



Baseline IHM Assessment:

**Farm Enterprise Development for
Food and Economic Security
(FEDFES) Project**

Chitipa, Northern Region, Malawi

**Self Help Africa (SHA) and Foundation for
Community Support Services (FOCUS)**

July, 2013

Stella Ngoleka with SHA and EfD

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Acronyms

EfD	Evidence for Development
EPA	Extension Planning Area
FEDES	Farm Enterprise Development for Food and Economic Security
FOCUS	Foundation for Community Support Services
IHM	Individual Household Method
MoAFS	Ministry of Agriculture and Food Security
SEP	Socio-Economic Planning
SHA	Self Help Africa
TA	Traditional Authority

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Executive Summary

The purpose of the baseline survey, which is based on the agricultural year March 2012 to February 2013, was to provide information that will assist in the monitoring and evaluation of FEDFES projects in Chitipa District, Malawi. The study used the Individual Household Method (IHM) for data collection and data analysis and included one whole village survey¹, randomly selected for the assessment. In addition, a total of 32 primary project beneficiary households were interviewed; 10 from Namisangu, 6 from Zambwe, 14 from Dzuka and 2 from Mtende villages. These villages are all located in the same livelihood zone. Contextual data was provided by key informants in Namisangu village. Village mapping was conducted with key informants at community/village level. The baseline study

In Namisangu maize, cassava and groundnuts are the main food crops grown. The main commercial crop is tobacco. Produce is mainly sold at village level, either to ‘vendors’ (local traders who purchase directly from farmers) or to neighbors within the community. Currently, farmers earn most of their yearly cash income (median of MK72,000) from off farm agricultural and non-agricultural employment, with 65 percent generated from non-agricultural activities (off farm) followed by the sale of on farm crops (median MK15,000).

All households in Namisangu had access to sufficient income to meet recommended food energy requirements- none fell below the ‘food poverty line’. Similarly, all beneficiary households interviewed in other villages in the livelihood zone could meet their food energy requirements. A majority of households interviewed in the study could also purchase essential non-food needs from the income remaining after food energy requirement were met. Only 2 households in Namisangu and 1 household from beneficiaries in other villages across Zambwe section fell below the Standard of Living threshold.

Access to improved seeds and markets are among the main challenges faced by households. Simulation results indicate that assuming a production of 200kg beans or soya bean per acre each beneficiary household should gain an extra MK19, 580 after a year of the project, thus more than doubling their income from the sale of crops.

¹ Namisangu village, TA Mwabulamya, Lufita EPA, Zambwe section

SECTION ONE

Introduction

This is a baseline study, designed to support the monitoring and evaluation of the Farm Enterprise Development for Food and Economic Security (FEDFES) Project, implemented in Chitipa District, Malawi, by Self Help Africa (SHA) in partnership with the Foundation for Community Support Services (FOCUS). The study targeted villages which share similar livelihood characteristics.

Description of the Project

The project is targeting both poorer and better off households interested in developing further/ starting-up a seed multiplication enterprise. Better off households are existing seed growers while middle and poorer households are commercial farmers. The criteria used to select beneficiaries included: hard working spirit; ability to work in a group; resident of the village; must have enough labour; must be willing and committed and must be able to learn and communicate well with others. Other criteria include land holding of not less than 0.4 hectares; seed growers must be 'well-to-do' and be able to read, write and have basic numeracy skills. Based on project calculations a farmer who plants beans or soya on 0.4 hectares of land is expected to gain a return of 200kg to 300kg of the particular crop.

Objectives of the Project

The FEDES project's ultimate goal is to contribute towards increased household food, nutrition and economic security with better returns from agricultural value chains in the targeted communities of TA Mwabulamyia in Chitipa District, by promoting access to improved bean and soya bean seeds. Bean and soya bean farming plays an important economic and social role in Malawi. A number of initiatives aimed at promoting bean production have been introduced recently by government and non-governmental organizations. Principal among these initiatives is the program developed by Self Help Africa (SHA). Chitipa District, in the far north of Malawi is among the districts in Malawi which has good soil for bean production. Self Help Africa, one of the few NGOs present in the area, has

been working in Chitipa since 2009 implementing a food and livelihoods security programme.

In Chitipa, smallholder farmers are seed insecure. They lack access to sufficient quantities of quality seeds of their preferred varieties, at the time of planting. The FEDES project, which started in July 2012 aims to improve bean production and reduce market constraints faced by smallholder farmers by: (i) ensuring continuous availability of quality seed at community level, (ii) improving production by training farmers to practice good farming methods through improved access to extension services and (iii) adding value by helping farmers get higher prices for their crops through better marketing and improved market access. The project is due to end in December 2015. During this three year project, selected farmers will receive certified seed for seed multiplication and commercial production. The project will increase the availability and affordability of certified seeds within the communities, extending project impact to 'indirect beneficiaries'; and excess will be sold through local and national level markets, along with other agro-based products.

A variety of programs have already been launched, including farmer training and building the capacity of targeted communities to increase production and distribution of improved/quality certified seed varieties; building the capacity of targeted smallholder farmers to manage commercial crop production and increase productivity; and strengthening the capacity of commercially-oriented farmer enterprises to fully participate in agricultural value chains. Details of these activities are included in Appendix I.

The IHM Study

The goal of the IHM study was to measure baseline economic and social indicators to help the implementation of the key components of the FEDES project. The project is designed to improve household food security and access to income for more than 2,900 farmers as direct beneficiaries and more than 3,000 smallholder farming households are expected to indirectly benefit from the project through better village level access to certified seeds.

Data collected on household income before project inputs were distributed will allow comparisons with data gathered post implementation. In this survey all beneficiary villages in Zambwe section were visited. A whole village study was carried out in Namisangu village, and additional interviews targeting primary beneficiaries only were carried out in Zambwe, Dzuka and Mtende villages.

The methodology used will provide a simple monitoring system and evaluation for the project. In order to track the impact of the project at household level, annual assessments will be done using the IHM method of data collection and analysis.

Methodology

Most studies of development programs lack accurate pre-implementation baseline data to compare against data from the post-implementation period and/or fail to compare farmers directly affected by programs with indirect beneficiary groups in a way that accounts for selection bias effects. The adoption of IHM by SHA and other organisations as a method of data collection in pre-implementation, mid-program and post implementation phases in rural Malawi and elsewhere has created a unique opportunity to generate new knowledge about how to improve the livelihoods of farmers in developing countries.

In this study, the Individual Household method (IHM) was used to collect and analyse data on household livelihoods. The IHM is a method for measuring household income, developed by Evidence for Development². In common with other household budget survey methods, the IHM involves the collection of household income data for the purpose of policy development and planning. However, the IHM differs from other approaches in (i) the method of data collection (a semi structured interview, rather than a standard questionnaire format is used) and (ii) the use of specialised software, which allows data checking and analysis to be carried out in the field. Together these reduce the risk of errors in data collection and allow errors to be identified and corrected.

The steps in an IHM study are as follows. First, before any individual household interviews take place, a preliminary survey is conducted involving community leaders and other local key informants. This allows the team to explain in detail the purpose of the assessment, and to refine key research questions. It provides interviewers with basic

² See www.evidencefordevelopment.org

information on the local economy and economic activities that subsequently allows them to identify inconsistencies in individual household interviews, and to cross question where appropriate. The preliminary survey also involves mapping the study area and drawing the sample.

Second, individual household interviews are kept short (between 45 – 60 minutes) to avoid interviewer/ interviewee fatigue and where possible, appointments are made with households to arrange a time that does not interrupt normal working activities.

Third, on returning from the survey site, data is consolidated and entered into the IHM database. This allows for cross checking and identification of apparent anomalies in the data which can be discussed with the interviewer and followed up the next day.

The baseline survey carried out in Chitipa district included an additional ‘Livelihood Zoning’ step. A livelihood zone (LZ) is defined as an agro-ecological area in which the population has access to the same range of economic opportunities, including crop and livestock production, access to markets and employment. The method is described in more detail in the accompanying file ‘Chitipa Baseline IHM Study, Appendices’

In Chitipa three livelihoods zone were identified. These are Chitipa North plain, Chitipa Central plain and Misuku Hills plain. The exercise was conducted with knowledgeable key informants including an agricultural extension worker. The study was conducted in one livelihood zone namely “*Chitipa Central plain*”.

Chitipa Central Plain

The zone is situated in the central part of Chitipa boarded by Zambia on one side, the Lufinga hills on the other. There has been unpredictable weather in the zone for the past 10 years. The zone has received an average annual rainfall of 806.27mm for the past five years. There is one main rainy seasons (November to March). However the area receives less than 52mm per month in April, May and September and in some years October, with a break in June, July and August. Temperature ranges from 17⁰C to 28⁰C. The zone has mostly sandy loams which cover around 80% and clay loam soils which cover around 20% of the area. Land is acquired through inheritance or purchase. It is estimated that a typical household owns about 2.4 ha of farm land,. The average cultivated land is 2 acres. This is due to high cost of hire in labour and inputs. An average household size is 5. There is high dependency ratio among middle and better off households.

