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Rural Livelihoods and Illness: Case-studies in Tanzania and Malawi

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ABOUT LADDER

LADDER is a research project funded by the Policy Research Programme of the UK Department for International Development (DFID) that seeks to identify alternative routes by which the rural poor can climb out of poverty. LADDER is working with nearly 40 villages and 1,200 households in Uganda, Tanzania, Malawi and Kenya to discover the blocking and enabling agencies in the institutional environment facing rural people that hinder or help their quest for better standards of living for themselves and their families.

This working paper represents work-in-progress and the reader is advised that it has not been subjected to academic quality control, nor edited for errors of fact or interpretation. The paper forms part of a mosaic of research findings that will contribute towards an overall picture of rural livelihoods and micro-macro links to poverty policies in the case-study countries. The findings and views expressed here are solely the responsibility of the authors and are not attributable to DFID.

All available Working Papers and Village Reports can be downloaded from the project website: http://www.uea.ac.uk/dev/odg/ladder/, which also details other information about the project. For any further enquiries, please email j.mims@uea.ac.uk.

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Sylvie Koestle*

Summary

This working paper will show that the cost of illness is not just output or income foregone due to the inability to continue working, it is also (and sometimes more importantly) the decline in household assets resulting from the need to meet the costs of treatment and medicines. For these reasons, illnesses cause families to spiral down into poverty, even if before they were generating a reasonably acceptable level of income. Finally, households do not seem to be able to plan for the event of illness, and therefore are unprepared for it when it occurs, despite the frequency of its occurrence.

Introduction

This working paper will demonstrate how rural households' economic standard of living[1] deteriorates as a result of illnesses. In other words, a fall in productivity accompanied with a decrease in cash income will cause an overall deterioration in a household's ability to consume, in the short-term, leading, therefore, to a worsening in the well being of the household in question. The argument followed is based on the analysis of the effects of illness on household's assets. Given the institutional context of an unreliable health service and the risk of asset depletion caused by illnesses, this can often lead to a situation in which defensive coping strategies are adopted which places households in a position whereby only short-term decisions can be made. In such circumstances, households faced with illnesses experience deterioration in their longer-term welfare.

A livelihood can be defined as "means of gaining a living, including livelihood capabilities, tangible assets, and intangible assets" (Chambers and Conway, 1992 in Chambers, 1995). According to Ellis (2000), "livelihood comprises the assets (natural, physical, human, financial and social capital), the activities, and the access to these (mediated by institutions and social relations) that together determine the living gained by the individual or household". In other words, households have in their possession various resources or assets, which are used in their daily activities. The way these assets are used constitutes livelihoods strategies, and the latter can be altered to respond to changes in the economic environment the household operates in. The presence of an illness can, however, lead to the depletion of

* School of Development Studies, University of East Anglia, Norwich NR4 7TJ. Email addresses: s.koestle@uea.ac.uk

[1] "To study living standard of 'the poor', one needs to know the changes in their primary incomes, because the living standards of households largely depend on their primary income" (Bourguignon and Morisson, 1992, pp. 41)

these assets thereby reducing temporarily or permanently the household's ability to devise strategies allowing it to respond to future changes.

This work is based on observations made in the course of a preliminary fieldwork visit undertaken from May to July 2001. During this time, five villages were visited; in Tanzania (Chanzuru village, sub-villages Darajani, Chekereni and Kati) all located in the Morogoro region, and in Malawi (Kanyezi and Kusinja), both located in the Dedza region. On average, one week was spent in each of the villages, during which focus group activities were conducted, as well as individual interviews. In addition, health institutions were visited, key informants interviewed, and secondary data collected in Sokoine University as well as Zomba (Chancellor College). This work is therefore based on the visit of 6 facilities, 14 interviews of key informants and 37 individual interviews conducted in the five villages visited.

The structure followed in this paper is to first establish, in the second section, to what extent illnesses are present in rural Tanzania and Malawi and to define what is actually meant by illnesses. A third section will focus on estimating the costs of illness on rural household's assets and this part will concentrate on the impact illness has on labour as well as financial costs, whether direct or indirect. A fourth section will consider to what extent households have developed coping strategies to deal with illness. A distinction will be made here between short-term and long-term illnesses, since strategies adopted are of a different nature and rural household's inability to plan ahead will be considered. In view of arguments presented, the concluding section will attempt to establish the shorter term impact of illness on rural households in the two countries in question.

The Importance of Illnesses in Household's Livelihood in Rural Tanzania and Malawi

This section will attempt to clarify what we understand by illness, after which main illnesses encountered will be identified as well as an estimate of the frequency of illnesses in rural households in Tanzania and Malawi. This should finally enable us to gain an overview as to how such illnesses affect rural households' livelihood in the areas visited.

The concept of illness is somewhat ambiguous, and as was noted in a document published by the National Economic Council in Malawi "the poor may very likely have a higher threshold in regards to feeling out of sorts before they would classify themselves as "ill". Consequently, the illness of the poor may not be directly comparable to the illness of the non-poor" (National Economic Council, 2000). Since our focus is to consider the effects of illness on livelihood, it is relevant to define illness "in terms of its effects upon the way in which individuals function in their daily lives" (McGuire, Henderson and Mooney, 1988). For the purpose of this paper it seems therefore appropriate to use the definition of illness given by the villagers themselves: "a person is ill when he/she cannot work". Being ill thefore will be defined as being indisposed to such an extent that the individual in question has to cease all his/her daily activities as long as the illness persists.

Taking this definition into account, the main illnesses encountered in the villages visited are malaria, dysentery, diarrhoea, cholera, pneumonia, tuberculosis, worms, asthma and HIV/AIDS[2]. This coincides with information found at the district level in Kilosa (Tanzania)

[2] It is important to be aware of the fact that most victims of HIV/AIDS will contract AIDS related diseases. The weakening of their immune system results to a greater likelihood of

which lists the main diseases in the area as being malaria, pneumonia, diarrhoea, eye infection, intestinal worms, tuberculosis, typhoid fever and rabies. Similar diseases seem to be identified in rural Malawi. In one of the villages (Kanyezi), a calendar of illnesses was drawn and revealed the following:

Table 1: Calendar of Illnesses in Kanyezi:

Months of the year	**Illnesses**
January – February	Malaria
March – April	Diarrhoea and cholera
April to July	Cough/pneumonia
July to December	Good health and abundance of food

Source: Fieldwork interview conducted in Kanyezi in June 2001.

