

# **SOCIAL ECONOMICS, POLICY AND DEVELOPMENT**

**Working Paper No. 21**

**Migration of Husbands, Remittances and  
Agricultural Production: Impacts when Wives Head  
Households in Rural Kenya**

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**THE UNIVERSITY OF QUEENSLAND**

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# **MIGRATION OF HUSBANDS, REMITTANCES AND AGRICULTURAL PRODUCTION: IMPACTS WHEN WIVES HEAD HOUSEHOLDS IN RURAL KENYA.**

*Abstract: This paper uses data collected from migrant's wives in the Nyeri district of Kenya. The main objective is to determine whether migration and remittances contribute to the development of agriculture. Our results suggest that most migrants are pushed out of rural areas, belong to the group of low-paid workers in urban areas, send little and irregular remittances to their wives back in rural areas and that these remittances are mainly used for consumption purposes and do not contribute to any significant development in agriculture. Our results also indicate that altruism or social obligation might be the main reason for migrants sending remittances to their rural wives.*

**Key words: migration, remittances, female-headed households, rural investment and agricultural development.**

## **1. INTRODUCTION**

The main objective of this paper is to determine whether migration and remittances contribute to the development of African agriculture using the Nyeri district in Kenya as a case study. It also considers motives or forces leading to migration and speculates about the reasons for remittances by migrants.

The impact of rural-urban migration on the development of rural areas depends on the level and flow of remittances from urban to rural areas and the use made of these remittances. Stark (1980) argues that remittances are likely to stimulate rural development. Lipton (1980) on the other hand argues that if the village offered high-yielding outlets for investment of surpluses, they would have been invested there initially. He therefore argues that remittances are unlikely to do much to reduce rural poverty, either by financing productive and labour-intensive investment or by being sent direct to the rural poor.

Stark (1980) views migration as a calculated family strategy and not an act of desperation or boundless optimism. Harris and Todaro (1970) argue that migration is stimulated by differences in expected income between rural and urban sectors. Ravenstein (1889) and Lee (1966) support the push and pull theories where some

migrants are pulled to and others are pushed out of the rural areas. Lipton (1980) suggests that the bias in favour of the development of urban areas pushes the poor and landless to the urban areas while the rich are pulled out in search of better jobs or investment opportunities.

In light of these theories, this paper explores the migration and remittances behaviour of Kenyan rural-urban migrants from the point of view of the migrant's wives and the use made of remittances.

This study concentrates on the migration of husbands, a common source of internal migration in Africa. The majority of such migrants do not appear to be well educated and so do not migrate, as a rule, for further education. This type of migration appears to be relatively neglected in the literature.

## **2. OVERVIEW OF RELEVANT THEORIES OF REASONS FOR MIGRATION**

Lewis (1954) sees migratory behaviour to be a result of optimising behaviour of economic agents and that migration is the response to the income possibilities associated with the place of origin as well as the place of destination. His model, later formalised by Fei and Ranis (1961), assumes a dual economy and migration of labourers from a labour-abundant rural sector to a labour-scarce urban sector occurs in response to differences in wages and employment opportunities. This is also another form of the optimising behaviour of economic agents. Harris and Todaro (1970) similarly assume a dual economy and explain migration in terms of optimising behaviour of economic agents. However, they argue that the decision to migrate depends on expected rather than actual urban rural real wage differentials. The expected wage differential is determined by the interaction of two variables: the actual urban-rural wage differential and the probability of successfully obtaining employment in the urban sector.

However, these models assume that potential migrants have much information, behave rationally and make migratory decisions out of free choice. In reality the potential migrants may not have complete ability to gather, store and process the information required in arriving at the decision to migrate. Urban areas have better infrastructure, health facilities, and better education facilities and so on, which attract potential migrants (cf Tisdell, 1990) and not necessarily just more job opportunities or higher expected incomes. Ethnic cleansing in many parts of Africa has forced many

people to migrate to the cities and towns and this is not accounted for in the above mentioned theories.

Migrants from poor families seem to have individual rather than family-linked motivation for migration. However, children from rich families may be supported by their rich parents to migrate to the urban areas in search of better education, and urban employment (Lucas and Stark, 1985; Hoddinott, 1992; Banerjee, 1981), so the family may consciously be optimising rather than engaging in satisficing migratory behaviour (Tisdell and Regmi, 2000).

Stark (1991) views migration as a family strategy in which the family acts as a coalition, or team, to maximise inter-temporal utility. There is an implicit co-insurance contract linking migrant and non-migrant members of the family group, whereby the family at first acts as the insurer when first educating, and then sending a migrant to the modern sector. Then when the migrant has secured a stable position, he acts as the insurer by sending remittances to the rural family, thereby helping non-migrant family members to make risky investments in agricultural or other rural activities by securing a regular income for the rural family.

The main difference between Stark's theory and the classical one is that the idea to migrate is not an individual one but a family decision. Nevertheless, the process, once triggered, involves optimisation just as in the classical view. In reality the poor are often pushed out of rural areas once their income falls below a tolerable threshold (Tisdell and Regmi, 2000) and so when they migrate, they may display satisficing behaviour rather than optimising behaviour in their decision to migrate. Also migration is not always by the younger members of the family. The head of the household, especially in Africa, often migrates to urban areas when he thinks his rural income has fallen below a tolerable threshold (he is pushed out).

Lipton (1980) suggests that rural-to-urban migration can largely be explained by inequality and differences created by urban biased development policies. The deficit farmers and landless labourers tend to be pushed out while the sons of the well-off farmers tend to be pulled out. Rich farmers assist by underwriting or bearing the costs of urban education or urban job search for their migrating sons. However, the latter does not seem to be a significant influence on the migration of African husbands.

### **3. THEORIES OF REASONS FOR REMITTANCES**

In the pure altruistic framework, advanced by Becker (1974), an individual cares about the well being of others and derives satisfaction from giving. Husbands, for example, might send remittances to their wives because they care about them and derive satisfaction from giving. In this model, the migrant enjoys remitting and derives utility from the utility of those left at home, and the latter utility is presumed to depend on per capita consumption. The migrant therefore maximises his utility with respect to the amount that he remits. These remittances are assumed to increase with the migrant's income or wages and to decrease with a rise in the income at home before receipt of remittances. The longer the duration of the migrant's stay in the urban areas, the greater the associated decline in the number of dependents at home, the weaker the migrant's motivations to remit are believed to become.

Alternative or reinforcing reason for remittances could be social obligation on the migrant to care for dependents. This may be combined with self-interest especially when the long-term plan of the migrant is to return to his place of origin (cf. Rempel and Lobdell, 1978).

In Stark's (1991) exchange (pure self-interested) model, a migrant remits cash or resources to his relatives in return for services received from them. Stark suggests that aspiration to inherit, maintenance of rural investments, and the intentions to return make the migrant retain interest in his original home beyond altruism.

Stark (1991) and Lucas and Stark (1985) view remittances as part of an inter-temporal, mutually beneficial contractual arrangement between the migrant and his family which they call the eclectic (tempered altruism or enlightened self-interest). This views the migrant and family as having an implicit understanding that is of mutual benefit. The household allocates certain members as migrants with the aim of risk spreading. Remittances, as claims, would then flow to the family at times of crop failure and to the migrant during spells of unemployment. A husband and wife can make such an arrangement where the husband moves to the urban area and the wife is left in the rural area to look after both their interests. The household also gains from investing in the education of youngsters who then migrate to urban areas to reap returns and remit to repay the family's outlay. Lucas and Stark (1985) argue the remittances should rise with the education of the migrant. Arrangements between a migrant and family are voluntary and thus must be self-enforcing and motives of

altruism and self-interest mean that the migrant retains a vested interest in his origins beyond altruistic concerns.

According to Poirine (1985) remittances mainly also consist of the repayment of an informal and implicit loan taken out by the migrants during their youth, in order to secure a better education that later makes them more productive in the modern sector. However, many migrants in Africa lack education. Therefore, the applicability of Poirine's theory and that of Stark to this group is limited.