Main types of production

The zone is a mainly agricultural area. The main crops grown are maize, cotton, tobacco, cassava, groundnuts, cowpeas, soya beans, and upland vegetables. The majority of the population use hand cultivation. Many better off households use ploughs for cultivation. Maize is the main staple food, planted in November to December and harvested in May to June. Green maize is harvested in February. Beans and soya beans are planted in December and harvested in February and March. The main fruits grown are mangoes, bananas, paw paws and avocados. Irrigation is mainly practiced along river sides, where vegetables are grown and is supported by the IRLAD government project which was implemented in 2008 and is on-going. The area has good soil for crops including maize, tobacco, beans and cotton. The better off mainly cultivate maize, cotton, cassava and tobacco, and employ migrant labour from Rumphu and Karonga district for ganyu (day labour). Poor households grow maize, cassava and ground nuts. Their land holdings are similar in size to the better off but due to high cost of inputs they rent out or sell their land to immigrants, better off and middle households. Livestock kept include cattle, goats, chicken, pigs, ducks, sheep and doves. Cattle are found in large numbers; mostly with better off households.

On average own produced food lasts 9 months. Better off households have own food throughout the year with an average of 150 kg maize stock. In order to cover their food deficit poor households are mainly engaged in agricultural labour (ganyu) on tobacco estates within and outside the zone.

Income

The main economic activities are agricultural day labour (ganyu) in private farming estates within and outside the zone. Better off and middle income households are engaged in small business enterprises and selling crops such as maize to traders who sell outside Malawi. All wealth groups sell some of their own crop production. Poor households sell crops to meet their non-food requirements. External transfers are common income sources among better off and middle income households. This is because many better off and middle income households have relatives staying in cities that regularly send cash for household use and to pay school fees. The main markets for agricultural produce are ADMARC, trading centres and traders. People of all wealth groups have access to the

markets. However to cut down transport cost, poor households prefer selling within the village. The main transport mode is bicycle and walking. Crop disease is the main agricultural risk faced by farmers.

The agro ecological and economic characteristics of Zambwe section, which had been randomly selected for the study, were identified. This exercise established that all the FEDES project sites in Zambwe section (Zambwe, Mtende, Dzuka and Namisangu villages) fall within the same livelihood zone, so information from sampled households could be combined for analysis.

The IHM assessment

The IHM assessment consisted of both a whole village study of Namisangu village, which will provide information on households indirectly benefiting from the project as well as direct beneficiary households resident in the village, and household interviews of all direct beneficiary households in Zambwe section. The contextual, village-level study gathered data from interviews with village leaders and agricultural extension workers.

The baseline household interview forms focus on household demography, land and other assets and all sources of income, classified under five headings: crops, livestock and livestock products, employment, transfers/gifts and wild foods. Additional contextual information on farming practices (agricultural labour), business performance and wages, access to credit, input use and institutions and organizations present in the village was also obtained. The complete interview form for both the household-level survey and the village-level survey are attached with this report.

The IHM survey instruments are designed to be user-friendly for the enumerators in the field, while also gathering extremely detailed data at both the individual and village levels. We developed a series of direct and indirect approaches to addressing sensitive labour issues, gathering data on workers on farms (including type of work, forms of payment and duration of employment), school attendance, and any periods of absence of household members eg for migrant work. Additional information was also gathered by the survey team on social interactions and individual policy preferences and priorities through observation and discussion with communities (e.g., the most important problems facing the village). In addition, the survey provided detailed information on crop yields and

productivity, and current levels of knowledge of the bean market, the local economy and household coping mechanisms.

Besides collecting data from individual farmers and village leaders in an interview format, the baseline survey also incorporates data from direct observations recorded by the survey team (e.g. on road access and quality, building materials and maintenance). Finally, information on local measures was recorded converted to standard measures. The detailed nature in the data collected by the survey will allow us to examine the specific mechanisms by which different types of initiatives generate positive effects for bean farmers over time. Field work was conducted over 7 days (21st July to 27th July 2013).

Sampling Strategy

The study location Zambwe GVH, was randomly selected from a list of all GVHs in which the FEDES project is being implemented. The study village was randomly selected from a list of possible study sites. The list included villages with fewer than 90 households and more than 40 households, where more than 10% of households were project beneficiaries. This range was determined by the time available for the IHM study (7 days in the field) and the number of trained interviewers available to carry it out. The selected village, Namisangu, has 68 households with a total population of approximately 486 people. Of the 68 households 57 were interviewed. 10 of these households were project beneficiaries³.

It was agreed that any time remaining after the whole village study was completed, would be used by the team to carry out additional beneficiary household interviews in adjacent villages. A further 22 beneficiary households were interviewed from the remaining project villages in Zambwe section.

³ Six households were not interviewed because the household head and spouse were away from the village during the study period, four were not interviewed because we noted that, despite living in separate houses, they were in fact eating together and sharing resources See Appendix III,

Survey Implementation

To implement the survey, we worked with field researchers who have considerable experience conducting surveys using the IHM method of data collection. The survey followed a strict IHM protocol to ensure quality data and sensitivity to the local context and confidentiality. Interviews were conducted in the local languages⁴. On arrival in the field, a short refresher training was conducted by the team leader. The training encompassed explanations of the purpose and background of the study, a livelihood zoning exercise with the Agricultural Extension worker and a review of the contextual and household interview forms. The survey teams were given precise protocols for entering villages, obtaining approvals from district officials and village chiefs and explaining the purpose of the exercise. The team was comprised of seven interviewers in which two were University of Malawi post graduates, one University of Malawi undergraduate, three SHA project officers and one from a partner organization.

Table 1: Study Participants and their IHM Levels

Sur Name	First Name	Organisation	IHM Level
Ngoleka	Stella	Chanco/EfD	III
Chikalenda	Lovemore	SHA	II
Chimpesa	Venelesi	SHA	II
Jere	Damiano	SHA	I
Mussa	Patrick	Arise& Shine International	I
Kaumba	Alick	MoAFS	I
Zaindi	Innocent	Mzuzu University	I

⁴As part of EfD's capacity building partnership with SHA, Lovemore Chikalend and Venalesi Chimpesa took on the role of 'assistant leaders' working closely with EfD associate Stella Ngoleka who led the survey.

The basic protocol we developed was for the survey team to meet with the village leader (the chief) when they first arrived in each of the survey sites, explain the research, describe the surveys, and obtain permission from AEDO to proceed.

We interviewed a total sample of 79 farming households across Zambwe section, gathering information from both households directly targeted by the project, and, through the whole village study households that were 'indirect beneficiaries'. To collect context information, a minimum of eight to twelve key informants representing the farming community were interviewed, including both male and female farmers and village chiefs. General information on agriculture was gathered in the focus group discussions including crop and livestock production, markets, employment, business, petty trade, salaried work, wild foods, formal and social transfers, other projects in the area, locally defined wealth indicators and the cost of inputs. With the village head man and key village members we listed stage one FEDES targeted farmers in Zambwe livelihood zone. Additional information was gathered from published sources including the Chitipa District Assembly socio-economic profile.

Information on yields, production, and minimum and maximum prices for specific crops was obtained from the participants in the focus group discussion in the selected village. The soil type, rainfall, potential markets, access to farm inputs and coping mechanisms in the event of shocks were discussed in focus group discussion and verified with local agricultural officers. This baseline survey therefore provides rich insights into conditions faced by bean and soya bean farmers across the section.

Definitions used in IHM

The household

A household was defined as those people resident in the house and eating from one pot during the reference year.

Household income

Household income is made up partly in food, and partly in money. In many cases some or all food income is not sold, so no price is available for that food. This means that total household income cannot be calculated in terms of money. Therefore a standardised presentation is used in terms of 'disposable income'/ adult equivalent. This is defined in the IHM as:

The money income remaining to the household after it has met its food energy requirement at a standard rate, for each 'adult equivalent' in the household.

This is calculated from

1. The household's total food energy requirement, calculated from UN reference values⁵. This is based on the period individuals were actually resident in the household, so periods away from home e.g. at boarding school, doing migrant labour are excluded.
2. The cost of the proportion of the household energy requirement *not* met from the household's income as food (Kcal income) estimated using a set diet defined in discussion with poorer residents as being typical of the diets of poorer households. In this study the diet used was maize.
3. The disposable income is calculated by subtracting the cost of the minimum diet from the total household money income.

The result is standardized to take account of variation in household size by dividing the disposable income by the number of 'adult equivalents' in the household. The number of

⁵ Individual food energy requirement was calculated by age and sex from World Health Organisation 'Energy and protein requirements' (WHO technical report series 724, Geneva 1985) for the population of a typical developing country. Averaged over the entire population requirement approximates to 2100 kcal/ person/ day.

adult equivalents is calculated as the total household energy requirement/ the energy requirement of a young adult (2,600Kcals/day).⁶

The standard of living threshold

The cost of a basket of goods and services sufficient to achieve a minimum acceptable standard of living was established in discussion with residents (Table 2).

Table 2: Goods and services required to meet minimum standard of living

Expense type	Cost per year	Applies to:
Soap	1300	The household
Paraffin/other fuel	1365	The household
Clothes male	4200	Adult male aged over 15 years
Clothes female	3,150	Adult female aged over 15 years
Clothes child male	1100	Male child aged 4 to 14 years
Clothes child female	1800	Female child aged 4 to 14 years
Primary school	3450	All children aged 7 to 13 years
Matches	150	The household
Salt	1385	The household

⁶ See www.evidencefordevelopment.org

SECTION TWO

FINDINGS AND DISCUSSION FOR NAMISANGU VILLAGE

Analysis was carried out using open-ihm software version 1.5.1. Charts show the results of the whole village survey, carried out in Namisangu village.