Illnesses are therefore varied and spread throughout the year, the question one is therefore faced with is to try and establish the frequency of such illnesses on rural household adult members. The only information available regarding frequency of illness results from the interviews conducted during the fieldwork.

Table 2: Frequency of Illness

Household Number	**Frequency of illnesses**	**Household Number**	**Frequency of illnesses**
TANZANIA		MALAWI	
8	Once or twice a year	18	Every month
9	Twice a year	19	Every 1 or 2 month
11	2 or 3 times a year	20	Every month
12	3 to 4 times a year	21	Every month
17	3 to 4 times a year	22	Almost daily
		24	Every month
		25	Monthly
		26	Chronic permanent
		27	Once every 2 month
		28	Chronic permanent
		31	Chronic permanent
		32	Once a month
		33	Every 3 months
		35	Twice a year
		37	Twice a year
		39	Chronic permanent

Source: Preliminary fieldwork interviews

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contracting most illnesses listed above, and only in rare cases will a person living in the villages visited actually die of AIDS.

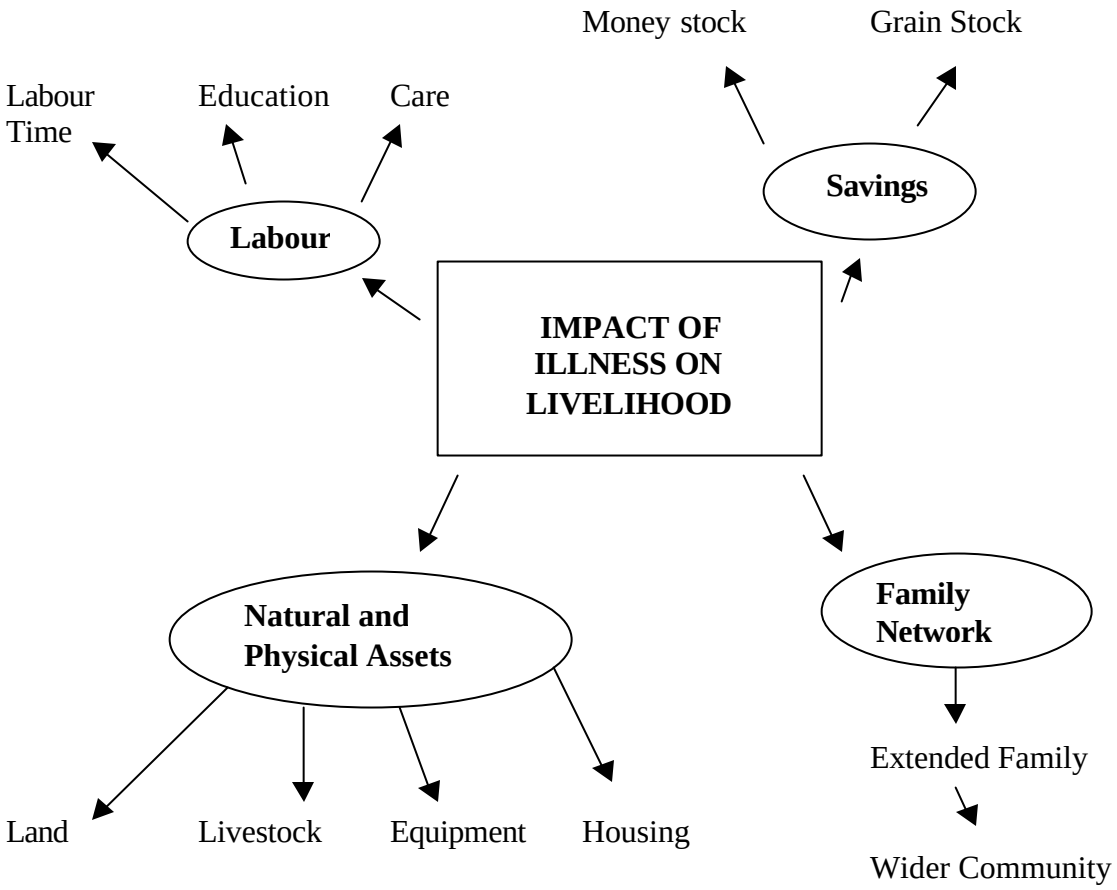
Table 2 reveals that on average, adults in the villages visited in Tanzania get ill two to three times a year, whereas in rural Malawi, people stated that they were ill every two to three months. Eventhough this information can be considered as lacking robustness, the message issued from it appears nevertheless strong: illnesses are a central part of rural household's life and can therefore not be ignored. The next question is to try to identify how such illnesses affect rural household's livelihood and this will be the focus of the next section.

Overall Effects Of Illness On Rural Household's Livelihood

In order to analyse the effects of illness on rural household's livelihood, a simplified version of the livelihood framework, as presented by Ellis (2000) will be used in an attempt to capture the main areas that will be considered in this paper (see Diagram 1).

As seen in Diagram 1, the cost of illness, is hypothesised as mainly falling on labour, savings, natural and physical assets and family network. Human capital is likely to be affected by illness in terms of loss of time spent on productive activities by the person ill but also by the carer assuming they are two different individuals. In addition, children attending school might be withdrawn in order to help out in daily activities, which would then lead in a loss in education. The household will often have to draw on available resources in order to cover medical expenses in which case savings and food supply could be used and this is capture under impact on savings. If savings are non-existent, or in the eventuality in which illnesses are frequently repeated or long term, natural and physical capital might be depleted. Finally, in the villages visited, the cultural importance attached to extended family adds to the overall impact illness has on rural household's livelihood. The purpose of diagram 1 is to summarise the framework that will be used in this paper in order to offer an overall picture of the structure followed. Each form of capital will be considered in more depth in the following sections in an attempt to estimate the cost of illness for rural households.

Diagram 1: Impact of Illness on Livelihood



The Cost Of Illness

The Impact Of Illness On Labour

The Nature Of Work In The Villages Visited

To understand fully the effects illnesses can have on labour, it is important to clarify, first of all, what the nature of work is in rural Tanzania and Malawi. For this purpose, labour activities can be divided into two main categories, namely, domestic work and farm work[3].