### **3.1 Impact of Remittances on Agricultural Production**

Remittances serve several functions in rural households. For households subject to seasonal fluctuations in income, they provide a means of easing liquidity constraints. They can also be used to fund investment in either agricultural or non-agricultural enterprises or in education. However, the impact of migration on agricultural development is related to many factors, such as the size and duration of the out-migrating streams and the degree of substitutability of the migrants by other factors in the production process.

Where women do most of the agricultural work, as in many parts of Africa, male migrants may be absent for long periods without affecting agricultural production. Where the absence of men is critical to agricultural production in that the production foregone cannot be substituted by purchased food, new forms of organisation can be employed or old forms adapted. If kin cannot assist in operating the migrants' farm, this may compel cutbacks in the cultivated area.

Griffin (1976) argues that inter-rural migration is likely to improve the distribution of income in rural areas and accelerate capital formation and technical change on small peasant farms. However to make such inferences, it is important to know the extent of urban to rural remittances and what use is made of these in the rural areas.

Spending of remittances often reflects the poverty and lack of investment opportunities in the place of the migrant's origin. The low level of investment-potential that generates migration also leads to the failure to use remittances for investment in agriculture. In Kenya, Mook (1972) found that while growing pressure on land had resulted in heavy migration from the village of Maragoli, the heavy flow of remittances was aimed at paying school fees, and thereby stimulating further migration. Connell, *et al.* (1975) also agrees with Mook that by diverting cash away from the village, this tends to deepen its investment slump



Johnson and Whitelaw (1974) in their study of Kenya's migrants found that 96% of remittances were spent on support of family and friends, 12% on school fees and only 3.6% on farm investment<sup>1</sup>. When basic requirements are met, remittances often flow into conspicuous consumption such as increased demand for urban goods (purchased food, consumer durables etc).

Often migration brings major net remittances only to those households who can afford the foregone income, and the initial costs involved in sending out-migrants. This may result in new and more extreme social differentiation in the village. Lipton (1980) says that because the village's better-off families receiving the remittances would have been able to borrow if they had wanted to exploit investment opportunities, they may not use the remittances in investment in agriculture. He claims that recipients seem to use remittances first to pay off debts incurred in financing migration or preparing their sons educationally for the move. Second priority goes to consumption; everyday needs often absorb 90% or more of the villages' remittances. Third, chain migration rests on education financed by remittances from older siblings. Investment is only the fourth priority for remittances, and it is often made outside the village. It may involve merely capital transfer rather than capital creation, or be used to hire workers where once family labour was used, or be invested in labour-replacing mechanisation rather than the generation of extra output or the better use of scarce land inputs.

Lipton (1980) offers several reasons why remittances may not foster the village's investment. First, if the village offered high-yielding outlets for the investment of surpluses, funds would have been invested there initially. They would not have been used to finance migration away from potential prosperity, unless the family needed to reduce risk by diversifying its income-earning portfolio or to increase savings above a threshold to finance large and indivisible investments. Second, a well-off family that has lost migrants may need to preserve its status in the village by using remittances for what are socially fairly unproductive investments or face the risk that the family's possible non-continuity will lead other villagers to lose respect for it. Third, the larger and better-off families who are the most likely to send migrants and receive remittances will tend to use remittances to replace absent workers. He therefore, concludes that remittances are unlikely to do much to reduce rural poverty, either by financing productive and labour-intensive investments or by providing direct income

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<sup>1</sup> These percentages may add to more than 100 because the categories involved may not be mutually exclusive.

for the rural poor. Regmi and Tisdell (2002) in their Nepal study also support Lipton. They found that migrants from well off families are more likely to remit than migrants from poor families.

According to Lipton (1980), the drain of skilled, strong and innovative young men from villages results in losses to these villages in terms of productivity and scarcity of labour. It puts pressure on women and children to work harder and for longer hours.

Rempel and Lobdell (1978) also found that there is little evidence that rural to urban remittances have been a significant means for rural economic development. They find that where rural areas receive substantial remittances, little of these is invested directly in rural development. They are mainly used to pay off debts, provide education for sons, purchase consumption goods, provide for education of younger siblings and fund investment which takes the form of a capital transfer rather than capital formation.

Stark (1980, 1991) claims that rural to urban migration and urban to rural remittances can transform agricultural modes of production. He argues that remittances result in greater equality in income distribution, but he is quick to add that this does not mean that urban to rural remittances significantly improve productivity in agriculture. Rempel and Lobdell (1978), in their critique of Stark's results, argue that the mere existence of substantial urban to rural financial flows does not establish that the remittances are flowing into investments in agriculture. Quoting Mook (1973) and Gwyer (1972), they suggest that remittances result in farmers diverting funds, (which would normally have been used for farm improvements), into formal education for family members.

Rempel and Lobdell (1978) also dispute Stark's contention that the typical migrant is part of a rural extended family that has dispatched the migrant to an urban place of employment to generate capital and to obtain new technology for the family farm. This is because the desire to remit is dependent on the social and economic ties that the migrant has with the rural areas, among other factors. If the migrant ever wants to return to the rural areas, these remittances can be seen as cultivating those social ties that are important in easing re-entry into the home community.

Plath, Holland and Carvalho (1987) using Lesotho as an example, found that few migrants had used their migrant earnings to purchase agricultural equipment although they planned to be involved in farming upon their return from their migration cycle.

Francis and Hoddinott (1993) suggest that the continued migration of able-bodied men from Kisumu and Siaya districts in Kenya had led to the long-term decline of farm output and productivity making Kisumu a net importer of food. They found that as a result most households no longer grew enough food to cover their needs and many regularly experienced a prolonged hungry season. They attributed the decline of farm output and productivity to the inability of the migrant husbands to closely supervise farm production of their wives and to the fact that and many African men are reluctant to delegate their financial and decision-making powers to women. Such delegation might be needed to expand production in the absence of husbands. Direct remittance to the wives of such men tends to be enough only to supplement the food supply and buy basic household items, with larger amounts for school fees either paid directly by the man, or ear-marked beforehand.

Poirine (1985) says that the possibility of lending to future migrants crowds out productive farm investment when the expected return on those investment is lower than the implicit family rate of interest, which is itself lower than the expected return on education migration investment.

The purpose for which remittances are sent is best seen as an indicator of the nature of utility functions of remitters. If migrants are concerned about the general welfare or utility of family members at origin, they will transfer general purchasing power and recipients will have the freedom to decide how remittances are to be spent. However, if migrants are concerned about particular “merit” goods being consumed by family members, they will try to earmark their transfers and monitor the use of it.

#### **4. MIGRATION, REMITTANCES AND AGRICULTURAL PRODUCTION IN NYERI DISTRICT IN KENYA.**

On the basis of the reviewed literature, there is no consensus about the impact of remittances on agricultural productivity. There are also differences of opinion about whether push or pull factors cause initial migration. While it is still assumed that the migrant enjoys a private net gain from migrating, concern over the social costs of migration leads us to investigate the use to which remittances are put, and the strategies adopted in agriculture to adjust to a reduced household labour/land ratio, if remittances are not earmarked for hiring substitute labour.

The following are some of the questions we try to answer: (1) Are the remittances adequate for hiring labour necessary to maintain output? (2) Do women have

problems in hiring and supervising labour? (3) Do kinship and communal networks assist women in farming activities? (4) Are the migrants pushed or pulled from their places of origin?

Lipton (1976) says that with the supply of working men depleted, women gain by being more important in the work-force and through formation of women-headed households. The implication is that an emancipating authority follows.

The question at issue however, is not whether women on their own are making more decisions, but how many more decisions, how freely, and which ones? What kind of decisions affecting farm output can a wife make? Can she decide to take more off-farm work? Is cash-crop production foregone because of the problems of access to credit, extension services, and markets in the absence of an adult male household member? How large and frequent are the remittances? Does the migrant earmark the remittances for farming and consumption purposes or is the wife able to dispense remittance according to her priorities? How great a capital expenditure can a wife make without consulting her husband? What kind of collaboration in production or investment decisions passes between migrant and wife? If Lipton's suggestion that women gain through their headship of households for long period carries some truth, in what way does it come about? And is it a real gain or just greater responsibility to make ends meet and things work? This study looks at migration and remittances from the perspective of those left behind in the rural areas, the use of remittances and the impact on agricultural productivity.