Figure 1: Population pyramid, Namisangu village

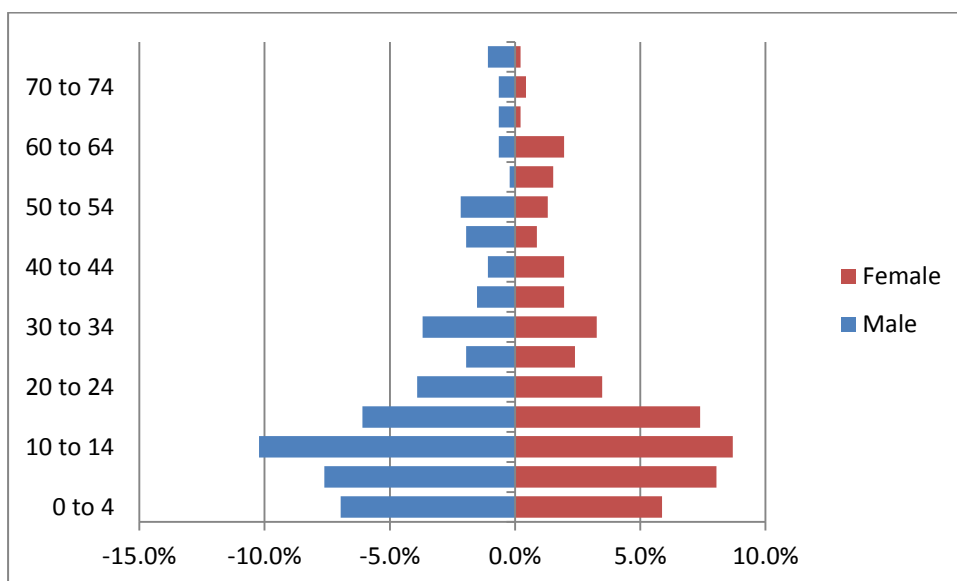


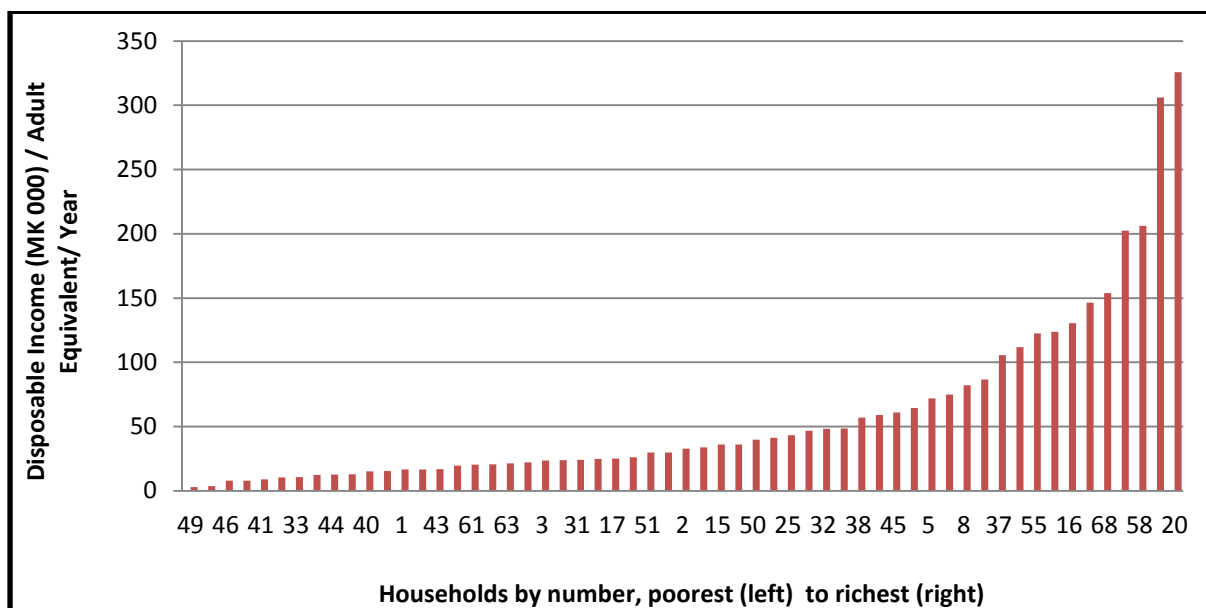
Figure 1 indicates the population distribution by age and sex.

The population pyramid shows that the village has a youthful population. Just under half the population (47 percent) are below 15 years of age.

Household income disposable income

Figure 2 shows disposable income per adult equivalent i.e. the money remaining to the household after it has met its basic food energy needs.

Figure 2: Household Disposable Income per adult equivalent



In Figure 2, each bar represents a household. Households are shown in order of annual household disposable income per adult equivalent, with the poorest household on the left. From the interviewed households, all households (100% of the interviewed households) were above the x axis. This indicates that in Namisangu all households are able to meet their basic food energy needs. Households found below the x axis imply households that are not able to meet their basic food energy needs. The table that follows shows median value-disposable income by income quintiles and number of beneficiaries in each quintile.

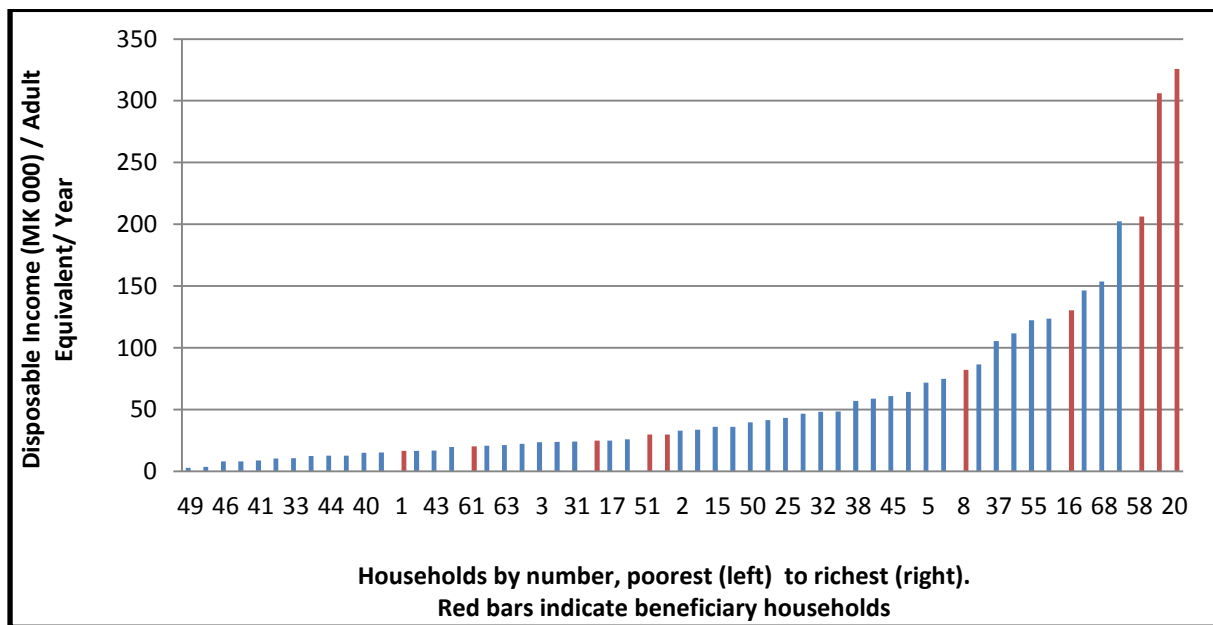
Table 3: Disposable Income median value by income quintile

Quintiles (Poorest to Richest)	Number of HH	DI quintiles-median value (MK)	Number of beneficiaries
Quintile 1	12	10,537	0
Quintile 2	12	20,547	3
Quintile 3	11	33,748	2
Quintile 4	11	60,858	1
Quintile 5	11	146,344	4

Table 3 indicates there are ten beneficiary households in Namisangu. Note that is interesting to see that the steps between the quintiles is 10,000 – 10,000 – 30,000 – 80,000

Figure 3 below shows disposable income per adult equivalent for beneficiaries and non-beneficiaries. In the figure red bars indicate beneficiary households.

