage under cane, under food and the total acreage. The findings were as follows:-

**Table 16 :**        **The Association Between Acreage Under Food and Cane and the Hiring of Labour**

	MULTIPLE r	r SQUARE	BETA	SIGNIFICANCE
Acreage under cane	0.2094	0.0438	0.0438	0.0301
Acreage under food	0.18294	0.03347	0.18294	0.0101
Total Acreage	0.15500	0.024025	0.15500	0.2096

It should be noted that of the three independent variables in the regression equation, acreage under food crops has the largest Beta weight - i.e. 0.18294 against 0.0438 and 0.15500 of acreage under cane crop and total acreage. Thus acreage under food crop has the highest explanation for how much change takes place in the total number of hired labourers while controlling for the other two independent variables. It had already been established earlier that acreage under food had a very significant influence on the number of hired labour.

vi) HIRED LABOUR VS COMMUNAL LABOUR:

One of the factors cited as likely to affect the utilization of hired labour was the fact of communal labour and its use. The relationship is demonstrated below in the chi-square test:

**Table 17: The Relationship Between the use of Related Communal and Hired Labour in the Scheme**

HIRED LABOUR	USING COMMUNAL LABOUR		NOT USING COMMUNAL LABOUR		
Not using hired labour	4	6.25	16	11.76	20
Using hired labour	60	93.75	130	88.2	180
Total	4	100	136	99.99	200
Percentage	32		68		100

$$X^2 = 1.4705$$

Degree of freedom = 1

The  $X^2$  value falls below the critical value of 3.84. Thus, there is a low degree of association between the use of related communal labour and hired labour. For the 32% of those who use communal labour, the hiring of labour is still prevalent.

The association between the use of unrelated communal and hired labour was portrayed as follows:

**Table 18: The Association Between the use of Unrelated Communal labour in the Scheme.**

HIRED LABOUR	USING COMMUNAL LABOUR		NOT USING COMMUNAL LABOUR		
Not using hired labour	3	2.8	17	18	20
Using hired labour	103	97.2	77	82	180
Total	106	100	94	100	200
Percentage	53		47		100

$$X^2 = 12.88$$

$$\text{Degree of freedom} = 1$$

$$\text{Critical value} = 3.84$$

There is a significant relationship between the use of hired labour and the use of unrelated communal groups, a form of paid labour. Those who use unrelated communal groups are more likely to use hired labour on their farms. Evidence shows these unrelated groups are more popular than those composed of relatives. Thus the less efficient groups are losing their popularity as paid labour, whose basis of employment is the work done becomes the more popular group. Unrelated communal groups, especially church groups are cheaper than the individual hired workers.

(c) The influence of household labour on the use of communal

labour was also tested. The table below shows the distribution:-

**Table 19: A Relationship Between Total Number of Active Household Members and the use of Communal Labour**

NO. OF ACTIVE MEMBERS OF HOUSEHOLD	USING COMMUNAL LABOUR		NOT USING COMMUNAL LABOUR		
		%		%	
1 - 4	21	46.6	43	52.43	64
5 - 9	19	42.2	32	39.02	51
10 and over	5	11.1	7	8.536	12
Total	45	99.91	82	99.98	127
Percentage	35.4		64.6		100

$$\chi^2 = 0.94800$$

Degrees of freedom = 2

The relationship is statistically insignificant. The other mitigating factors may have been those already discussed such as size of land, technological advancement, and the hiring of labour, etc.

(d) The relationship that exists between technological advancement and the use of communal labour was tested. A major assumption was that the more technologically advanced an outgrower was, the less likely the chances of using groups based on social obligations.

A differentiation was made between the related and unrelated

communal labour.

The categorization of technology was as follows:-

- Low level: those who had access to the following only: jembe, panga, rake, fork and other manual implements.
- High level: ox-plough, jembe, tractor (for crops other than cane which is supplies by the scheme), plus any other.

**Table 20: A Distribution of Technological Advancement and the use of Communal Labour**

TECHNOLOGICAL LEVEL	USE OF COMMUNAL LABOUR		DO NOT USE COMMUNAL LABOUR		
Low level technology	28	43.75	39	28.67	67
High level technology	36	56.25	97	71.3	132
Total	64	100	136	100	200
Percentage	32		68		100

$$X^2 = 0.21$$

Degrees of freedom = 1

$X^2$  value was below the critical 3.84 figure.

The differentiation in levels of technological advancement did

not bear significantly on use of communal labour. In the  
outgrowers scheme, the use of human labour is paramount.e.

CONCLUSIONS AND RECOMMENDATIONS

The study has shown that the use of communal labour is not  
significantly affected by the use of human labour. In the  
outgrowers scheme, the use of human labour is paramount.e.

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## CHAPTER SIX

### CONCLUSIONS AND RECOMMENDATIONS

The study aimed at determining the extent to which capitalist relations had penetrated the organization of family labour within the outgrower scheme. It also set out to determine the family's mode of adaption to the demand created by sugarcane cultivation alongside or instead of production for subsistence, as the case may have been.