#### **4.1 Study Site and Data Collection Methodology**

The study was conducted in Nyeri District in Central Kenya. Samples were drawn from the six divisions making up the Nyeri district. These are Mukurweini, Othaya, Mathira, Nyeri, Tetu and Kieni divisions. These divisions were selected to allow for differences in cropping patterns and in ecological conditions. A random sample of 330 households was selected but due to death, migration, absentees and non-responses we ended up with 185 households with 235 respondents. Out of 185 households, husbands from 37 households had migrated to the city and therefore, the wives were the defacto household heads. These households formed our sample for this study<sup>2</sup>. A

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<sup>2</sup> We used the Kenya Central Bureau of Statistics Welfare Monitoring Sampling Frame to randomly select the 330 households. The survey was conducted during the month of December 2000 and part of January 2001. Most people travel to the urban areas to visit their relatives for the Christmas festivities.

questionnaire containing a number of questions about migration, remittances, household decision-making by migrants' wives, household output, credit facilities and so on, was administered to the migrants' wives. On migration, the respondents gave their own versions of the reasons that led to their husbands' migration to the city and whether husbands maintained contact with them. We also asked them questions about the amount and frequency of remittances, how they used the remittances, whether they were free to make household decisions without interference from their husbands or other relatives. There were other supplementary questions to clarify the kind of life wives lead without their husbands, for example, questions about land-use, family and hired labour, decisions about applications of fertiliser and agro-chemicals, contact with extension officers, use of credit, non-farm employment, education, and so on.

#### **4.2 Overview of Methodology and Data Limitations**

A difference between this data set and that used in other studies of remittances is that the household of origin, and not the migrant is the sample unit. The sample is restricted to urban migrants. There are several disadvantages in using migration data obtained solely from rural households. Wives may not be able to answer all questions regarding their migrant husbands. Furthermore, sampling of households of origin reduces the size of the sample and to the extent that non-responsiveness is non-random, may generate some sampling bias. Information given about migrants may be inaccurate, and the presence of measurement error may lead to biased or inconsistent parameter estimates. However, these disadvantages are partially compensated for by the availability of more accurate and detailed information regarding the migrant's origin. Theoretical considerations suggest that the likelihood of receiving remittances will be greater if the migrants leave their wives and children in the rural areas and so the sending of remittances would be a major consideration in their migration decision. Knowles and Anker (1981) obtained a positive and significant coefficient for the presence of wife in the rural areas. Since our sample is composed of wives whose husbands are migrants, we would expect that all the wives would receive remittances. However, this is not the case in our sample. Out of 37 migrants' wives, a little more than 80% received remittances from their migrant husbands.

A probit analysis was performed to assess the probability of receiving remittances against various independent variables. These were age of migrant's wife, acreage of their farm, number of children left in the village, duration of migration, education of

the migrant's wife, use of free labour on the farm (free labour offered by the children and kin), total farm output, and finally use of hired labour on the farm. It is difficult to tell exactly what motivates a husband to send remittances to his wife. What may be thought of as altruism may merely be a social obligation since it is expected that a husband should look after his family since society will judge him badly if he neglects them. Because of the binary variables used in the probit model, its additive assumption, and the possibility of multicollinearity of some explanatory variables, the results may not be very revealing since amount of remittances were not estimated. For example, number of children left in the rural area could be correlated with the variable use of free family labour. This could affect the significance of some of the explanatory variables.

Other variables considered, but not reported, because in some cases they were considered redundant, were type of job that the migrant has in the city, whether casual or permanent, number of return trips, ownership of land, ownership of livestock, employment of wife, economic situation of household and the number of times the wife receives remittances.

#### **4.2.1 Possible Independent Variables Influencing whether Husband Remits or not**

What are the factors that influence a migrant to send remittances to his wife in the rural area? The independent variables considered in this study as possible influences on a migrant to send remittances are: (1) wife's age; (2) wife's education level; (3) number of children in the rural area; (4) rural earnings; (5) duration of migration; (6) farm size; (7) wife's use of free labour and lastly, (8) wife's use of hired labour.

We consider it possible that the lower the age of the wife, the higher the probability of receiving remittances from her husband. This is based on the fact that a young wife has not yet established herself in her new home and she needs to be motivated to stay in the rural areas.

The argument for education of the wife as an independent variable is based on the possibility that a highly educated wife would be more productive on the farm and her farm output would be high which we hypothesise reduces the likelihood of receiving remittances. This is because an educated wife might adapt to modern agricultural technology that would lead to increased output more quickly than one who is not educated. Hoddinott and Collier (1991) argue that an educated household head would

be able to monitor the migration contract and this should have a positive effect on the likelihood of remittances. Also households with educated heads may have access to the formal sector rural labour market and they may be less likely to be liquidity constrained. If altruism is the dominant motivator, increasing the value of this variable may lead to a reduction in remittances. Hoddinott (1992) found that education of the male head slightly reduced the likelihood that a migrant would remit. However, it exhibited a quadratic relationship with the level of remittances showing that remittances increased if the rural head had completed more than four standards of primary schooling. In our study, this may not be applicable, as the defacto heads of households are women. Access to formal credit requires possession of collateral security, which most wives may not have. However, since the wives have different levels of education, it is interesting to see whether education increases or decreases their likelihood of receiving remittances from husbands.

Pure altruism (Becker 1974) might make it more likely for a husband to send remittances the larger the number of children he has in the rural area. The husband has a family responsibility to feed, clothe and educate his children. We therefore expect that the likelihood of receiving remittances will increase with the number of children of the migrant and that most of the remittances would be used for paying school fees and for consumption. Johnson and Whitelaw (1974) obtained a positive and significant relationship between the amount remitted and the number of children in the rural area but Knowles and Anker (1981) found this relationship insignificant. However, they found that the likelihood of remittances was greater the larger was the number of other family members living in the rural area.

The likelihood of receiving remittances if altruism is important, can be expected to vary directly with the needs of the rural household. Thus, the likelihood will be greater the lower are the earnings of family members in the rural areas and the greater the dependency burden in the rural household. The survey on which this paper is based did not collect data on rural earnings but we have used household output in kilograms (a combination of output for sale from food crops and cash crops plus an estimate for subsistence output) as a proxy for rural earnings.

Following Becker (1974), we would expect that the longer the duration of migration, the less the likelihood of receiving remittances. This is based on the assumption that the longer the duration of migration, the more likely that the children have already grown up, been educated and left the family as they establish themselves elsewhere. It

may also mean that the husband may not have any intentions of returning home as he may (in the African situation) have married another wife whom he may not want to take to the rural areas, or he may have bought a home in the urban areas where he may want to retire to. Duration of migration is a common proxy for the intensity of ties with the rural area. Johnson and Whitelaw (1974) and Rempel and Lobdell (1978) entered the variable linearly and found that the amount remitted by migrants decreased as length of urban residence increased. In the equation for decision to remit, Knowles and Anker (1981) entered the variable linearly and obtained a negative and significant coefficient. Ties with the rural area may not weaken over time if migrants intend to return to the rural areas.

It is possible that the larger the size of the landholding of the migrant, the higher the likelihood of dependents receiving remittances. This is because the wife is bound to feel the loss of labour with the absence of her husband and he would send remittances to be used in hiring extra labour to replace his labour to forestall the loss in productivity. If this is the case and following Lipton (1980), we would expect a part of the remittances to be used in hiring labour. On the other hand, a small amount of land would also motivate the husband to send remittances because lack of land is a sign of poverty and since he has a responsibility ("altruism") to his wife and children, we would expect him to send remittances. Some migrants' wives indicated that their husbands had migrated to the city because their land was too small and unproductive. We would expect such migrants to send remittances to their wives. So we cannot determine in advance what sign this variable will take.