Domestic or household activities include any work which has as an aim the direct maintenance and sustainability of the household. This includes non-cash-earning activities such as reproductive work, maintenance and sanitation work, preparation of food, and so on. The main domestic activities taking place in the villages visited involve, fetching water and firewood, cleaning, washing utensils, clothes and children, preparing meals. According to interviewees, this type of work can easily take up to eight hours a day to complete. This can be explained by the fact that in each location, there was neither piped water nor electricity,

[3] Other cash-earning activities will be ignored in this section due to a lack of information concerning the labour time required to perform these activities. Households visited were all involved in farm work and other cash-earning activities took place in addition to domestic and farm work.

which considerably increases the time, villagers have to spend on household activities. Given the absence or scarcity of means of transport, firewood is collected manually, which sometimes can require a whole day of labour for a supply of one week's fuel. A similar observation was made by Ishengom (1998) in the research completed for her PhD, in the Morogoro region in Tanzania, "the majority (77.6 percent) of women used firewood as a source of energy in cooking. Consequently, a lot of time was lost in firewood collection".

Table 3: Individual Involvement in Domestic Activities (number of hours per day)

VILLAGE	WOMEN	MEN	CHILDREN
Chanzuru Darajani:	Busy season: 9 hours Quiet season: 16 hours	Not known	Not known
Chanzuru Chekereni:	3.5 hours	Occasional	4.5 hours
Chanzuru Kati:	12 hours	5 hours	2 hours
Kanyezi:	8 hours	5 minutes	1 hour
Kusinja:	4 to 5 hours	Irregular	Not known

> "Within the domestic sphere, women work for the family not only to ensure its reproduction, but also its maintenance and survival. Women are in charge of all domestic tasks: food preparation, management of food stocks and supply of fuel wood and water" (Ishengom, 1998).

As shown in Table 3, interviews and focus group activities revealed that the weight of housework activities, in terms of number of hours worked per day, varies considerably from village to village, from 3.5 to 12 hours a day. The main factors explaining those differences are the extent to which children and men are involved in household activities and therefore the ways in which household allocate activities between their members. In Darajani and Kanyezi for instance, domestic work is the sole responsibility of women whereas in other villages, other household members also take part in household chores. The reasons for these differences are somewhat complex and related to cultural differences and tribal identity. It is possible to derive from this data a broad estimation of time spent on household activities: women spend on average 8 hours a day on household chores, whereas it would only occupy one hour per day for men and two hours for children. Consequently it can be observed that domestic work plays an important part in the daily life of a rural household in the villages visited and is crucial in ensuring the family's well being. It is through such activities that basic-needs such as nutrition, shelter and a clean environment of household members are met.

Farming activities in the villages visited are labour-intensive and take place throughout the year with different degrees of intensity in terms of work required, according to the needs of the land. Farming involves tasks such as weeding, planting, land preparation and harvesting.

Most of the land is rain-fed[4], allowing the cultivation of one crop per year, however, some irrigated land in which multi-croping is practiced is available and/or irrigation techniques are being developed in Darajani for instance. Women, men and children work the land together, sharing tasks, but men assume a larger responsibility over farm activities and consequently, spend greater length of time in the field.

Table 4: Individual Involvement in Farm Work (number of hours per day)

VILLAGE	WOMEN	MEN	CHILDREN
Chanzuru Darajani:	Not known	Not known	Not known
Chanzuru Chekereni:	Light season: 6 hours Busy season: 8 hours	6 hours 8 hours	2 to 3 hours
Chanzuru Katy:	3 hours	8.5 hours	4 hours
Kanyezi:	4 hours	8 hours	2 hours
Kusinja:	Light season: 4 hours Busy season: 5 hours	7 hours 9 hours	Saturdays: 9 hours

Table 3 and 4 highlight the fact that workload allocation differs in individual villages. In Chanzuru Kati and Kanyezi, women spend less time on the farm but assume the full responsibility of domestic work, whereas in the other villages, they seem to work as much on the farm as men, and yet have the responsibility of household chores as well. According to Ishengom, women have an important role in farm work in Tanzania, they "are involved in pre-planting operations (…) in planting, weeding, harvesting and processing crop. In all agricultural tasks, women perform more than half of the work except in land preparation and application of pesticides" (Ishengom, 1998). It is interesting to note that children seem to be active labourers in the farm as well as in the household, even if the work they do is on what would seem a part-time basis.

According to the data collected, it would not be unreasonable to assume that women spend on average 4 hours a day working on the farm, men, 8 hours a day and children, 2 hours a day. Of course this is a gross generalisation, but helps appreciating the weight of the work farm activities constitutes for a household. If we now add to this an estimation of domestic workload, the total requirement of work in terms of hours per day of

[4] 'According to FAO (1996) in Tanzania, over 80% of population practice rain-fed agriculture under subsistence conditions. The farm sizes are generally small (about 2 hectares on average). All these contribute to food insecurity. Lack of adequate and appropriate agricultural implements and inputs also contributes to low food production' (Ishengom, 1998).

- 12 hours for women
- 9 hours for men
- 4 hours for children

This does not yet take into account other cash-earning activities, neither does it account for caring activities women are frequently involved in when a member of their family, living in a different household, or a close friend or neighbour is ill. These figures therefore are in many cases an underestimation of the real situation, and yet it becomes obvious that the workload for rural household members is a heavy one in terms of time and energy required.

How Do Illnesses Affect Labour in This Context?

As has been noted in the previous section, labour time is an essential input in daily activities in rural Tanzania and Malawi. It therefore follows that an illness affecting an adult member of a rural household, preventing the individual in question from conducting his or her normal activities, will lead to a loss of labour productivity. This could be translated in a fall in the household's cash income, which could well lead to a fall in immediate consumption. The household will be in need of extra cash income to cover the loss in consumption incured as well as medical costs. The overall effect could then be expected to be a slight deterioration in the household's immediate economic welfare[5].

The loss in labour time seems to vary between four days to one week per episode of illness, in the case of malaria, but will require often two households members to cease activities, this is the carer as well as the patient. Given that malaria and other illnesses can occur within the same household with a relatively high degree of frequency, as argued previously, the loss in terms of labour time rapidly adds up. The household is then faced with the following choice:

- Hiring labour to complete various tasks required for the continuation of farm work and/or other cash earning activities. This choice involves extra cash cost for the household in question and therefore a fall in overall cash income.
- In the eventuality of the household chosing to cease activities as long as the illness persists, and therefore avoiding the hiring of extra labour, productivity will decrease and earning generated by cash earning activities as well as food supply might well fall. In more cases than not, this seemed to be the choice made by households in the villages visited.

When asked what the impact of the last illness experienced by an adult member of a household was, interviewees gave the following responses:

- Had to cease activities and could not supervise the farm work
- Lost 3 days work
- Loss of farm work (6 hours a day for one week) and stopped making and selling cakes
- Lost one season of farm work
- She cannot do any work and has stopped helping in the farm for the last two years
- Activities suspended
- The father had to care for the patient for a long time and could not do the farm activities any longer. They had a café which had to be closed down.