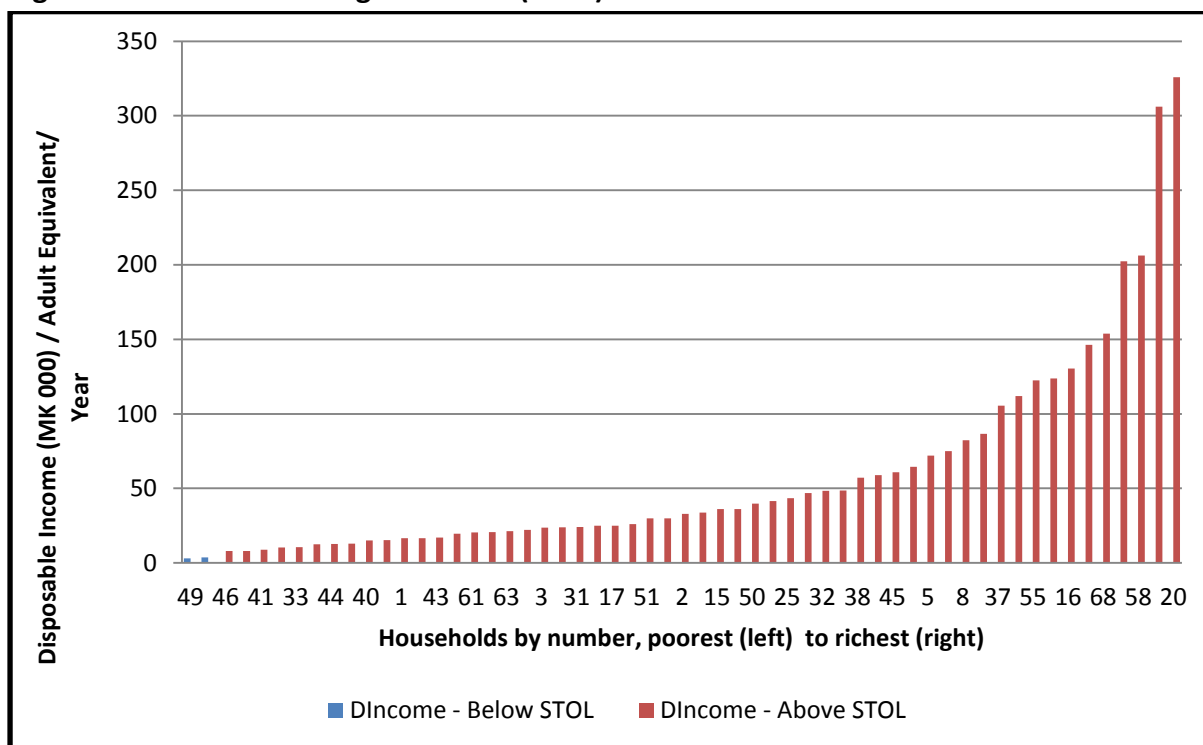
Figure 3: Household Disposable Income per adult equivalent for Beneficiary and Non Beneficiary households in Namisangu village



Disposable income with Standard of Living Threshold

Household can be above or below the standard of living threshold. Household below the standard of living threshold are those that are not able to meet the set of basic non-food requirements identified by the local population as essential for 'social inclusion'. Non-food requirements included in this study are presented in Table 2 above. Figure 4 shows households above and below the standard of living threshold.

Figure 4: Standard of Living Threshold (SOLT)

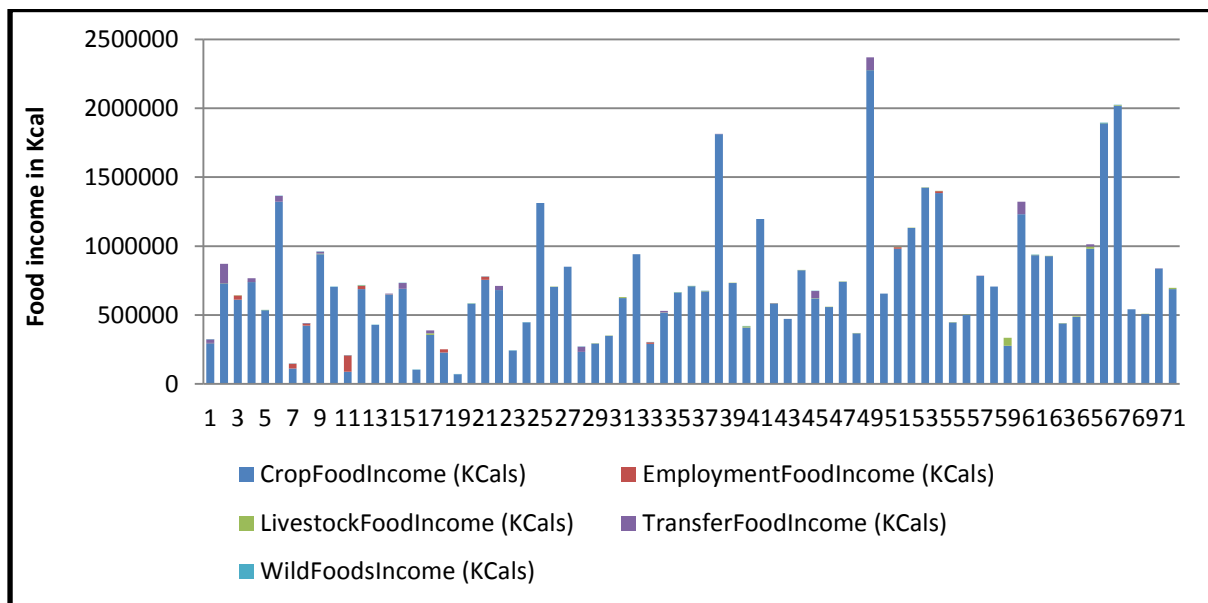


Those households with income too low to purchase all the non-food items included in the minimum standard of living are shown in blue. Note that the costs used to set the standard of living threshold are allocated household by household. Households with higher incomes may fall below the threshold because they have higher costs – for example, they have several children attending school. Only 2 households in Namisangu village (about 3.5% of the interviewed households) fall below the standard of living threshold.

Sources of Food Income (Kcals)

Figure 5 below shows household income produced or received as food (Kcals) and retained for consumption by the household, classified by income source (crops, livestock, employment paid as food, wild food or food transfers). Note that households are shown in order of household disposable income i.e. in the order of Figure 2.

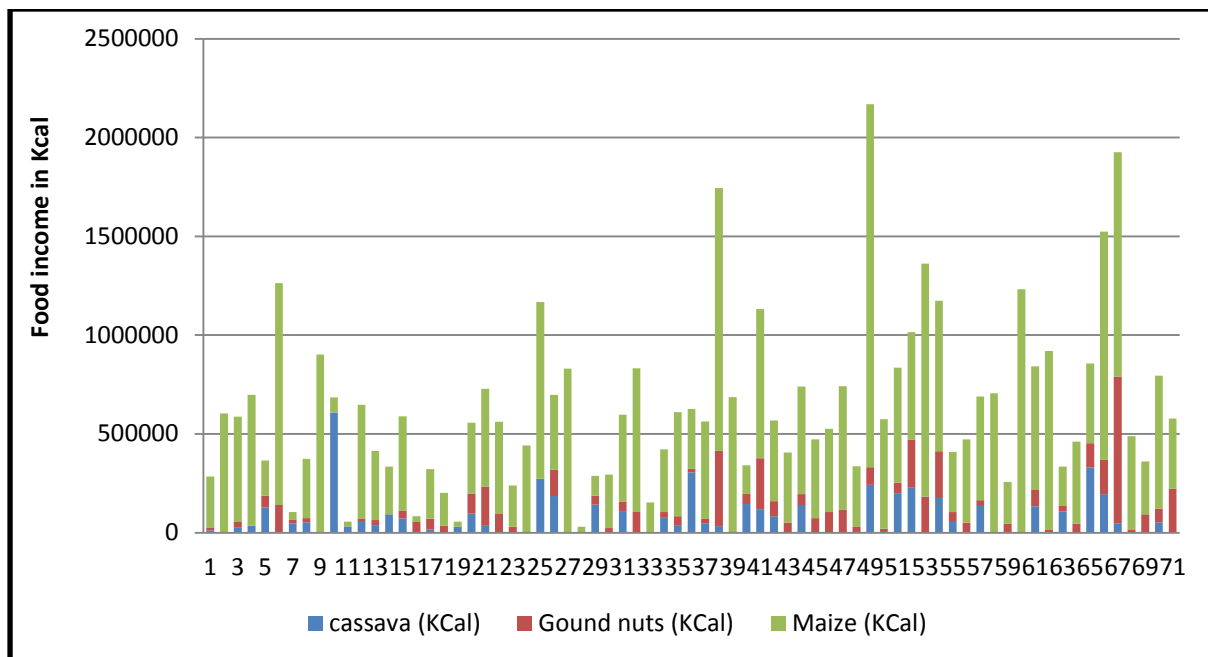
Figure 5: Sources of Food Income per Adult Equivalent in Kcal



It was noted that better off households in this community pay the wages of agricultural laborers in food as well as cash, and retain substantial food stocks. Better off households (in income quintiles 4 and 5) retained an average of 375 kg of maize food stocks. Note in the chart 16% of households received wages in form of food; most of these are poorer households. In this village the majority of households hire in labor and mostly, the laborers stay with the household for an average of one month. Some laborers, especially those from Rumphi district⁷ come with their families and stay for a longer period (up to several months) until they finish their contract. Figure 5 also shows that household food income does not depend on the wealth of the households. Some poor household are retaining more of their own food for consumption/food stocks than better off households. The three main food crops in the village were maize, cassava and groundnuts. These are presented in Figure 6 below.