If the wife has access to unpaid family labour this might reduce the likelihood of her receiving remittances from her husband since the migration of the husband is replaced by family labour and therefore, his absence would not lead to a loss in farm productivity. On the other hand, if the wife hires labour to replace her migrant husband, he may have to pay for it in terms of remittances. Therefore, use of hired labour could increase the likelihood of receiving remittances.

#### **4.2.2 Probit Model of Factors Influencing Likelihood of Migrant Husbands Remitting**

We estimate an equation for explaining the probability of a migrant's wife receiving remittances from her husband. This is based on observations for both the migrants' wives who received and those who did not receive remittances. As the probability of



receiving remittances is bounded by zero and one, it is not appropriate to estimate a linear probability function using the OLS procedure. There is no guarantee that OLS estimates will yield predicted probabilities in the 0-1 range. Furthermore, in this case the dependent variable being dichotomous, the OLS estimates are not efficient and classical tests of significance do not apply. We therefore use probit analysis to estimate the probability of receiving remittances.

The probit model can be explained as follows. Let us assume that  $Y_i$  represents the probability of a migrant's wife receiving remittances. If the wife receives remittances, we assign the response a **1** and if she does not, we give it a **0**. We can therefore write the response model as follows:

$$Y^* = x'_i \mathbf{B} + E_i$$

$$Y_i = 1 \text{ if } Y^*_i > 0,$$

$$= 0 \text{ if } Y^*_i \leq 0.$$

$Y^*$  can be interpreted as the probability of receiving a remittance. There is need to normalise the scale of  $Y^*_i$  such that  $E_i$  has a fixed variance, hence  $E_i \sim \text{NID}(0,1)$ .  $\mathbf{B}$  is a vector of coefficients while  $x'_i$  is a vector of explanatory variables.

$Y$  is an unknown parameter that is estimated jointly with  $\mathbf{B}$ . Estimation is based upon maximum likelihood where the above probabilities enter the likelihood function. The interpretation of the  $B$  coefficients is in terms of the underlying latent variable model (for example, a larger  $B$  means that the corresponding variable increases a wife's probability of receiving remittances from her migrant husband). Suppose in the above model that the  $K^{\text{th}}$  coefficient,  $B^k$  is positive. This means that the latent variable  $Y^*_i$  increases if  $X_{ik}$  increases.

The model was specified as follows:

$$\text{REMITT} = \alpha_0 + \beta_1 \text{TOTFMSZ} + \beta_2 \text{NOCHILD} + \beta_3 \text{DURMIGR} + \beta_4 \text{AGE} + \beta_5 \text{EDU} + \beta_6 \text{FRELABOR} + \beta_7 \text{HIRLABOR} + \beta_8 \text{OUTPUT}$$

Where:

REMITT = "1" if the wife receives remittances, "0" if she does not.

TOTFMSZ = Amount of land that the migrant has in the rural area.

NOCHILD = Number of children that the migrant has in the rural area.

DURMIGR = Number of years that the migrant has been away since first migrating from the village.

AGE = Age of the migrant's wife.

EDU = Educational level of the migrant's wife, "1" never attended school "0" otherwise.

FRELABOR = If migrant's wife uses free family labour. "1" if she does, "0" if she does not.

HIRLABOR = If migrant's wife uses hired labour. "1" if she does, "0" if she does not.

OUTPUT = Total farm output measured in kilograms.

$\alpha_0$  = constant

$\beta_i$  = regression coefficients.

Descriptive statistics for these independent variables are presented in Table 1.

**Table 1: Mean and Standard Deviations of Independent Variables used in Probit Analysis.**

Variable	N	Minimum	Maximum	Mean	Standard Deviation
Totfmsz	37	0	2	1.48	0.81
Output	37	0	1296	245.50	258.50
Age	37	20	81	41.43	16.35
Edu	37	1	6	2.81	1.10
Frelabor	37	0	2	1.32	0.53
Hirlabor	37	0	2	1.54	0.56
Nochild	37	0	14	4.57	3.27
Durmigr	37	1	40	9.73	10.32

We now present a summary of our findings based on the survey raw data.

## 5 SUMMARY OF FINDINGS<sup>3</sup>

### 5.1: Background and Reasons for Migration of Husbands

Out of a total of 185 households, there were 37 households where husbands had migrated to the urban area. The out-migration of their husbands had made the wives the defacto heads of these 37 households. According to these wives, 41.7% perceived their households to be average economically while 55.6% said they perceived their economic situation to be below average compared to 78.3% and 20% respectively of

<sup>3</sup> More information on summary of findings can be obtained from the authors on request.

the non-migrant households (**Table2**). Thus the migrants on the whole tended to come from poorer households.

**Table 2: Perceived Economic Situation of Rural Households of Migrants and Non-migrants in Kenyan Sample**

Economic Situation	Frequency		Percentage		Valid Percentage	
	M	N	M	N	M	N
<b>Above average</b>	1	1	2.7	1.6	2.8	1.7
<b>Average</b>	15	47	40.5	74.6	41.7	78.3
<b>Below average</b>	20	12	54.1	19.0	55.5	20.0
<b>Missing</b>	1	3	2.7	4.8		
<b>Total</b>	37	63	100.0	100.0		

**Note: M = Migrants, N = Non- Migrants**

Our results indicate that 53.3% of the husbands were recent migrants. The average number of years that they had been away was 12 years; the minimum was 1 year and the maximum 40 years.

The results indicate that at least 71% of the migrants had been pushed out of the rural areas due to their unproductive land, or non-availability of local jobs (**Table 3**). Because this migratory group is poor, the importance of Lipton's (1980) view that deficit farmers and landless labourers are pushed out of the rural areas while the sons of well-off farmers tend to be pulled out is supported. Interestingly, only 16.7% acted in the way suggested by the Harris and Todaro thesis, essentially an optimising approach. They compare the wages in the rural areas and the ones in the city and due to the wage differential they choose to migrate. The relative importance of having a relative in the city (10%) to reduce costs of job search is highlighted.

**Table 3: Reasons for Initial Migration from Kenyan Sample**

<b>Response</b>	<b>Frequency</b>	<b>Percent</b>	<b>Valid Percent</b>
<b>Land too small and unproductive</b>	6	16.2	21.0
<b>Could not get a job in the rural areas</b>	15	40.5	50.0
<b>Wages too low compared to ones in the city</b>	5	13.5	16.7
<b>Have relatives in the city</b>	3	8.1	10.0
<b>Hate of manual work</b>	1	2.7	3.3
<b>Missing</b>	7	18.9	

Another reason given by wives for their husbands' migration was the hate of manual work by their husbands.

The majority of the migrants occupy low job categories in the urban areas and they get less than or just the minimum wage. About 50% of the migrants were guards, messengers, drivers, labourers and house-helpers. This also supports the theory that most of these migrants are pushed out of the rural areas due to unbearable conditions there. In terms of job security, 64.5% of the migrants were permanent, 32.3% casual and 3.2% jobless.

Considering that most of the migrants are low paid, could they afford to make return trips home regularly? Our survey results show that 27% of the migrants had not gone home for more than 12 months. Surprisingly, a large percentage (45%) of the migrants visited home every end of month. This shows that though they are low paid, they are still interested in maintaining family ties. This may be because their wives and children are in the rural areas and secondly, the migrants may consider their sojourn in the urban areas temporary since they expect to go back after retiring from formal employment. This high rate of visits may be a further indication of migrants being pushed out. If economic opportunities existed in these places, they might prefer to be there.

In our interviews, 43.3% of responding migrants' wives said that their economic situation had improved since their husbands' migration to the city, 30% said that their economic situation had not changed, while 26.7% said that it had worsened. The reasons attributed to the last mentioned situation were that their husbands did not help them (29.6%) and so they were not able to meet their needs. They also alluded to the fact that it is expensive to run two homes (44.4%). On the other hand, 25.9% said that they find it hard to manage on their own.