[5] For a detailed analysis see Koestle, 2000, chapters 2.

The impact of illness depends on the type of household one is looking at. In the case of a single person-headed household where all the farm work and/or other economic activities were the sole responsibility of the person heading this household, activities would actually cease during the whole duration of the illness. In other words 6 days with 6 hours of work per day would be lost on average, assuming the illness lasts one week, leading to an average of 36 hours of farm work lost every time an illness occurs. If one estimates that one hour of farm work in a busy season is worth 70/=, the total cost in terms of farm work for a disease like malaria for instance would be of approximately 2,520/= in Tanzania if farming activities have to be interrupted. In many cases, the woman would be involved in other cash earning activities as well as farming, e.g. making cake, selling local brew.

> "A distinguishing feature of the informal sector is the preponderance of women operators. The majority, trade in perishable goods (vegetables and fruits). Their business collapses when illness either of the woman or of those who she is obligated, disrupt the normal schedule of activities (Ruigu). Financial ruin following the HIV/AIDS episode, generally means the women are unable to resume business" (Ekanem, 1996).

Such activities would also be interrupted during the illness, but some women mentioned trying to get their housework done while being ill. This seems to indicate that even during times of sicknesses, women would feel encouraged to do some activities, staying in total idleness might be perceived as culturally unacceptable.

It is worth noting that the negative effect of an illness on income is more severe in the case of a long-term illness. It is also important to take into account the fact that the effect of the illness will be worsened, in the case of contagious diseases. More than one household member would be affected, and this would result in an increase of the overall labour time lost as a result of the illness. A research project conducted in Tanzania by Kapinga and a team of local researchers revealed that when the loss of *manhours* caused by illness is added up and multiplied by the number of people ill and dead, the economic impact becomes considerable and can lead to families experiencing famine or hunger (Ngasongwa and Kapinga, 1993). In the case of a single person-headed household, a long-term disease affecting the household head can lead to an interruption of all economic activities as long as the illness lasts.

Another important cost in terms of labour is an indirect cost of productivity caused by the withdrawal of children from school. The loss here can be seen as a loss of potential income in the longer run. If we assume that education eventually leads to higher remunerated activities, the withdrawal more or less temporary of children from school will reduce access these children will have to better-paid positions. In the long run the household will lose out in the form of decreased remittance from extended family. It was observed during the fieldwork that in most cases, if one adult in the household suffers from a long-term illness, the other adult will take charge of the farming and other cash earning activities, with the help of children. Children therefore have to miss out school and therefore lose out on their education. Salomo Hamed (04/06/01) explained that:

> "He had to spend one month without working and his activities were suspended except farming activities which were done by his wife and children. He asked permission at the school for his children to help him. They were given one-month leave to help harvest the paddy. His wife spends all day in the field while his young children help him preparing food and with

> other domestic activities. For his brewing activity, his 16 years old son, who has finished standard 7 climbs the coconut trees."

This example indicates the fact that a child who has finished his/her primary education could well see any opportunity of pursuing secondary education vanish due to the urgent needs of the household caused by the illness and its inability to pay for secondary school fees.

The effect of an illness on labour appears to be a loss in labour time and productivity, which lead to a fall in the rural household's income stream. This effect will however differ according to the availability of labour within the household, the length of the actual illness and its nature. The loss in productivity is accentuated in situations in which children are being withdrawn from school, this constitutes an indirect long term cost for the household. Faced with a loss of cash income as well as extra medical expenses, the household has to come up with strategies in order to maintain their economic welfare. Before proceeding any further, it is important to establish the weight of the extra financial costs caused by an illness, and this will be the focus of the next section.

The Financial Cost Of Illness

It is important to start by noting that Tanzania and Malawi have low productive capacity, which keeps the majority of the population in poverty. Common issues encountered in both countries are, low and irregular farming yield which is often accompanied by a low demand within the rural area, which in turn affects the profitability of local activitites taking place mainly in the informal sector. These factors contribute to a situation in which most rural households have a low income and this makes it difficult for them to cover unexpected expenses such as medical costs, should an illness occur. This section will try to estimate the extent to which such expenses represent a relatively high burden to the households in the villages visited.

According to the LADDER survey results, the annual household income in the villages visited in Tanzania varies between 12,050 Tsh and over 7,259,000 Tsh. When it comes to health care, a system of health fees is in place and consists of a membership fee of 5,000/= per family, per year. Members benefit from access to hospital, dispensaries and health centres free of charge for the duration of the year. For non-members however, each visit costs 1,000 Tsh and this does not always include costs of tests and medications. Given that the average of household annual income is of 505,782.3 Tsh, many households are in a position in which they cannot afford the membership fee. This leads to a situation in which households have to bear costs each time an illness occurs, resulting to annual costs above the membership scheme. Table 5 helps estimating medical costs in Tanzania.

Let us assume that a household faces three cases of illness episodes in a year. If the public service is given preference to, and if the household does not belong to the membership scheme, the costs incurred for each illness episode will vary between 2,000 Tsh and 3,000 Tsh. Given a hypothetical frequency of illness of three times a year, the total burden of medical cost in a year will vary between 6,000 Tsh and 9,000 Tsh.

Table 5: Cost of Health Service in Tanzania

SERVICES	**PRIVATE**	**DISTRICT HOSPITAL**	
		Members	**Non-Members**
Membership	None	5,000 /=	None
Diagnose	300/=	None	2,000/=
Blood specimen	300/=	None	300/=
Stool/urine	300/=	None (300/= * 2)	600/=
Medication	900/=	None	350/=
Transport	500/=	1,000/=	1,000/=
Time lost	1 day	2 days	2 days

Source: Interview with village headman in Chekereni

This is of course a simplification but illustrates the difficult situation households find themselves in. Not having sufficient cash income to belong to the membership scheme, they have to bare a heavier medical cost than households joining the scheme, and this leads to a situation in which the main impact of illnesses is to empoverish the household in question. The following case study helps illustrate this point.

Box 1: Interview With a Man Who Was Ill: Chanzuru Darajani 24/05/01

The interviewee suffers from pains in his legs, headache and chest pain. He admits not going to hospital because he judges it as being too expensive since one has to pay for the consultation as well as medicine. He therefore prefers to use the pharmacy and get advice there, free of charge. The estimated cost of his current illness is of 5,000 Tsh and he had to take 4 days off work.