⁷ Chitipa district is bounded by Rumphi and Karonga districts of Malawi

Figure 6: Three main sources of Food Income per Adult Equivalent in Kcal

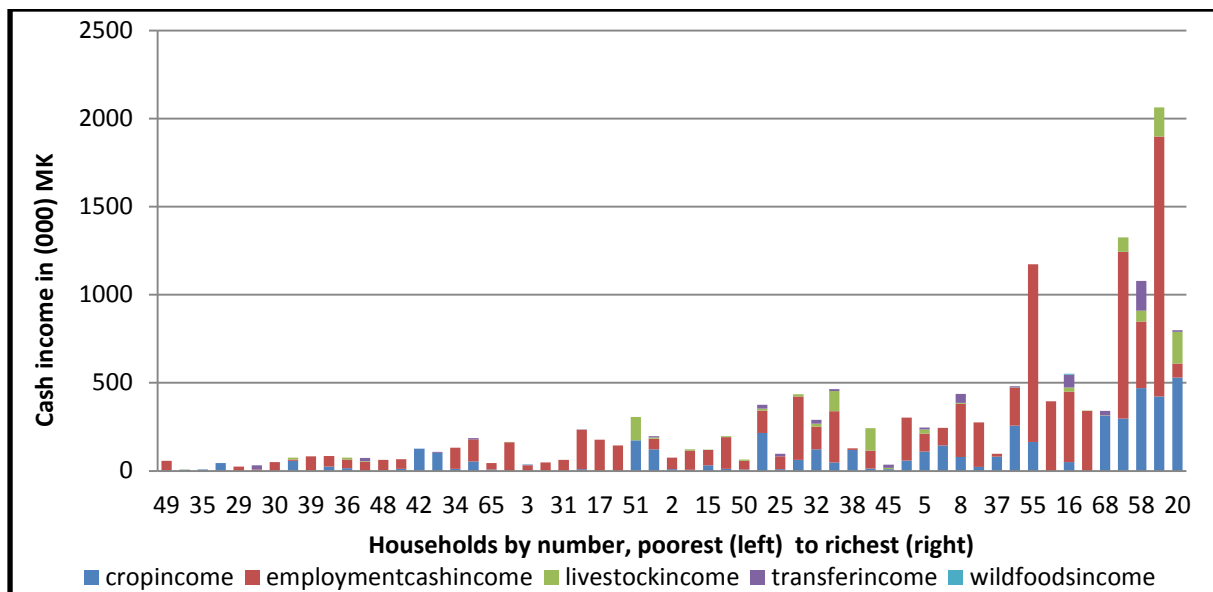


Note from the figure that maize is the main staple food. The other two, cassava and groundnuts do not contribute much as much food energy although groundnuts are an important source of protein.

Sources of Cash Income (MK)

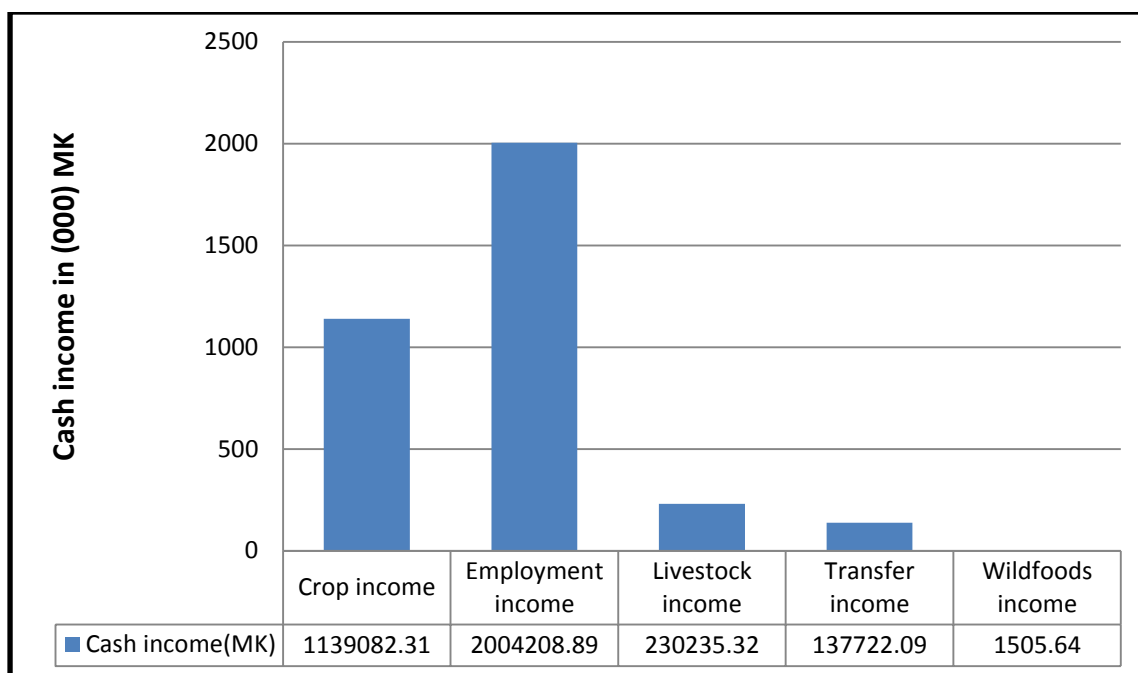
Figure 7, shows household income produced or received as cash (MK) by the household, classified by income source (crops, livestock, employment paid as cash, wild food or cash transfers). The households are shown in order of household disposable income.

Figure 7: Cash Income per Adult Equivalent in MK by Household



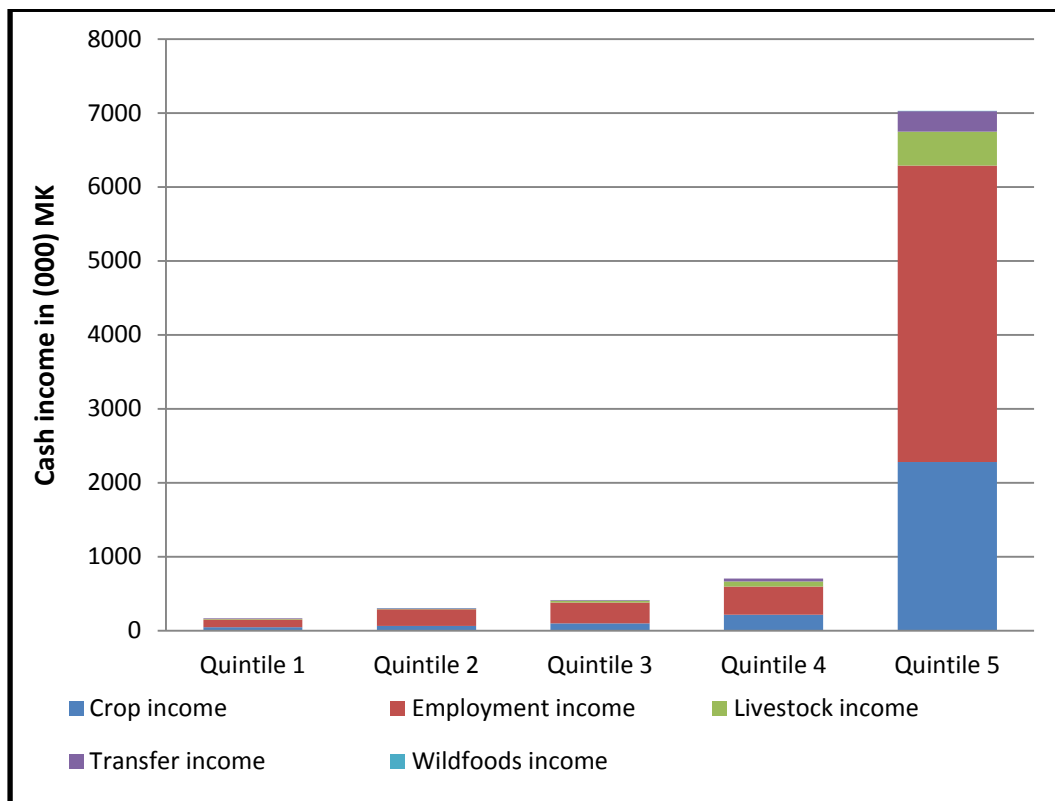
The production and sale of crops was ranked as the main livelihood activity in the village during focus group discussion. However as Figure 7 indicates employment provides a higher proportion of cash income than any other type of activity in the village. It was not surprising that community members identify farming and selling of crops as the main source of income as 81 percent of the interviewed households sold some of their own production. However selling crops is associated with poor income returns due to market fluctuations therefore in cash terms, income generated from employment outweighed income generated from selling crops. Figure 8 below presents the summary of these findings.