It is very interesting to know that many migrants either own no land or have little land to sustain them. This, combined with the low productiveness of the land could have forced (pushed) many to migrate, a result that lends credence to Lipton (1980). Table 4 gives a description of the distribution of land between the migrant and the non-migrant households according to wives. Migrant households are less likely to own land or more likely to have less land than non-migrant households.

**Table 4: Distribution of Land between Households of Migrants and the Non-migrants in Kenyan Sample**

Type of Household	Husband present	Husband migrated
% Not owning land	5.0	10.8
Minimum acreage	1	0
Maximum acreage	10	2
Mean acreage (those with land only)	2.25	1.65
Mean acreage (those with and without land)	2.23	1.48
Sample size	63	37

The mean land size of migrants is 1.48 acres with a minimum size of zero and a maximum of 2 acres compared to non-migrant households where the mean land size is 2.23 with a minimum of 1acre and a maximum of 10 acres. Also 10.8% of migrants own no land and they are either squatters on government land or have sub-let some land from someone else compared to only 5% of non-migrant households. The results support the hypothesis that in this region most migrants are pushed out of the rural areas because they have little arable land or unable to find jobs locally.

All the migrants' wives engage in some form of farming activity. They grow maize, beans, potatoes, carrots and other vegetables either for consumption or for sale. From our sample, 100% of all the migrants' wives engaged in subsistence production producing an average subsistence output of 110.4 kilograms per year compared to 104 kilograms produced by the non-migrant households. Only 13.5% of the wives produced some extra output for sale, selling on average 430 kilograms of output per year, compared to 101 kilograms from non-migrant households. The major crops used for home consumption and some of which is sold were carrots, cabbages, potatoes, wheat, fruits, bananas and tomatoes. Some 56.8% of the wives also engage in cash crop production on a small scale. The major cash crops grown are coffee, wheat, tea, tobacco and pyrethrum. The average total output (mean of aggregate of subsistence output, semi-subsistence output and output from cash crops) for the migrants' wives is 245.5 kilograms per year compared to 284 kilograms from non-migrant households. From the above description, one should note that both migrants' and non-migrants' wives are just peasant farmers eking out a living from the land and producing output that is not even enough for their household consumption. We also note that the migrants' wives are selling more output than they are consuming at home mainly to get some money to buy items like salt, sugar, paraffin and other household necessities to supplement what their husbands send them in remittances. However, 73% of the migrants' wives have livestock that on average include 2 cows, 2 goats, 5 sheep, 6 chicken and 3 rabbits mainly to provide the family with protein. On the other hand 82.5% of the non-migrant households have livestock. So they seem to be better off than migrant households.

## **5.2: Activities of, Situations of and Decisions by Wives with Migrant Husbands**

Nyeri district used to be a major supplier of foodstuff to the major towns and cities in Kenya but it has now become a net importer of food and it is one of the districts receiving famine relief from the government. Most households do not grow enough food to cover their needs and so they have been experiencing prolonged hungry seasons. In fact, 51.4% of the migrants' wives admitted having suffered from famine since their husbands migrated to urban areas and they rely on famine relief to meet their food needs. Francis and Hoddinott (1993) found the same trend in Kisumu district. We could attribute the decline in farm output in Nyeri district to, among other reasons, the continued migration of men to urban areas and also to the fact that though

the husbands are physically away, they still have a hold on all major decisions. This could hinder women from taking advantage of various facilities, such as being a member of a cooperative society, and hence being eligible to borrow farm materials or credit that could lead to an increase in output.

Does the migration of husbands empower their wives? What decisions do wives of migrants make and how freely do they make them? Our results show that 29.7% of the migrants' wives were the ones who had decided on planting a cash crop and its acreage while 37.8% said that it is their husbands who had made the decision. On the other hand, 61.8% of the wives decide the acreage of food crops, 23.5% consult their husbands before making the decision while 14.7% wait for someone else to make the decision. On decisions about when to apply fertiliser and pesticides on cash crops, 44% of the wives reported that they make the decisions alone, 12% wait for their husbands to make these decisions, 32% consult their husbands before making the decision, while 12% have someone else make the decision. This could be a brother-in-law, father or mother-in-law.

On the other hand, the majority of the wives decide on when to apply fertiliser and pesticides on food crops. Only 8.3% of the wives wait for their husbands to make the decision, 58.3% make the decision alone, 19.4% consult their husbands while 13.9% wait for someone else to make the decision. Considering that the soonest a migrant can return home is after a month, for those women who have to consult or wait for their husbands to make decisions, whether it is for cash crops or food crops, a crop can get destroyed or the planting delayed leading to low output. This implies that wives of migrants cannot make certain decisions freely as the husbands have the power of veto.

Do women have the capacity to control and direct labour, whether hired or household when their husbands are away? Our results show that 56% of the women decide on when to direct labour (household or hired) to cash crop; 8% wait for their husbands to do it, 24% consult their husbands, while 12% wait for someone else to make the decision.

Uncultivated land can be used for grazing, extending the homestead, and planting trees or nappier grass for livestock. It can also be used to increase the cultivated land. From our sample, 47.1% of the wives decide on their own what to do with the uncultivated land, while 23.5% consult their husbands on what to do with such land, 17.6% wait for their husbands to make such decisions while 11.8% wait for someone

else to make such decisions for them. With respect to decisions on the future of the children, 37.8% of the wives make the decisions alone, 21.6% let the husbands do it, 8.1% let someone else do it, while 32.4% consult with their husbands.

On decisions of how much to consume at home and how much to sell, 58.6% of the women make these decisions on their own, 6.9% leave their husbands to decide for them, 6.9% let someone else decide for them, while 27.6% consult their husbands before making such decisions.

One would expect that since the migrants' wives are alone at home with their children, they would make all the decision regarding household expenditures. Our results indicate that only 48.6% of the wives are the sole decision-makers on household expenditures, 16.2% let their husbands decide, 5.5% let someone else decide for them, while 29.7% consult their husbands before making such decisions. We also expected that the wives would keep the proceeds after the sale of crops. However, we found that only 44.8% of the wives keep the money while 55.2% do not. For those who do not keep the money, 43.8% said that their husband banks it in his own account, 6.3% reported that their parents-in-law keep it for them, while 50% reported that the husband banks the money in their joint account.

On the whole, our results show that migrants' wives are making many more decisions now that their husbands are away. However, most of the women still leave their husbands to make important decisions while others do not make the decisions unless they consult with their husbands. This means that although women are making many more decisions, they are not making them as freely as one would expect. Although the wives may make household and farm decisions, in most cases the husbands have the final say on major family decisions meaning that they are not as emancipated as Lipton (1976) would have expected. As the results show, migrants leave their wives to make minor decisions such as those to do with food crops but still retain control of the proceeds from produce sales and make major decisions. For example, only 40.5% of the wives said they could use the land without consulting their husband while 27.0% said they would have to consult their husbands first.

Are women and children working longer and harder and do kinship and communal networks assist them in farming activities? According to Lipton (1980), the drain of skilled, strong and innovative young men from the villages results in scarcity of labour in the village. This puts pressure on women and children to work more and harder. Our results support Lipton's hypothesis that women and children work longer



and harder when men migrate to the urban centres. Our results show that women and children do the bulk of the work of harvesting the cash crop (60%) and also taking it to the factory (56%).

Our findings suggest that only a few of the migrants' wives can afford to hire labour. Only 8.1% of the wives use hired labour in harvesting and delivering the cash crop to the factory compared to 38.1% of the non-migrant households. There is also very little evidence of kin helping the wives in these two farm activities. However, 62.2% of the migrants' wives have access to an average of ten and a half-hours per week of free labour from their children.

Do extension officers discriminate against female heads of households? Our results show that only 17% of the migrant's wives have attended training on good farming techniques compared to 25% of the non-migrant households. Also, extension officers had visited only 18.9% of the wives compared to 26.8% of the non-migrant households. For those women who had been visited by extension officers, the last time they had seen an extension officer was on average 2 years before the data were collected. The wives who had not been visited gave several reasons as to why they had not been visited by extension officers.