There is a dispensary in the village but he does not make use of it because it would cost him 1,000/= for a poor service without including the medication costs. According to him, the pharmacy offers a better service. The man however believes he can diagnose his own disease. He would consult a traditional healer for problems that cannot be treated by the hospital (such as a hernia). With severe malaria in the case of children, the healer attaches a string around the child's belly to prevent malaria, or puts something in a small cloth and ties it to the child's wrist. Fees there vary from 500 to 2,000/= and/or a hen used for medicine. The meat is shared between the doctor and the patient.

This case study indicates two main interesting points. Firstly, in order to reduce their medical costs, people would sometimes choose to self diagnose themselves. This of course could well lead to misdiagnoses, which could worsen a household's health situation by endangering household members who risk contracting illnesses more frequently. On the other hand, recovery from an illness could take longer, leading to a higher cost in terms of productivity. Secondly, traditional medicine is frequently used because it is often perceived as being cheaper in the short term and offers some degree of flexibility in that payments can be negotiated.

The situation in Malawi is slightly different in that public health is still provided free of charge. This is not however without difficulties since the services provided are often judged to be of a poor quality. According to Ngalande (1994), the health service in Malawi is available at five levels: at the community level, health centres and rural hospitals, district hospitals, central hospitals and special hospitals. This structure follows a hierarchy of referal procedure. The Malawian health service is experiencing problems caused by the fact that people tend to ignore the hierarchy and do not follow the referal procedure, instead, they go directly to what they consider to be the 'best' facility, i.e. the district hospital. A combination of poor staffing and lack of availability of drugs and equipment at the lower level encourages this and people tend to go directly to the better staffed and equiped central hospitals[6]. This leads to overcrowding which result in a fall in the quality of care given. As a result, households tend to turn to the costly private sector or, like in Tanzania, self-diagnose themselves. Both cases involve costs, which will have to be covered by the household's income, representing an added strain on what we have established are limited resources. A health insurance scheme is available in Malawi, but households interviewed seemed not to be aware of such a scheme. This indicates lack of information at the village level illustrating the wider communication problems existing due to the remoteness of such villages.

In both countries visited, it has been demonstrated that the direct financial cost of illness is relatively high and represents a drain on household's cash income. The next question consists in understanding how households manage to cope, given the frequency of illnesses encountered, and this will be the focus of the next section.

Coping Mechanisms

How Do Households Cope With Illness

Short-Term Illnesses

An interview conducted with three women in Chanzuru Chekereni (Tanzania) revealed the following:

> "One woman talked about the illness of her husband who contracted malaria and had to cease normal activities for 7 days. During this time, his wife cared for him 24 hours a day, providing food, water and basic care (assisting for washing, boiling water). The strategies adopted by the family to cope will the cost of illness were to sell their stock of crop, use the help of neighbours and close relatives and ask children to help on the farm."

This example helps illustrate the extent to which rural households rely on extended family as well as family members within the household to deal with the extra cost and the loss of productivity encountered when an illness takes place. Common coping strategies can hereby be identified as being:

1. Use of stock of money (savings)
2. Sale of stock of crop

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[6] For more information on quality of health services in Malawi, see National AIDS Control Programme, 1998.

3. Sale of stock of food
4. Asking help from extended family
5. Asking help from neighbours
6. Asking other household members to work more
7. Withdrawing children from school

These strategies represent short-term responses to unusual financial stress[7] and follow some kind of order. By this we imply that a household would sell its stock of food when stock of money and/or crop are depleted or non-existant. It is worth noting that sale of assets (productive or not) will be avoided whenever possible. The above list captures pretty much the situations observed in the villages visited. Devereux (1999) identified similar strategies. Assuming that illness can be characterised in part as an income shock, in that case, in Malawi, usual coping strategies used include: "searching for additional cash or food (from informal employment, borrowing, or gifts from relatives and friends), while others involve austerity measures (rationing food consumption, withdrawing children from school)" (Devereux, 1999). What is apparent here, is the extent to which the rural households are vulnerable when illness occurs. Chosing to sell food supply, an option often taken due to a lack of cash and crop stock, means in many cases that the family could well face hunger in the future. This is the case for Devota Gabriel, a 20 years old woman interviewed in Chekereni:

> "She had some maize and sold five tins to pay for medicine. That maize was intended for her food, but when she felt sick she had no choice but to sell it. She had not yet managed to replace it. She had a shortage of more or less twelve tins of maize. She is thinking she might starve in the long run because she has no other activity to generate the maize".

Furthermore, the reliance on food stock and help from extended family and friends increases household's vulnerability since such strategies are characterised by a high degree of uncertainty.

> "Findings from rural survey indicated that the scale and effectiveness of informal safety nets may well be less in villages than in towns. Many more rural respondents had rationed or skipped meals in the last year; rural respondents had fewer income-generating opportunities to draw on, and more rural households were refused assistance from relatives and friends" (Devereux, 1999).

The situation is however different in cases in which households are facing long term illnesses.

Long-Term Illnesses

In the case of a long-term illness[8], medical costs can be very high and households find themselves in a situation of having to come up with strategies to find additional cash. Case study 2 provides an example of the way in which households can be affected:

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[7] Definition of coping strategies in Devereux S., 1999, p.8.

[8] Long-term illness is defined as any illness lasting for a minimum period of one month, as well as illnesses from which the patient never recovers.

Box 2: Interview With Mohammed Salay Chanzuru Chekereni

Mohammed's 22 years old daughter was suffering from chest pain. She needed extended tests and treatment and was in Morogoro hospital for 21 days. He estimated the medical costs as follows:

Advance hospital fees:		20,000 /=
Additional hospital costs:	To see a doctor:	2,000 /=
	Specimen for diagnose:	500 /=
	Bottle of injection:	600 /=
Drugs and medications:		2,400 /=
Total:		**25,500 /=**

He lost three days work (18 hours), which he estimated at 1,500 /= each.

Total loss of cash income: **4,500 /=**

In addition, the household had to cover transport costs for visits to Morogoro hospital, eight trips at 2,000 /= each.

Transport costs: **16,000 /=**

Each visit would cause one days' work loss. The overall financial cost of illness for this household can therefore be estimated:

TOTAL FINANCIAL COST OF ILLNESS: **46,000 /=**

To cover these costs, Mohammed sold the household's stock of food and took on paid work. Whether this was sufficient to cover the full cost remains unclear.