#### CONCLUSIONS:

##### A. THE PRODUCTION PROCESS

From the study carried out, the outgrowers scheme had been influenced by the production of sugarcane, a cash crop, to the extent that the ratio of land under food cultivation viz a viz that under sugar cane production was not balanced. Sugarcane farms were bigger than the food crop farms. The same applied to the time allocated for food crops viz a viz the cash crop as a significant decline in the time allocation for food was observed. The outgrowers with smaller holdings (0.1 - 2 acres) are the most affected as they stretch themselves to meet the minimum requirements of the scheme's membership. Thus they are more



affected by the factor of increasing commercialization of land compared to those with relatively bigger holdings.

The intervention of cane growing in the subsistence economy has deflected the outgrower's main orientation from concentration of food crops as they are increasingly geared towards cane production. Since cane cultivation is a labour-intensive process, there is less time spent on food production as the allocation of labour hours shows. Consequently, the longer the outgrowers' contract with the scheme has been, the more jeopardized seem to be the chances of a sustained production for subsistence.

In the outgrowers scheme what is happening even after the cane production is still basically simple reproduction, even though the economy is no longer subsistence-oriented.

## **B. THE LABOUR PROCESS**

### **(i) The Division of Labour at Household Level.**

Before the introduction of commercialized cane growing in the early 70's women did not actively participate in the cultivation of sugarcane in the area. They are now fully engaged in cane cultivation, particularly the tedious weeding task. The women still bear the responsibility of cultivation vegetables and other

food crops such as cassava, sweet potatoes and groundnuts.

Their labour is also fully extended at present as they have to undertake housework largely on their own. Thus, the women must combine both their productive functions on the farm with their reproductive roles of child care, finding nourishment, fuel supply and water for maintaining the household.

Apart from the production of crops traditionally reserved for women in the outgrowers scheme such as vegetable growing, sweet-potato and cassava cultivation, family labour is fully incorporated into food production particularly for maize and beans production..

Tasks which were previously seen as being beneath a man's dignity remain so unless they acquire a commercial value, e.g vegetable cultivation.

Any changes observed in the cultivation of crops with particular reference to land preparation are purely attributable to the prevalence of the ox-plough. This is where males dominate. However, in the absence of the ox-plough, women are fully incorporated in land preparation, a task previously regarded as a male preserve.

An adaption on the part of the female gender to the 'double production load' has led to female labour being stretched to its

limits while there still exists a reserved attitude on the part of the males with regard to taking up 'female tasks'. The division of labour exhibits one overworked side alongside an underutilized labour force. It does appear more or less as though the husband appropriates a surplus derived from the labor of women and children, particularly on the cash crops.

This state of affairs is likely to continue unless or until some of the crops cultivated by females acquire a commercial value, thus leading to a re-deployment of the existing allocation of labour. Men are likely to continue to be free from the obligations of reproducing the labour power on a daily basis. They are also likely to continue to concentrate on the main cash crops.

Farming activity in the outgrowers' scheme reflected a mixture of activities. The use of seasonal wage labour was common. This labour constituted of socially related groups and individuals from the neighborhood which bore no blood relation to the outgrowers. The use of relatives was fairly prevalent although they invariably worked as individuals and not as an extension of the family's social obligations.

Family labour at household level still constituted the backbone of the agricultural labour in the scheme. This factor is depictive of small holder production elsewhere in Africa and the Third World.

The different forms of labour used are a function of the desire by the outgrowers for a maximum yield at the lowest cost possible. This does not exclude taking advantage of old traditional bonds that have not been severed by the monetization of small peasant economy. Labour that tends to be cheaper (in terms of management, remuneration etc.) is more popular. Some labour is remunerated purely by cash while others operate on manual labour exchange. Thus a new form of interdependence, which is not entirely social-oriented had emerged.

Given the present trend, one foresees a situation where the smallholder will continue to be frozen in a state of semi-peasant status, apparently incapable of completing the transition to full-fledged capitalism. As long as the smallholder have their production priorities and market prospects determined and even 'fixed' (in terms of costs and prices and therefore size of income) by an external agency which transfers value (wealth) away from the context in which it is created, allowing no 'free' market play this state of affairs is likely to be a characteristic feature of such a rural economy.

#### **RECOMMENDATIONS:**

Given the present trend, it is recommended that the cultivation of crops for subsistence within the outgrowers scheme

be revived through an active and sustained drive to prevent an acute problem of food deficiency within the area. The Mumias Sugar Company would be the best agent to employ in such a campaign. In view of limited resources in the outgrower's scheme, particularly land, there must be a clear policy outlining the necessity of both cash and food production, with particular emphasis on subsistence production.

More effort ought to be channelled to the growth of the rural sector in meeting its basic demands first, other than over-concentrating on foreign exchange. Capital ought to be channelled to the improvement of existing resources and potentials first before embarking on new ventures that are likely to involve numerous structural and physical adjustments.