The majority (60.9%) of the migrants' wives had never heard of extension officers while 8.7% were not interested in them although they had heard of them. Those wives who were not interested in the extension officers said that extension officers offer advice that requires expensive inputs that they cannot not afford. On the other hand, 26.1% of the wives believe that since their farms are too small, this could be the reason why extension officers never visit them. Most extension officers are known to frequent large farms and mainly those that deal with cash crops, 4.3% of the wives thought that since they deal with food crops this could be the reason why extension officers do not visit them. This supports the widely held view that extension officers visit large farms, visit mainly male-headed households and those farms that deal with cash crops

Efficient cultivation of land requires investment. Land titles enable land to be used as collateral to obtain credit from financial institutions. Also, with land titles, wives can have greater access to technology and information on productivity increasing agricultural practices and inputs. To be able to improve farm output, a farmer can borrow or hire farm materials such as tractors, water pumps, wheelbarrows, fertiliser, pesticides, seeds and so on, from the local cooperative society. They can repay

through monthly deductions from their sale proceeds. However, one needs to be a member of a cooperative society for access to such resources. From our sub-sample, only 33.3% had borrowed or hired farm materials from the cooperative society. The 66.7% who had not borrowed gave various reasons for their inability to borrow.

An equal number of migrants' wives (37.5%) cannot borrow farm materials because either their husbands will not allow it, or the materials are too expensive or not available when they need them. On the other hand, 25% are not members of the cooperative society and therefore, they are not eligible for borrowing farm materials.

The majority (88.9%) of the respondents had never borrowed at all from commercial banks, cooperatives or moneylenders. Of the total respondents, 2.8% had borrowed from a moneylender, 2.8% from the Agricultural Finance Corporation while 5.6% had borrowed from the cooperative bank.

There were various reasons given by those who had not borrowed funds from financial institutions or moneylenders. A half (50%) said they would like to borrow money but they do not have collateral. A title deed can act as a collateral for a loan but as our results show, the migrants' wives cultivate land but the titles are held either by their husbands or by other people who could be their parents-in-law, brothers-in-law, their own parents or they are just squatters. These wives have the full responsibility of cultivating the land and performing other tasks for maintaining the family but they lack the finances required for increasing output. Others (12.5%) find the interest rates too high. An equal number fear that if they borrowed money, they would be unable to repay due to the low return on output, while 15.6% said they do not need the loan. Only 3.1% of the wives said that banks discriminate against women when giving out loans, while 6.3% said that their husbands would not allow them to borrow money from the banks meaning that the men are the final decision-makers, especially on matters of finance.

Can migrants' wives take outside employment when their husbands are working in the urban areas? Only 24.3% of the respondents had outside employment apart from farming while 75.7% were full-time farmers. However, those working were not holding highly paying jobs and the mean salary was Kshs4811. The salaries range from Kshs1500 to Kshs8000 per month which is equivalent to US\$19 and US\$100 respectively using Ksh80 = 1US\$ as the exchange rate prevailing at the time the data were collected.

What kind of collaboration in production or investment decisions takes place between the migrant and the wife? To answer this question, we asked the migrants' wives whether they owned any joint property with the husbands. We find that only 13.5% co-owned any property with the husband. The properties that they jointly own are land, plots and household goods. For those who do not jointly own property with their husbands, 48.6% said that the husbands are the registered owners of the properties while only 10.8% of the wives are the registered owners of the properties. On the other hand, 5.4% said the properties are registered in the names of their parents'-in law, 8.1% reported that the properties are registered in their parents' names while 27% said they do not own any property.

Our results indicate that even though the husbands are away, whatever property they acquire is registered in their husbands' names even when the funds they could have used to acquire the property came from sale of farm output. It is even more surprising to note that the majority of the migrants' wives (67.6%) cannot not sell a cow or goat without permission from their husbands. This means that even in case of an emergency, they can only borrow from other people until their husbands return home.

### **5.3: Receipt and Use of Remittances**

Do the wives use the remittances as they please or do their husbands earmark the remittances for certain purposes? From our sub-sample, 83.3% said that their husbands sent them remittances while 16.7% never receive any remittances (Table 5).

**Table 5: Distribution of Migrant's Wives According to Whether they Receive Remittances in Kenyan Sample**

<b>Response</b>	<b>Frequency</b>	<b>Per cent</b>	<b>Valid per cent</b>
<b>Received</b>	30	81.1	83.3
<b>Did not receive</b>	6	16.2	16.7
<b>Missing</b>	1	2.7	

Are the remittances regular or irregular? In answer to this question, 88.3% of those receiving remittances said that they receive remittances at least 12 times a year, 5.6% receive at least three times a year while 11.1% receive at least six times a year. However, 24.1% of migrant's wives said that their husbands earmark the remittances

while 75.9% make the decision on how to use it. Table 6 shows the distribution of how the migrant's wives reported they use the remittances.

**Table 6: Use of Remittances as Reported by Wives in Kenyan Sample**

Item of Expenditure	Average Percentage of Total Remittances*
Farm Inputs	20.00
Food	48.50
Clothes	10.94
Medicine	10.70
School Fees	23.33
Payment of Debts	14.70

\* The column percentages add to more than 100. This is probably because the percentages reported by wives are not completely accurate. Their stated allocations should be merely regarded as indicative of their allocations.

From Table 6 it is seen that on average 70.14% of remittances are reported to be spent on food, clothing and medicine. The other priority is payment of school fees. Only a small proportion (20%) is used to purchase farm inputs such as fertiliser, pesticides and seeds. There is a possibility that this is not a net injection but a substitute, at least to some extent of funds husbands might contribute to farm inputs if home. The rest (14.7%) is used for payment of debts. The results accord with those of Regmi and Tisdell (2002); Rempel and Lobdell (1978); Plath, Holland and Carvalho (1987); Connel, *et al.* (1975), Mook (1972); Johnson and Whitelaw (1974), and Lipton (1980) that remittances are not a major contributor to increasing agricultural production in the villages.

Are the remittances enough to meet the entire household and farm expenditure budget? Table 7 shows the distributions of responses of the percentage of household and farm expenditures the remittances are able to meet.

**Table 7: Percentage of Household and Farm Expenditures Met by Remittances According to Wives in Kenyan Sample**

<b>Percentage</b>	<b>Frequency</b>	<b>Percent</b>	<b>Valid per cent</b>
<b>0-20</b>	11	29.7	45.8
<b>21-40</b>	4	10.8	16.7
<b>41-60</b>	6	16.2	25.0
<b>61-80</b>	3	8.1	12.5
<b>Missing</b>	7	18.9	

From Table 7, it is apparent that a large percentage of the respondents (45.8%) said that remittances are only able to meet a very small percentage (0-20%) of their household and farm expenses. Only a very small percentage (12.5%) said that remittances met a sizeable portion (61-80%) of household and farm expenses. On average, the remittances are reported to meet 38.9% of the household and farm expenditure budget.

### **5.3 Probit Results with Discussion**

Out of the eight variables used as explanatory variables, three are statistically significant at the 5% level of significance. From Table 8 it is seen that the size of farm (TOTFMSZ) has a negative sign implying that as farm size increases, the likelihood of receiving remittances declines. This variable is also statistically significant at the 5% level of significance.