This second case study helps illustrating the extent to which households can find themselves under financial strain as a result of illness. In some cases, adaptation strategies will be used, involving a permanent reorganisation of household's activities, as can be seen in Box 3:

Box 3: Interview with Juma Saidi: Chekelene 30/05/01

Juma came to the village in 1987 from a nearby district. He has 9 children from 2 wives, he divorced one and was left with the children. His children are aged between 10 and 26. He lives with his 21 years old child.

He has TB since 1998. He used to get fever at work and had to stop his activities often because of chest pain. His TB was diagnosed the 4th of March 2001, but he had it for 3 years. He was admitted to a hospital ward for 2 month. Treatment for TB is free of charge. His wife visited him at the hospital once or twice a week but did not bring food because it was against doctor's advice.

(Box 3: Interview with Juma Saidi)

The farm work is taken care off by his wife. Since being sick, he stopped farming here, the family moved to a nearby village where there is irrigation. He used to have 7 acres of rainfed land but could only yield one crop. With irrigation, they have multi-plantation, which yields different crops in different seasons. He is planning to extend his house to receive his family and to get another piece of land. Irrigation requires expensive land preparation but one can earn a higher income.

Juma Saida, for example, totally reorganised his household's farming activities as well as their living conditions, after being diagnosed with TB, in March 2001. Farm production was diversified in order to yield higher cash-earning crop and therefore increase household's cash *income*.

This brings us to the last section in which we will consider to what extent rural households in Tanzania and Malawi are in a position to plan ahead in order to cope strategically with frequent illnesses.

Do Rural Households Plan Ahead?

The interviews and focus group activities conducted during the fieldwork all tended to highlight the fact that in most cases, rural households in the villages visited did not take into account the risk of contracted illnesses in their decision making. Evidence for this absence of planning can be seen in the following examples:

- Despite knowing that the risk of contracting malaria is relatively high (at least once a year if not more), very few households used preventative measures such as mosquito nets, clearing living areas, using mosquito repellent.

- Illnesses are known to be frequent and yet, households did not seem to try to insure against this very real risk, i.e., they did not belong to any insurance or membership scheme.

- There was no evidence of extra crop or cash being kept to cover medical costs and cash income losses in the eventuality of illness occuring. In most cases, food stock had to be sold, leaving households in a position in which they would face periods of hunger during the year.

There is therefore some evidence supporting the argument that the households visited do not plan ahead but experience illnesses as a shock each time it occurs. Households seem to make decisions in the short-run, and in order to understand why this is happening, one has to look into living conditions in the rural areas visited as well as the institutions providing health services.

Some Factors Explaining Household's Inability To Plan Ahead

In both countries visited, agricultural activities are characterised by low productivity due to a lack of access to technology leaving farming activities subject to unreliable climatic conditions. In Malawi, financial difficulties are the main concern with people not being able to cultivate the totality of their land due to prices of input being unaffordable, especially

imported fertilisers[9]. In the situation in which insufficient capital can be raised to buy inputs, the land is left idle. The reasons behind this choice are not really clear as land could be rented out for a season and therefore generate some form of income. Inputs used to be cheaper when their supply was under the control of government organisation. Since privatisation and the introduction of free market forces, and especially since the floating of the exchange rate, inflation has been high leading to massive increase in the price of imported goods such as fertilisers. As a result, farmers try to cut their costs by cultivating without fertilisers, but this had the effect of decreasing yield and therefore farm income, making it even more difficult for farmer to buy inputs for the next season. Not surprisingly therefore, poverty figures have worsened in Malawi over the last decade. At the time of the visit, the MK seemed to gain against the dollar and it is hoped that the economic situation of this country might be more stable in the near future.

Farming activities still constitute the main activity for most rural households in the villages visited. However, given the increasing price of inputs, uncertainties linked to climate and erratic world crop prices, farming becomes less and less reliable as a main source of income. It is therefore not surprising to notice that more and more households are getting involved in other cash-earning activities.

In each case, household members have the opportunity to sell their labour to other farmers, however, this is not a risk-free way of earning an income since seasonality and uncertainties related to climatic changes play a big part in farming activities. In addition, the time in which this type of activity is available, is also the time during which households are busy in their own field, and therefore do not have enough time to actually sell their labour. Opportunity costs of selling labour are too high in this situation. However, if, for whatever reason, a household was unable to cultivate its land during a season, it could then resort in selling its labour in order to raise enough cash to provide for its basic needs.

In general, men seem to be involved in comparatively highly skilled activities such as carpentry, shoe making, building houses and making bricks, tobacco production, selling cooked fish, sewing with a sewing machine. On the other hand, women have the opportunity to earn extra cash via domestic and lower skills activities such as, fetching firewood and water, baking, selling local brew, knitting and making embroidery and mats. Consequently, profit generated by women are generally much lower than those generated by men, showing that male dominated activities have a higher value in the market place. Not surprisingly, women would be involved in these cash earning activities in their spare time, whereas men would use these activities as a main source of income and therefore work every day, using the activity as a main livelihood strategy. These occupations however, often require equipment and technology and an initial investment, which is subject to access to capital and credit (see Appendix Table 4).

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[9] Price of fertilisers per bag:

Dup	K2,340.50
Chitowe	K2,151.75
CAN	K1,698.75
UREA	K1,955.45

Fertilisers are applied twice and each time, two bags are needed per acre. Given the fact that most farming is subsistence farming it does not therefore generate sufficient revenue to buy the needed inputs.

An interesting case was people who used to have lucrative activities, such as a mill, an ox cart, however, when a problem arose and they was a need for repair, lack of capital made it impossible for them to do the adequate repairs. As a result, the activity would cease leaving the household in a situation in which considerable income was lost. The ox cart, for instance, would bring an income of K200 to K300 per day, since K100 was charged per trip, and 2 to 3 trips were done in a day. Given the poor state of the road, it is not surprising that breakdown of the cart are experienced, it was not clear as to whether the main reason for not repairing the cart was lack of capital, or non accessibility to the appropriate parts. In this particular instance, the ox cart had been broken for 3 years.

Loans are available but require going to the nearest town, which is not always easy given the lack of transport, public and private, in the village. Due to the same distance, the information does not reach the villagers who are not always aware of help available. Another problem is the high interest rate attached to those loans, around 60 percent, and can even be 100 percent in the informal sector.