Figure 8: Total Cash Income per Adult Equivalent in Malawi Kwacha



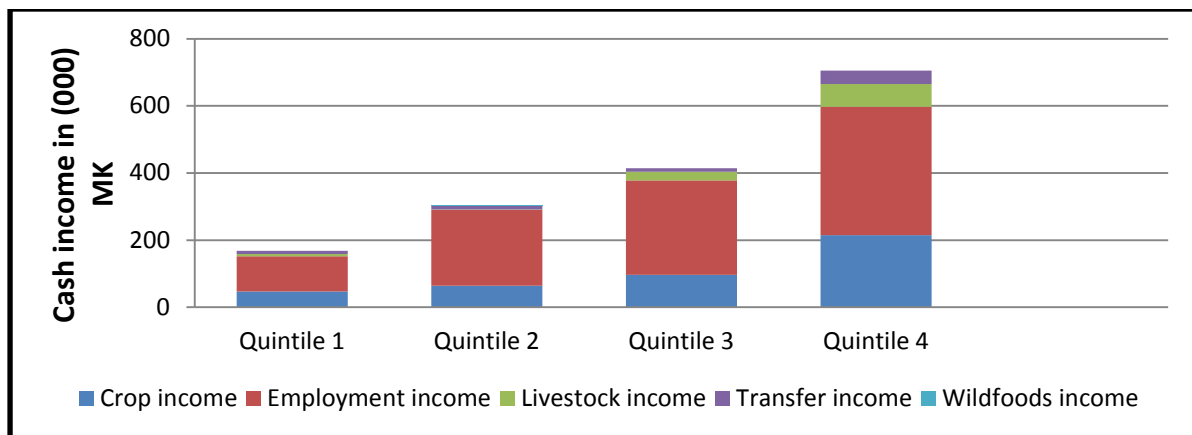
Transfers were the fourth source of cash income: 38% of the interviewed households received cash transfers (both official and non-official). The majority of households in the village (about 99%) received one fertiliser voucher from Government worth a 50kg bag of 23:21:0 (basal fertilizer) and 50kg bag of UREA (top dress fertilizer). Three elders in Namisangu village received cash from the Silver Grey foundation, a government scheme. Two households had a child whose secondary school fees were being paid by a Government project under the social welfare department. Next is Figure 9 presenting sources of cash income per adult equivalent by income quintiles.

Figure 9: Cash Income per Adult Equivalent in MK by income quintile



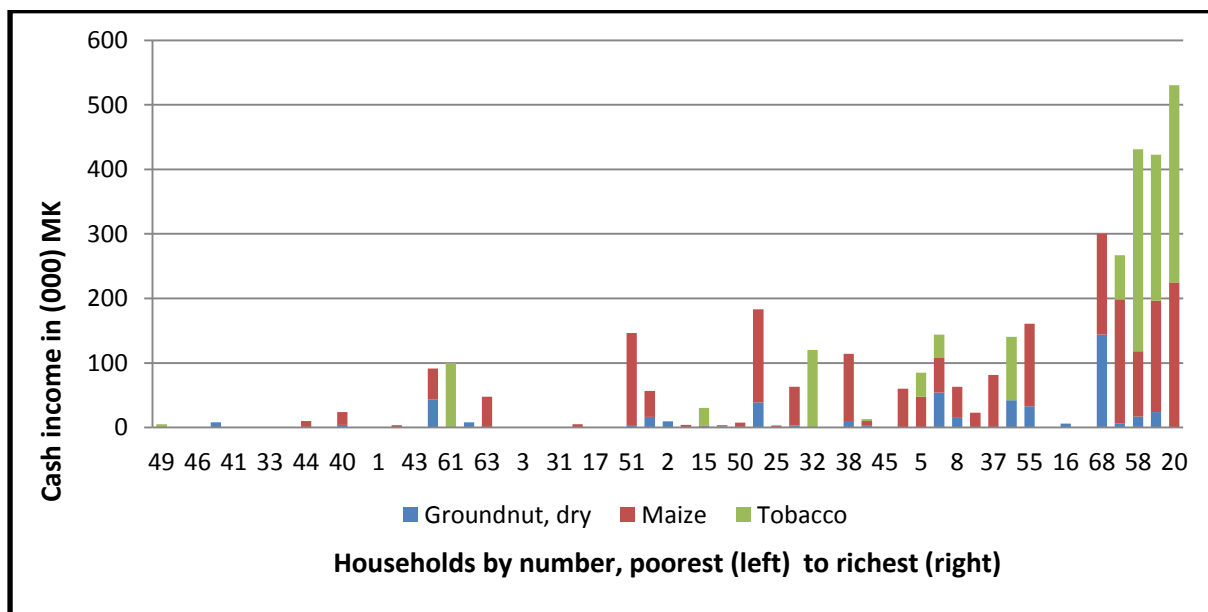
In all quintiles employment was the main source of income. Employment is off farm income generated from both agricultural and non-agricultural activities. The better off households (quintile 5) received the largest transfers (formal and informal). This may be due to presence of relatives resident in the cities and outside Malawi among the better off households. As noted from the figure, there was a large difference between total income for households in quintile five and the other quintiles, hence for clarity Figure 10 below presents sources of cash income as in Figure (9), but shows only quintiles 1 to 4. The two figures indicate that employment was the major source of income in all quintiles with crop selling from on farm coming second. The main cash crops were tobacco, maize and ground nuts.

Figure 10: Cash Income per Adult Equivalent in MK by income quintiles 1 to 4 only



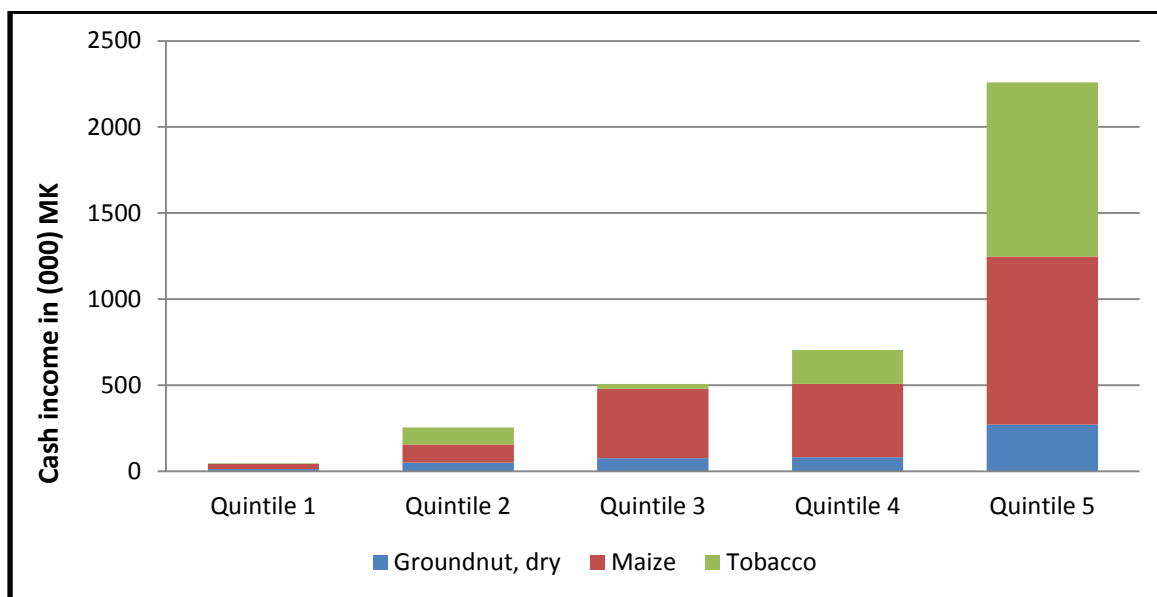
The poor gained their employment income predominantly from agricultural day labour, with some seasonal off farm construction work. Better off households earn cash income from a range of enterprises, many of these involving trade in agricultural commodities. There is very little salaried employment.

Figure 11: Main sources of Cash Crop Income per Adult Equivalent in MK by household



From Figure 11 it can be seen that income from tobacco was significantly higher than income from other sources, with maize coming second then groundnuts. Figure 12 below presents these findings by quintile. Note from the figure that beans and soya were not among the main three cash income crops in the village.

Figure 12: Main Cash Crop Income per Adult Equivalent in MK by income quintile



SECTION THREE

FINDINGS AND DISCUSSION FROM FEDES TARGETTED HOUSEHOLDS

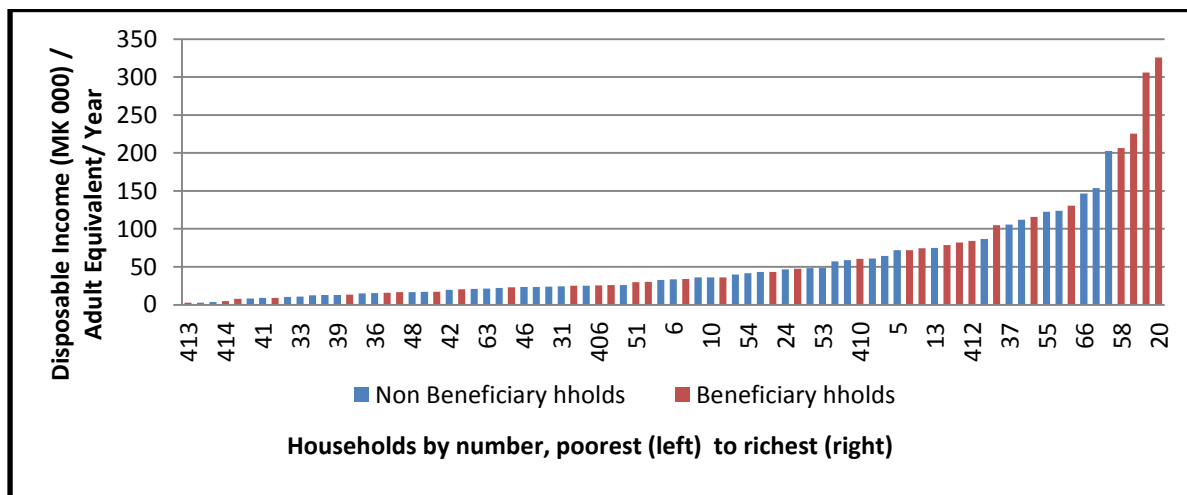
In Zambwe section 38 households are beneficiaries in the first stage of the FEDES project. Of these 38, 32 households were interviewed during the baseline survey. In Namisangu village, 9 households were registered as beneficiaries in the first round. However during household interviews, 10 households were found to be beneficiaries. One household, not among the targeted beneficiaries received beans from a relative who was targeted. Zambwe village had 8 beneficiaries and 6 were interviewed. Mtende has 14 beneficiaries all participated in the study. Dzuka had 2 beneficiaries targeted in the first round and all participated in the study. Details of interviewed households are presented in appendix III.