In the Mumias area, for example, efforts should have been directed towards availing capital in the form of state-subsidized technology (improved seeds, fertilizer etc.) which would boost production in the area. Intensive cultivation methods would then be introduced/encouraged. The use of technology that could save the peasant's time and energy would be a positive contribution. Thus effort could be channelled into improving the labour process: the tools whose quality and availability is often a problem in peasant production. Once subsistence production has acquired its deserved position in the production sphere, cash crops oriented to agro-industrial supply could then be introduced.

The concept of self-sufficiency in terms of production within an area such as Mumias ought to be given serious thought and consideration within development planning procedures given the scarce land resources and the socio-economic status of the population involved, particularly the women.

## FURTHER RESEARCH

It is recommended that further research be undertaken to establish the effects of the market economy given the ongoing process of differentiation within the material conditions of the reproduction of the outgrowers. The impact of these new forces of differentiation on the social and cultural environment of the outgrowers needs to be elaborated more extensively in order to ascertain what form capitalism is taking and/or is likely to assume in the future, thus throwing more light to the prospects of an agrarian transition i.e to capitalism, as the dominant mode of production both in the agricultural and urban industrial sectors.

## APPENDIX 1

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## APPENDIX 2

### T-TEST COMPARISON TESTS FOR LABOUR HOURS ON SEVERAL VARIABLES COMPARING THE TWO PERIODS.

#### A) Food crop vs cash crop production:

The number of hours spent in the period after cane growing had a xmean of 17.8. The difference (x) was 17.83 (hours). A test was carried out to test the degree of significance using an alpha level of 0.05. The t value was 2.80 at 173 degrees of freedom (d.f). The critical figure to determine significance or the lack of it is 1.96. Thus, the t value shows that the decline in the time allocated for planting beans is significant.

#### i) Labour time for weeding beans:

	<u>x (hours)</u>	<u>Difference</u>	<u>t value</u>	<u>d.f</u>
Before	82.89	(mean)		
Present	3.7.7	45.18	4.92	162

- The t value is greater than 1.645°

#### ii) Labour time for harvesting beans:-

The decline is therefore significant

	<u>x (hours)</u>	<u>Difference</u>	<u>t value</u>	<u>d.f</u>
Before	38.5	(mean)		
Present	19	9.37	1.84	174
t value	1.645	-	<u>decline in significance</u>	

**iii) Labour time for planting maize:-**

	<u>x (hours)</u>	<u>Difference</u>	<u>t value</u>	<u>d.f</u>
Before	27	(mean)		
Present	21	6	2.43	187
t value	1.645	-	<u>decline is significant</u>	

**iv) Labour time for weeding maize:-**

	<u>x (hours)</u>	<u>Difference</u>	<u>t value</u>	<u>d.f</u>
Before	85	(mean)		
Present	57.3	27.78	2.72	182
t value	1.645	-	<u>decline in significance</u>	

**v) Labour time for harvesting maize:-**

	<u>x (hours)</u>	<u>Difference</u>	<u>t value</u>	<u>d.f</u>
Before	24.95	(mean)		
Present	25.4	-0.45	-0.13	187
t value	<1.645	-	<u>rise not significant</u>	

vi) labour time for planting millet:-

	<u>x (hours)</u>	<u>Difference</u>	<u>t value</u>	<u>d.f</u>
Before	28.7	(mean)		
Present	15.2	13.4	19.4	30
t value	>1.679 - <u>decline is significant</u>			

vii) Labour time for weeding millet:-

	<u>x (hours)</u>	<u>Difference</u>	<u>t value</u>	<u>d.f</u>
Before	89	(mean)		
Present	71	18	0.59	31
t value	<1.645 - <u>decline not significant</u>			

ix) Labour time for harvesting millet:-

	<u>x (hours)</u>	<u>Difference</u>	<u>t value</u>	<u>d.f</u>
before	28	(mean)		
Present	23	5	1.05	30
t value	>1.697 - <u>Decline is significant</u>			

x) Labour time for preparing land for vegetables:-

	<u>x (hours)</u>	<u>Difference</u>	<u>t value</u>	<u>d.f</u>
Before	11.9	(mean)		
Present	11.8	0.1	0.07	77
t value	<1.645 - <u>decline not significant</u>			

xi) Labour time for planting vegetables:-

	<u>x (hours)</u>	<u>Difference</u>	<u>t value</u>	<u>d.f</u>
Before	7.564	(mean)		
Present	7.4615	0.2949	0.23	77
t value	<1.645	- <u>decline not significant</u>		

xii) Labour time for weeding vegetables:-

	<u>x (hours)</u>	<u>Difference</u>	<u>t value</u>	<u>d.f</u>
Before	11.8	(mean)		
Present	11.2	0.6	0.38	77
t value	<1.645	- <u>decline not significant</u>		

xiii) Labour time on food crops:-

	<u>x (hours)</u>	<u>Difference</u>	<u>t value</u>	<u>d.f</u>
Before	322.9200	(mean)		
Present	189.0050	133.91560	4.91	199
t value	>1.645	- <u>decline is significant</u>		