Table 6: Type of Activities Households Are Involved in

Type of activities	**Tanzania (%)[10]**		**Malawi (%)**		**Whole sample (%)**	
Farming	14	(82%)	22	(100%)	36	(92%)
Paid domestic work[11]	3	(18%)	3	(14%)	6	(15%)
Brewing local drinks	5	(29%)	1	(5%)	6	(15%)
Self-employment[12]	7	(41%)	10	(45%)	17	(44%)
Employment[13]	3	(18%)	5	(23%)	8	(21%)
Total number of activities per country	**32**		**41**		**73**	

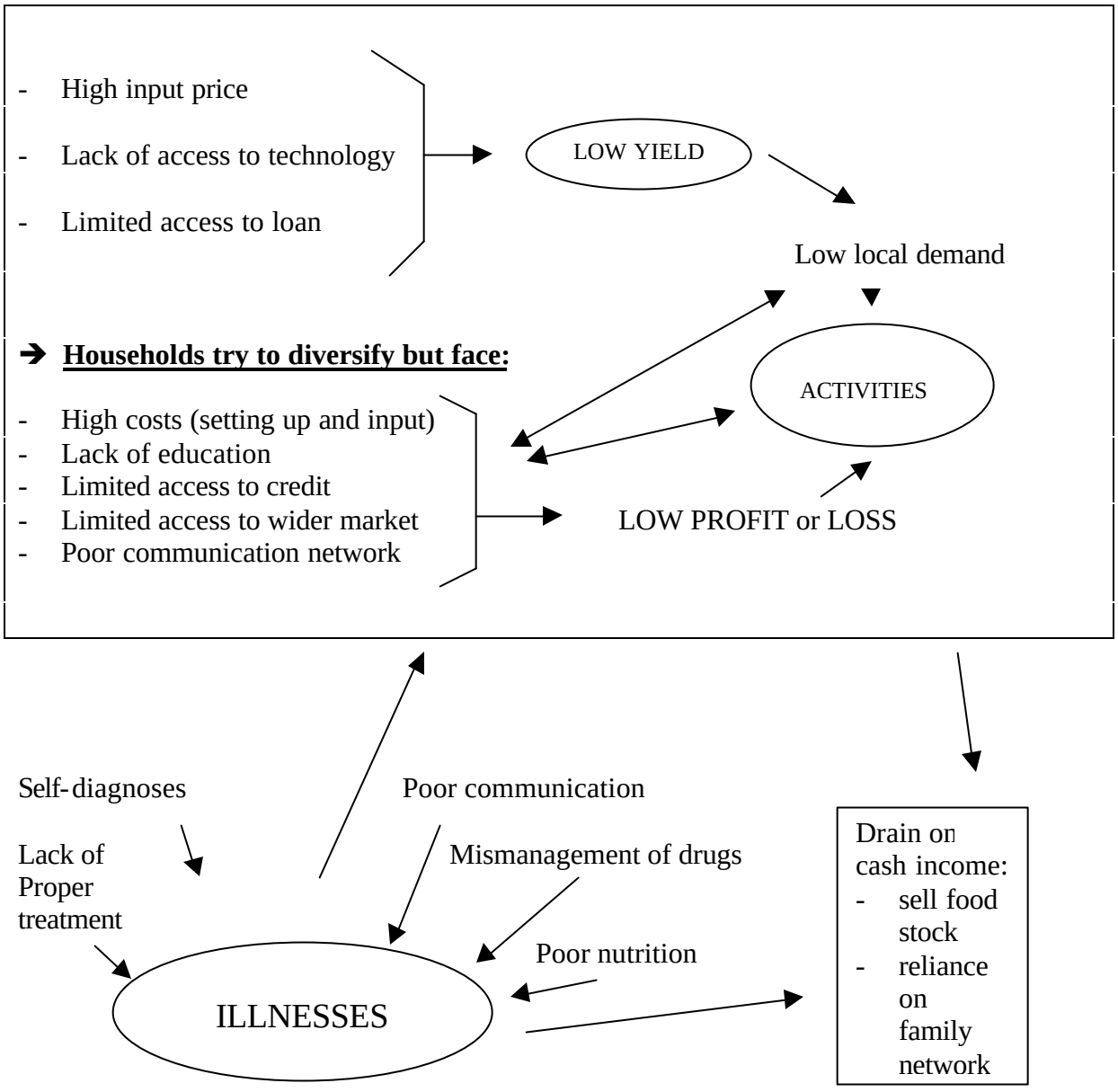
Table 6 shows clearly that farming is by far the most widespread activity, in the villages visited. About 30 percent of household were involved in paid domestic work and brewing local beverage. Both activities as well as self-employment (involving 44 percent of households) take place in the informal sector and are therefore difficult to monitor at a macro level. It is surprising to see that only 21 percent are working as employee of an organisation or other people. This shows clearly that most cash earning activities in the villages visited are highly risky and do not offer any form of safety, this would make any attempt at planning ahead very difficult.

[10] Percentage of household involved in this specific type of activity. For example, 82% of the households interviewed in Tanzania were involved in farming activity.
[11] E.g. cooking, baking, knitting.
[12] E.g. carpentry, brick making, shoe repairing, traditional healing, running a café or a shop.
[13] E.g. working on other people's farm, wage-earning activities, full-time or part-time.

Conclusions

The following diagram attempts to capture the argument developed in this paper.

Diagram 2: Effects of Illness on Activities:



The cost of illness on labour can be summarised in the following way. Assuming the household normally functions on the basis of "full employment" of all adult household members, an illness will lead to a loss of labour time directly caused by the illness as well as a loss of labour time due to caring. On the other hand, a gain of child labour time is experienced. This represents a net loss of household labour time, which has a decreasing effect on wage labour and put extra pressure on wider family. Activities will be affected by a reduction in domestic work and schooling, farm work will be maintained especially in the case of short-term illnesses and activities generating cash for health care will be increased.

The impact of illness will vary between 'types' of households, but a lack of planning ahead and cope with illnesses is noticeable in many cases, especially in the short-term. Reasons behind household's inaptitude to plan ahead and therefore to cope with illnesses in a strategic way can be found in the economic conditions the villages visited live in. Most households still heavily rely on farming activities characterised by low yield, generating therefore low cash income. Attempts to diversify can be observed, but this leads to activities, which are often insecure and relatively unprofitable. If one takes into account the imperfections characterising the health service in Malawi, for instance, i.e. unreliable distribution of drugs, it becomes clear that the rural households visited are faced with great uncertainties and therefore can only try to come up with survival strategies. In such a context, illnesses have the following effects on the local community: a net welfare loss, a net cash loss and a net capacity loss, weakening capacity of households to generate work.