The following sections sets out baseline findings for direct beneficiaries of the project. Note that in the figure that follows, beneficiaries from Namisangu village are within numbers 1 to 68, while for Zambwe 301 to 306, Dzuka 401 to 414 and Mtende 501 to 502.

Disposable income, all households included in the study.

Figure 13 shows disposable income per adult equivalent, including all households interviewed. Beneficiary households are shown in red and non-beneficiaries (from the whole village study) in blue.

Figure 13: Household Disposable Income per adult equivalent



41% of the interviewed households were beneficiaries. Note from the Figure, there was no selection bias by wealth of the households. Beneficiary households are spread in all income groups. However the majorities of the beneficiaries are better off and middle income households.

Figure 14: Standard of Living Threshold for Beneficiary Households

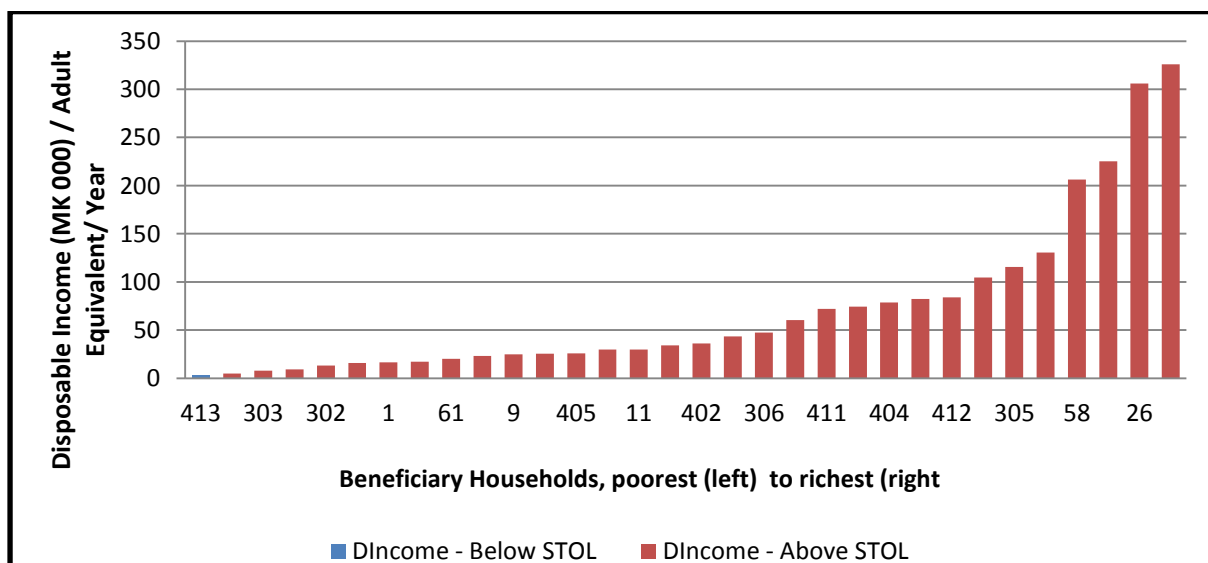


Figure 14 indicates that only 1 beneficiary household is below the standard of living threshold. However, it was noted that the cost of living in Chitipa was lower than in other districts of Malawi and essential items such as body lotion, salt, clothes for both adults and children and salt can be bought more cheaply than elsewhere. This is partly explained by its proximity to the boarder. Households generally buy non-food items from Tanzanian, Zambian and some Malawian traders during market days at Kapoka. Some traders prefer exchanging non-food items with food commodities like maize and groundnuts.

Figure 15: Cash Income per Adult Equivalent in MK for Beneficiary Households

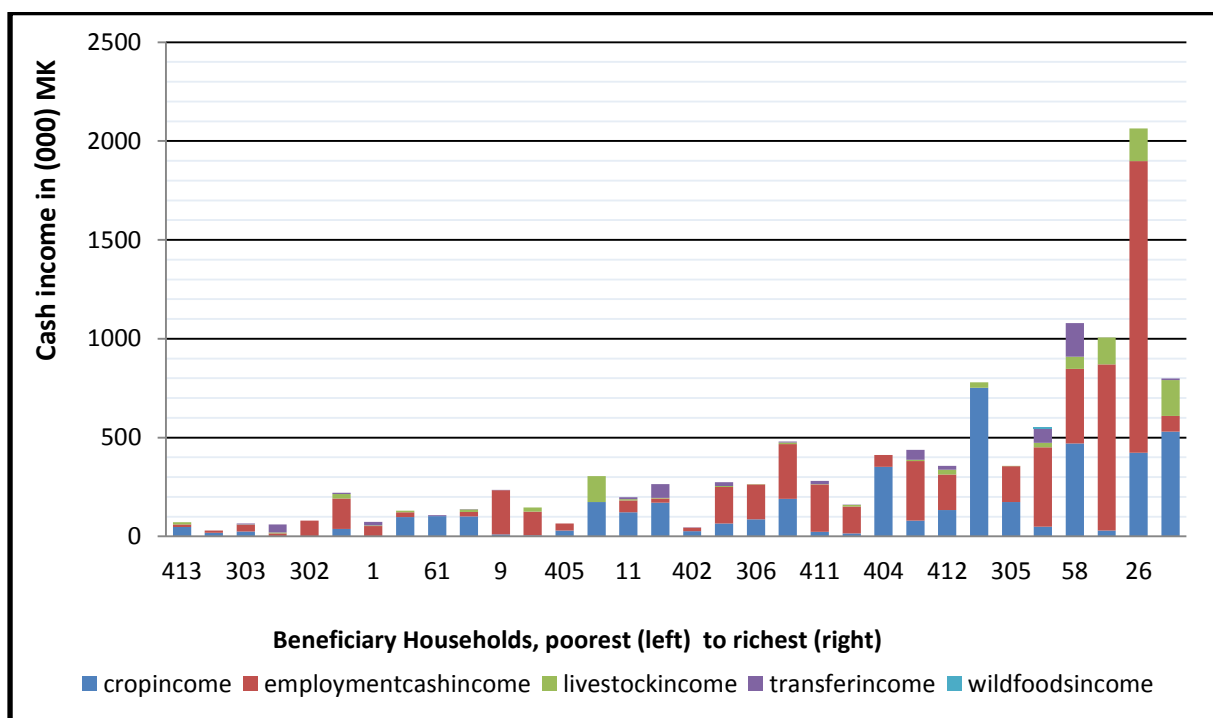
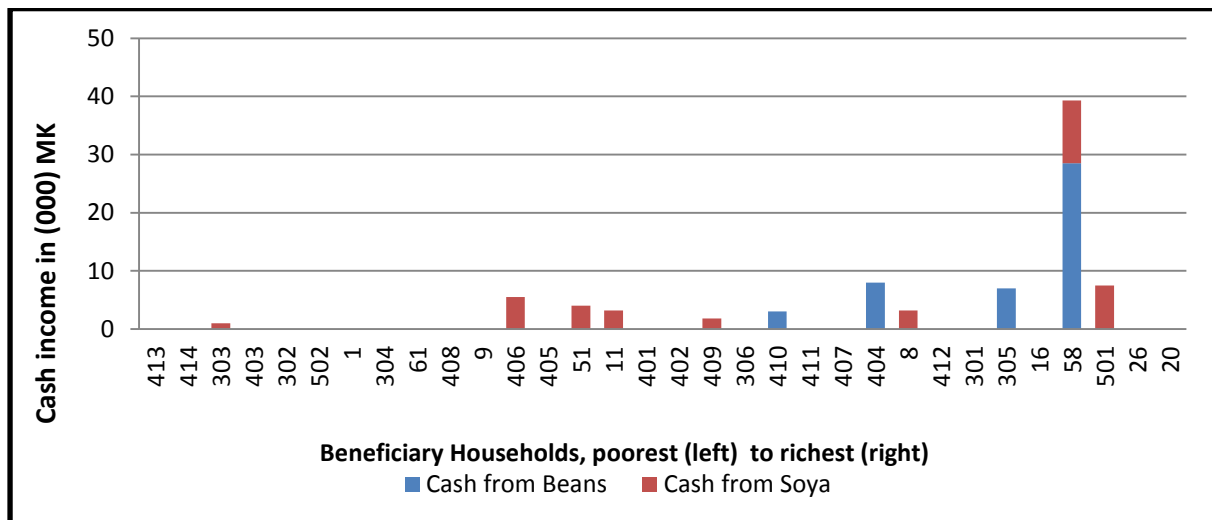


Figure 15 indicates that the majority of beneficiary households earn their income from employment and sale of crops. Poorer beneficiary households engage in lower value agricultural and construction work, while better off households are involved in higher value work, much of this involving trade in agricultural commodities. Selling livestock was the third source of income for beneficiary households followed by transfers.