**Table 8: Remittance Regression Coefficients using Probit Analysis**

Variable	$\beta$ Coefficient	Standard Error	t-statistic
<b>Intercept</b>	-4.167	3.458	-1.205
<b>Totfmsz</b>	-2.434	1.356	1.795**
<b>Nochild</b>	0.200	0.330	0.606
<b>Durmigr</b>	-0.0522	0.085	-0.614
<b>Output</b>	0.03859	0.022	1.754**
<b>Edu</b>	1.058	1.778	0.597
<b>Frelabor</b>	-0.718	1.599	-0.449
<b>Hirlabor</b>	4.107	3.291	1.248
<b>Age</b>	2.654	1.987	1.336**
<b>Log likelihood</b>	-21.716		
<b>Degrees of freedom</b>	8		
<b>N=37</b>	37		

\*\* significant at the 5% level of significance

We had hypothesised that the larger the size of a farm, the greater the likelihood of wives receiving remittances. This is because the wife is bound to feel the loss of labour with the absence of her husband and we would assume that he would send remittances to be used in hiring extra labour to replace his labour to forestall the loss in productivity. If this is the case and following Lipton (1980), we would expect a part of the remittances to be used in hiring labour. On the other hand, a small size of land would also motivate the husband to send remittances because lack of land is a sign of poverty, and he has a social responsibility (or altruism) to his wife and children to send remittances. Some migrants' wives had indicated that their husbands had migrated to urban areas because their land area is too small and unproductive. We would expect such migrants to send remittances to their wives.

Our results support the second hypothesis that the smaller the size of the farm, the higher the likelihood of the wife receiving remittances from her migrant husband. This means that the migrants are altruistic or motivated by social responsibility because as mentioned earlier, lack of land is a sign of poverty and husbands may feel obliged to send remittances to their rural wives if their wives lack resources.

The number of children left behind in rural areas variable (NOCHILD) has a positive coefficient as expected but is not statistically significant. This means that the larger the number of children left in rural areas, the greater the likelihood of the wife receiving remittances. However, the lack of statistical significance of this variable implies that number of children is an insignificant factor in explaining the likelihood of receiving remittances. This result indicates that altruism of migrants towards their children is not a significant driving force for them to remit. Our results support those of Regmi and Tisdell (2000) and Knowles and Anker (1981) but differ from those of Johnson and Whitelaw (1974) who obtained a positive and significant relationship between the amount remitted and the number of children in the rural areas. Here we might observe that children provide free labour, so if more children are in the rural area, husbands may feel that the family unit is more able to care for itself.

Duration of migration (DURMIGR) was found to vary negatively with the likelihood to receive remittances. Nevertheless, although the coefficient for the variable "duration of migration" has the expected sign, it is not statistically significant. This indicates that as the number of years of migration increases, the likelihood of receiving remittances declines. This is because the altruism or social obligation of the migrant towards his family declines and also, he may have less intention of returning to his place of origin and hence, reduces his ties with his rural area. It may also mean that the act of remitting in the initial years of migration is an act mainly for insurance for the migrant but after establishing himself in urban areas, the insurance aspect is no longer important (Stark 1991). Our results accord with those of Regmi and Tisdell (2000), Johnson and Whitelaw (1974), Rempel and Lobdell (1978) and Knowles and Anker (1981).

We had hypothesised that the likelihood of receiving remittances varies directly with the needs of the rural household. Total farm output (OUTPUT) is used as a proxy for farm earnings. This variable has a positive coefficient and is statistically significant at the 5% level. This implies that as total farm output increases (this reduces the needs of the rural household), the likelihood of receiving remittances rises, which conflicts our hypothesis. A possible explanation for this finding could be that husbands are not altruistic and they may expect remittances to be used in agriculture. This may be true of those husbands who earmark the use of remittances. The wives may be using the remittances to buy farm materials leading to increased output which in our study, increases the likelihood of the wives receiving remittances from husbands.

Education of the wife (EDU) as an explanatory variable has a positive coefficient but is not statistically significant. This implies that education of the wife is not a statistically significant variable in explaining the likelihood of receiving remittances from her migrant husband. However, the positive coefficient shows that the likelihood of receiving remittances increases with the education of the wife. This would imply that an educated wife knows her rights and would demand remittances from her migrant husband.

Use of free labour (FRELABOR) from children and kin has a negative coefficient as expected but is not statistically significant. This implies that the use of free labour by the wife lowers the likelihood of receiving remittances from her migrant husband. This is because the absence of the husband's labour is compensated for by the availability of free labour. However, free labour is not statistically significant in explaining the likelihood of receiving remittances. Lack of significance of this variable may be due to the inclusion of children as a form of free labour and this variable could be linearly correlated with the number of children left in rural areas.

The use of hired labour (HIRLABOR) has a positive coefficient but is not statistically significant. The positive coefficient implies that increasing the use of hired labour increases the likelihood of receiving remittances from the migrant. However, the variable is not statistically significant in explaining the likelihood of receiving remittances.

On the other hand age (AGE), as an explanatory variable has a positive coefficient at the 5% level. This implies that the older the wife, the higher the likelihood of receiving remittances. This goes against our earlier hypothesis that the younger the wife the higher the likelihood of receiving remittances. A possible explanation for this result is that a younger wife is strong and able and can look after herself but an older one could be weaker and an altruistic husband may feel obliged to send remittances to her. Other reasons could be longer bonding between husbands and wives or a wish for husbands to return to rural areas and not to lose face for neglecting wives. Social obligation may be the reason for older wives receiving remittance from husbands. This variable is statistically significant in explaining the likelihood of receiving remittances from the migrants.



## **6. CONCLUDING COMMENTS**

In summary, it can be seen that the migrants' wives are not as empowered by as much as we might expect because their husbands maintain control over major family decisions and use of remittances. Wives make more decisions but this is not a gain but just involves greater responsibility to make ends meet and to make things work. For the most part, remittances are not only irregular (if received) but also inadequate to cater for all the family needs. Most of it is spent on household consumption and very little is invested in agriculture.

The output of migrants' wives is also low and insufficient to meet all their needs and leads to most of them relying on famine relief. They mostly do not have access to extension services; financial credit and those who are employed outside the household are also low paid. The results indicate that most migrants are pushed out of rural areas due to inadequate and unproductive land and lack of jobs locally and most of them end up as low paid workers in urban areas. They come from poor households and the poverty of some wives is worsened by their migration. Very few migrants in this rural area are pulled out to the urban areas. We can also conclude that women and children work longer and harder to maintain the household when men migrate to urban areas.

The probit regression analysis results indicate that only farm size, output and age of wives are significant in explaining the likelihood of receiving remittances from migrants. The significance of these variables suggests that the likelihood of receiving remittances is determined to some extent by altruism or social obligation although the variables that would really have strengthened the altruism of the migrant are not statistically significant. The number of children living in rural areas, duration of migration, education of the wife, use of free labour and also use of hired labour are not significant in explaining the likelihood of receiving remittances in our Nyeri sample. There is very little evidence to show that remittances are used for agricultural development. As the regression results indicate, remittances are mostly a transfer of purchasing power to wives and as the wives reported, remittances are only able to meet on average 38.9% of the household and farm expenditure budget. Our results are similar to those of Lipton (1980) and Regmi and Tisdell (2002) in showing that remittances are not conducive to the development of rural areas because they are small in amount and only a small proportion is invested in agricultural development. Therefore, our study concludes that migration has not contributed significantly to the development of agriculture in the rural areas in this part of Kenya.

## REFERENCES

- Amin, S. (1974), "Introduction", In *Modern Migration in Western Africa*, London: Oxford University Press.
- Banerjee, B., (1984), "The Probability, Size and Uses of Remittances from Urban to Rural Areas in India", *Journal of Development Economics*, Vol. 16 (1984), pp 293-311.
- Becker, G. (1974), "A Theory of Social Interactions", *Journal of Political Economy*, Vol. 82, pp 1063-1093.
- Baxter, M. V. P. (1973), "Migration and the Orokaiva", Department of Geography, University of Papua New Guinea, *Occasional Paper* No. 2.
- Bedford, R. D. (1973), *New Hebridean Mobility: A Study of Circular Migration*, Australian National University, Canberra, Research School of Pacific Studies.
- Brown, R. P. C. (1997), "Estimating Remittance Functions for Pacific Island Migrants", *World Development*, Vol. 25, Issue No. 4, pp 613-626.
- Byerlee, D. (1974), "Rural-Urban Migration in Africa: Theory, Policy and Research Implications", *International Migration Review*, Vol. 8, pp 543-566.
- Collier, P., and Lal, D. (1986) *Labour and Poverty in Kenya 1900 – 1980*, Oxford: Clarendon Press.
- Colson, E. (1970), "Family Changes in Contemporary Africa", In *Black Africa*, edited by J. Middleton. London: Macmillan.
- Connell, J. et al. (1976), *Migration from Rural Areas: The Evidence from Village Studies*, IDS (Brighton, England), Village Studies Program, Delhi, Oxford University Press.
- Cox, D. (1987), "Motives for Private Income Transfers", *Journal of Political Economy*, Vol. 95, No. 3, pp 508-546.
- Cox, D., and Jimenez, E. (1990), "Achieving Social Objectives through Private Transfers", *World Bank Research Observer*, Vol. 5, No. 2, pp 205-218.
- Eames, E. (1954), "Some Aspects of Urban Migration from a Village in North Central India", *The Eastern Anthropologist*.
- Fei, J., and Ranis, G. (1961), "A Theory of Economic Development", *American Economic Review*, Vol. 51, pp 533-565.
- Francis, E. (1991), *Migration and Social Change in Kogutu Western Kenya*, PhD thesis, University of Oxford.