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Appendix

Appendix Table 1: Examples Illustrating Differences Between Irrigated and Rainfed Land

ONIONS (irrigated)		**MAIZE (rain fed)**	
Costs:		**Costs:**	
Ploughing 1 acre	10,000/=	Ploughing by tractor	13,000/=
4 bags of fertilisers (4 x 15,000)	60,000/=	1st and 2nd weeding (2 x 3,000)	6,000/=
1.5kg of onion seeds (1.5 x 10,000)	15,000/=	(He employs someone during weeding period)	
2 l. of insecticide (2 x 10,000)	20,000/=	Seeds are free, taken from previous crop	
Weeding	5,000/=		
Total cost	**110,000/=**	**Total cost**	**19,000/=**
Income:		**Income:**	
Yield	70 bags	Yield	5 bags
Price per bag	7,000/=	Price per bag	10,000/=
Total income	**490,000/=**	**Total income**	**50,000/=**

Appendix Table 2: Changes in Activities Caused by the Disease:

Before TB diagnose	**After**
- Could supervise all activities in the field → income was good. - He was a blacksmith and used to make cooking pots - Was a religious trainer	- He is away from his family → supervision of work is poor → lower income. - Ceased other activities

Appendix Table 3: Diversity of Activities

Number of activities	**Tanzania**	**Malawi**	**Whole sample**
1 activity	35%	41%	38%
2 activities	35%	41%	38%
3 activities	24%	9%	16%
4 activities	6%	9%	8%

The first 17 households were interviewed in Tanzania and the 23 others, in Malawi. The data reveals that most households interviewed were involved in one or two activities, showing a relatively low degree of diversity. The data however suggests a relatively higher degree of diversity in the villages visited in Tanzania than in the ones visited in Malawi. No definite conclusion can be drawn from this information because of the problems encountered, such as difficulties in communicating due to language barriers, a random sample that did not ensure that the totality of the population was actually represented. An interesting area of research would be to attempt to find out trends about diversification in order to establish to what extent diversifying is a strategy used as a coping mechanism, by households. Let us now consider what types of activities were chosen as a livelihood strategy.

Appendix Table 4: Description and Profitability of Activities

ACTIVITIES	**COSTS (/= and K)**[14]	**REVENUE (/= and K)**	**PROFIT (/= and K)**	**TIME (no of hours worked)**
1) Selling cooked fish:	Purchase of fish: 3,000/= Cooking oil, fire-wood, time: 4,000/= **TC**[15]**:** **7,000/=**	Selling price: **10,000/=**	Per day: **3,000/=**	
2) Selling Pomba: (Collecting brew already prepared) **For 3 tins:**	Tin of Pomba: 1,500/= Transport and collection: 400/= **TC:** **1,900/=** 4,500/= + 400/= **4,900/=**	Per tin: **2,000/=** **6,000/=**	Per tin: **100/=** **1,100/=**	**6 hours**
3) Onions in irrigated land:	Ploughing 1 acre: 10,000/= 4 bags of fertilisers (4 x 15,000/=): 60,000/= 1,5 kg of onion seeds (1.5 x 10,000/=): 15,000/= 2 l. of insecticide (2 x 10,000/=): 20,000/= weeding: 5,000/= TC: **110,000/=**	Yield: 70 bags Price per bag: 7,000/= **TY**[16]**:** **490,000/=**	**380,000/=**	
4) Maize (rain fed):	Ploughing by tractor: 13,000/= 1st and 2nd weeding (2 x 3,000/=): 6,000/= **TC:** **19,000/=**	Yield: 5 bags Price per bag: 10,000/= **TY:** **50,000/=**	**31,000/=**	

[14] /= stands for Tanzanian Shillings and K for Malawian Katcha.
[15] TC = Total Cost.
[16] Y = Income.

ACTIVITIES	COSTS (/= and K)[14]	REVENUE (/= and K)	PROFIT (/= and K)	TIME (no of hours worked)
5) Beer brewing:	To make 1 drum: Maize: K450 Millet per gallon: K100 Firewood (1 oxcart): K380 **TC: K630**	**Y: K500-K1,000**	**-K130-K370**	
6) Collecting and selling firewood:		Price of 1 bundle: **K50 to K75**		**12 hours**
7) Building a mud house: It will last 3 to 4 years.	Builders for the whole house: K1,000 to K2,000 Women fetching water: K500 to K800 Wood for the roof: K1,500 Grass, need 100 bundles at K10 each: K1,000 Polish grass: K75 Door: K1,200 2 windows (K400 x 2): K800 **TC: K8,000**			**7 to 8 days**
8) Brick house:	**TC: K12,000**			**1 year**
9) Tobacco production:	Fertilisers: K4,039.25 Seeds (K5 per packet) for 1 acre: K10 Wood to dry tobacco: K500 Sacks (K30 x 6): K180 Tobacco press: K300 Transport (K350 x 3): K1,050 **TC: K6,079.25**	K3,000 per barrel, 1 acre produces 3 barrels **TY: K9,000**	**K2,920.75**[17]	**11 hours a day throughout the year**[18]**, 6 days a week.**

[17] If one takes into account labour cost, it becomes clear that tobacco production is not profitable, labour cost for harvesting alone can be estimated at K75 x 18 days = K1,350.

ACTIVITIES	COSTS (/= and K)[14]	REVENUE (/= and K)	PROFIT (/= and K)	TIME (no of hours worked)
10) Knitting: Sweater **(Kanyesi):** Sweater **(Kusinja):** Baby bonnet: Child sweater:	Material: K350 K400 K50 K75	K600 K550 K80 K100	K250 K150 K30 K25	1 week, 6 hours a day. 2 to 3 weeks. 2 days. 1 week.
11) Baking mandases: **Kanyesi:** **Kusinja:**	2 kg of flour (K45 x 2): K90 Sugar (K36 x 0.5): K18 Baking powder (K1.5 per spoon): K3 Cooking oil: K56 TC: K167 Flour (K38 x 4): K166 Sugar: K20 Yeast: K12 2 litres of oil: K170 Salt: K1 **TC: K221**	Makes 150 mandases sold at K1 each: **TY: K150** Makes 200 mandases sold at K3 each: **TY: K600**	**Loss: K17** **Profit: K379**	**4 hours.**

[18] Tobacco cultivation, which is considered to be the most profitable crop in Malawi, is labour intensive and requires on average 11 hours of work per day. The cultivation takes place over a year with nursery work in August, transplanting in November/December, weeding in January/February, and harvesting in March/April.