Francis, E., and Hoddinott, J. (1993), "Migration and Differentiation in Western Kenya; A Tale of Two Sub Locations", *Journal of Development Studies*, Vol. 30, No 1, pp 115 – 145.

Gaude, J. (1976), *Causes and Repercussions of Rural Migration in Developing Countries: A Critical Analysis*, Geneva: ILO, Rural Employment Policy Research Program.

Goddard, A. D. ((1974), "Population Movements and Land Shortages in the Sokoto Close Settled Zone, Nigeria", in A. Amin, ed., *Modern Migrations in Western Africa*, London: Oxford University Press.

Gordon, E. (1978), "The Women Left Behind: A Study of the Wives of the Migrant Workers of Lesotho", *World Employment Program Working Paper*. Migration for Employment, WEP 2-26/WP 35. Geneva: International Labour Office.

Gordon, E. (1981), "An Analysis of the Impact of Labour Migration on the Lives of Women in Lesotho". In *African Women in the Development Process*, edited by Nici Nelson. London: Frank Cass.

Greenwood, M. J. (1971), "A Regression Analysis of Migration to Urban Areas of a Less Developed Country: The Case of India", *Journal of Regional Science*, Vol. 11, pp 253-262.

Griffin, K. (1976), "On the Emigration of the Peasantry", *World Development*, Vol. 4, No. 5, pp 353-361.

Gugler, J. (1968), "The Impact of Labour Migration on Society and Economy in Sub-Saharan Africa", *African Social Research*, Vol. 6, (December 1968), pp 484-492.

Gwyer, G. (1972), "Trends in Kenya Agriculture in Relation to Employment", *Discussion Paper No. 153*, Institute of Development Studies, University of Nairobi.

Harris, J. R., and Todaro, M. P. (1970), "Migration, Unemployment and Development: A Two Sector Analysis", *American Economic Review*, Vol. 1, No. 1, pp 126-142.

Hoddinott, J. (1988), *Determinants of Urban to Rural Remittances in Kenya: A Two Stage Analysis*, Mimeo, Oxford.

Hoddinott, J. (1992), "Modelling Remittance Flows in Kenya", *Journal of African Economies*, Vol. 1, No. 2, pp 206-232.

Hoddinott, J. and Collier, P. (1991), "Women and the Labour Market in Kenya and Tanzania", in S. Appleton *et al.* *Women and Public Services in Sub-Saharan Africa*, Women in Development Division, the World Bank.

House, W. J., and Rempel, H. (1980), "The Determinants of Interregional Migration in Kenya", *World Development*, Vol. 8, No.1, pp 25-26.

Johnson, G., and Whitelaw, W., (1974), "Urban-Rural Income Transfers in Kenya: An Estimated Remittance Function", *Economic Development and Cultural Change*, Vol. 22, April 1974, pp 473-479.

Knowles, R., and Anker, J. C. (1981), "An Analysis of Income Transfers in a Developing Country: The Case of Kenya", *Journal of Development Economics*, Vol. 8 (1981), pp 205-226.

Kossoudji, S., and Mueller, E. (1981), "The Economic and Demographic Status of Female Headed Households in Rural Botswana", *Research Report No. 81-100*. Ann Arbor: Population Studies Centre, University of Michigan.

Lee, E. S. (1966), "A General Theory of Migration", *Demography*, Vol. 3, No. 2, pp 37-47.

Lewis, W. A. (1954), "Economic Development with Unlimited Supplies of Labour", *The Manchester School of Economic and Social Studies*, Vol. 55, pp 198-203.

Lipton, M. (1976), "*Migration from Rural Areas of Poor Countries: The Impact on Rural Productivity and Income Distribution*", Washington: Employment and Rural Development Division, Development Economics Department, IBRD.

Lipton, M. (1980), "Migration from Rural Areas of Poor Countries: The Impact on Rural Productivity and Income Distribution", *World Development*, Vol. 8, No. 1, pp 1-24.

Lucas, R., and Stark, O. (1985). "Motivations to Remit: Evidence from Botswana", *Journal of Political Economy*, Vol. 93, Issue No. 5, pp 901-918.

Mooch, J. K. (1972), Pragmatism and the Primary School: The Case of a Non-Rural Village", *Research Paper, No. 135*, Institute of Development Studies, University of Nairobi, March 1972.

Oberai, A. S., and Singh M. H. K. (1980), "Migration, Remittances and Rural Development: Finding of a Case Study in the Indian Punjab", *International Labour Review*, Vol. 119, No. 2, pp 229-241.

Palmer, I. (1985), *The Impact of Male Out-Migration on Women in Farming*, Kumarian Press, West Hartford, Connecticut.

Plath, J. C., Holland, D. W., and Carvalho, J. W. (1987), "Labour migration in Southern Africa and Agricultural Development: Some lessons from Lesotho", *Journal of Developing Areas*, Vol. 21, (Jan. 1987), pp 159- 176.

Poirine, B. (1997), "A Theory of Remittances as an Implicit Family Loan Arrangement", *World Development*, Vol. 25, No. 4, pp 589-611.

Qian, W. (1996), *Rural Urban Migration and its Impact on Economic Development in China*, Aldershot, Hants, England, Brookfield, USA, Avebury.

Ravenstein, E. G. (1889), "*The Laws of Migration*", *Journal of the Royal Statistical Society*, June 1889, pp 241-301.

Regmi, G., and Tisdell, C. (2002), "Remitting Behaviour of Nepalese Rural-to-Urban Migrants: Implications for Contemporary Theories and for Rural Development", *Journal of Development Studies*. (Forthcoming).

Rempel, H. (1970), *Labour Migration into Urban Centres and Urban Unemployment in Kenya*, University of Wisconsin, Unpublished PhD. Thesis.

Rempel, H., and Lobdell, R. A. (1978), "The Role of Urban to Rural Remittances in Rural Development", *Journal of Development Studies*, Vol. 14, No. 3, pp 324 - 341.

Rosenzweig, M., and Wolpin, K. (1985), "Specific Experience, Household Structure, and Interregional Transfers: Farm Family and Labour Arrangements in Developing Countries", *Quarterly Journal of Economics*, Vol. 100 (1985), pp 961-988.

Stark, O. (1991), *The Migration of Labour*, Cambridge, Massachusetts: Basil Blackwell.

Stark, O. (1980), "On the Role of Urban-to-Rural Remittances in Rural Development", *Journal of Development Studies*, Vol.6, No. 3, pp 369-374.

Tisdell, C., and Regmi, G. (2000) "Push and Pull Migration and Satisficing versus Optimising Migratory Behaviour; A Review and Nepalese Evidence", *Asian and Pacific Migration Journal*, Vol. 9, No. 2, pp 213-229.

Todaro, M. P. (1969), "A Model of Labour Migration and Urban Unemployment in Less Developed Countries", *American Economic Review*, Vol. 59, pp 138-148.

Todaro, M. P. (1976), *Internal Migration and Economic Development: A Review of Theory, Evidence, Methodology and Research Priorities*, Geneva: ILO

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