Figure 16: Cash income From Common Bean and Soya for beneficiary households



During the (pre-project) reference year only 13% of beneficiary households obtained their cash from selling beans (Figure 16). The total income obtained from selling beans was MK46,513. Soya beans were sold by 25 percent of beneficiaries. Total cash obtained from soya beans was MK36,900. One beneficiary household was involved in selling both beans and soya beans. Of the primary beneficiary households, 64 percent did not grow beans or soya bean during the reference year. The next figure, Figure 17, indicates that 17 percent of non beneficiary households were selling own produced soya bean. Only 2 percent sold own produced beans. This indicates that more beneficiary households are already involved in bean and soya farming than non beneficiaries.

Figure 17: Cash income from Common Bean and Soya for non-beneficiary households (data from Namisangu whole village study)

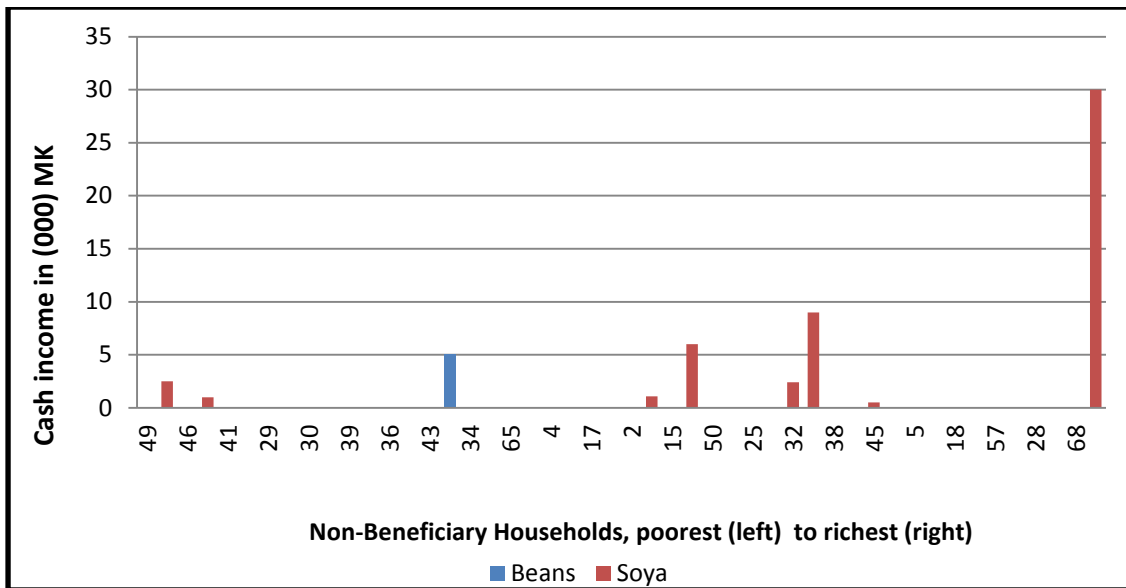


Figure 18: Food Income per Adult Equivalent in Kcal, Beneficiary Households

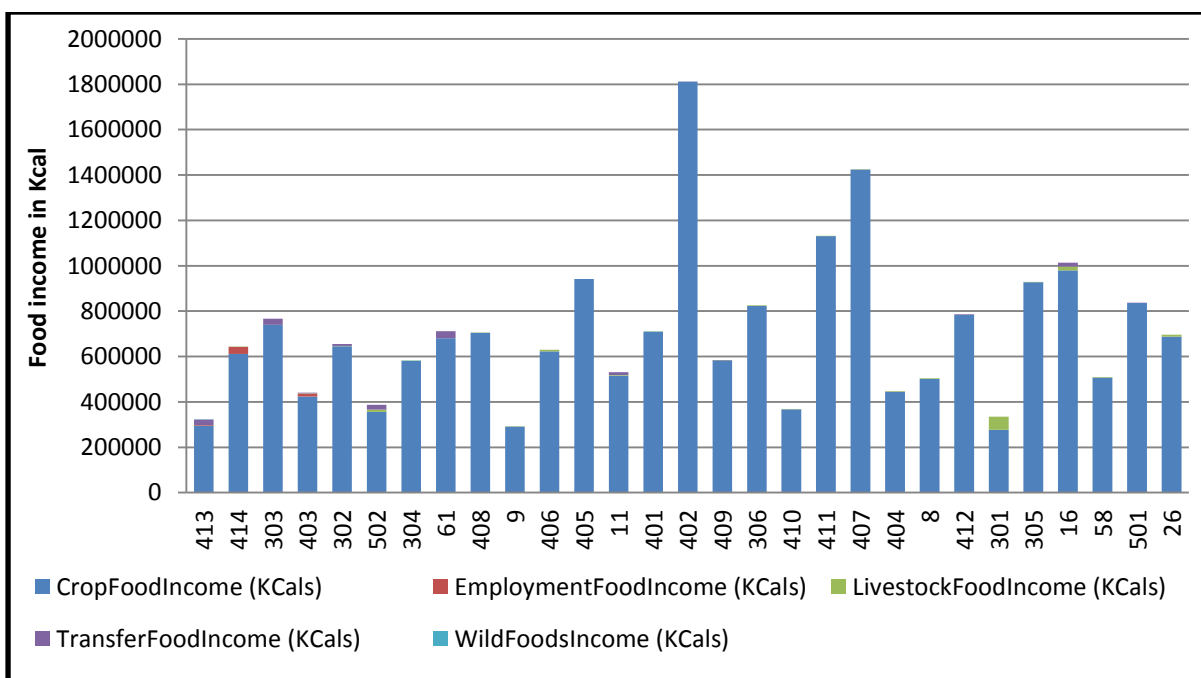


Figure 18 shows that crops provided the main source of food income for all beneficiary households. Livestock was second followed by transfers. Nine percent of beneficiaries received some food income from employment. Wild food was not a major source of food income.

Figure 19: Food income From Common Beans and Soya Beans, beneficiary households

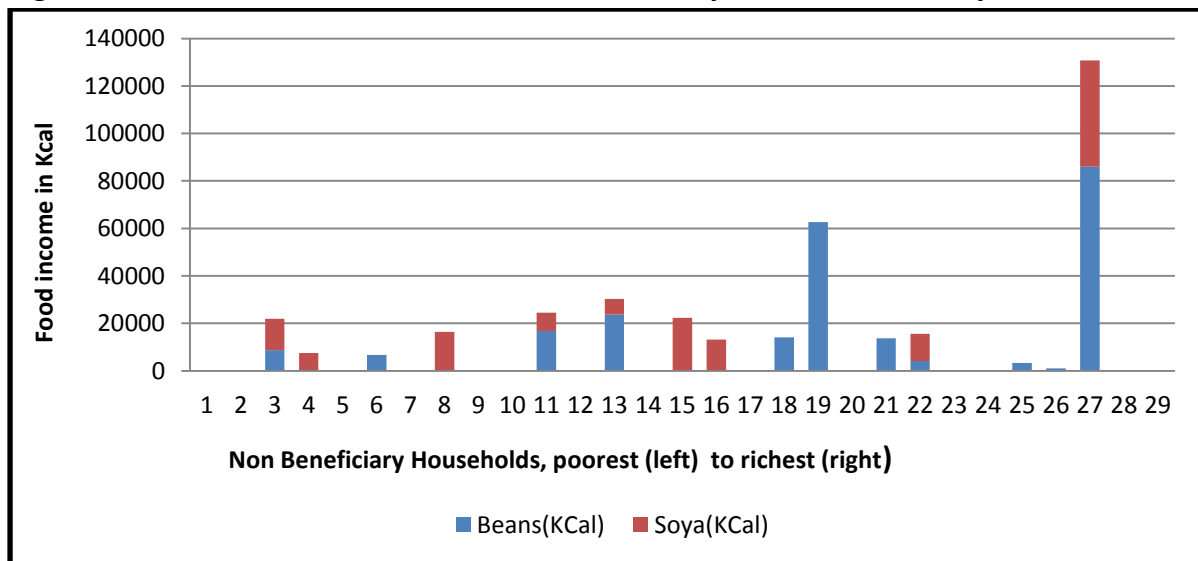


Figure 19 shows that 8 beneficiary households out of 32 consumed beans from their own production. Ten households out of 32 consumed soya beans from their own production. This indicates that during the reference year bean and soya bean production was not common among the beneficiary household in the village. All beneficiary households (100%) used local varieties for both beans and soya bean.

Figure 20: Food income From Common Beans and Soya Beans for non-beneficiary households (data from Namisangu whole village study)

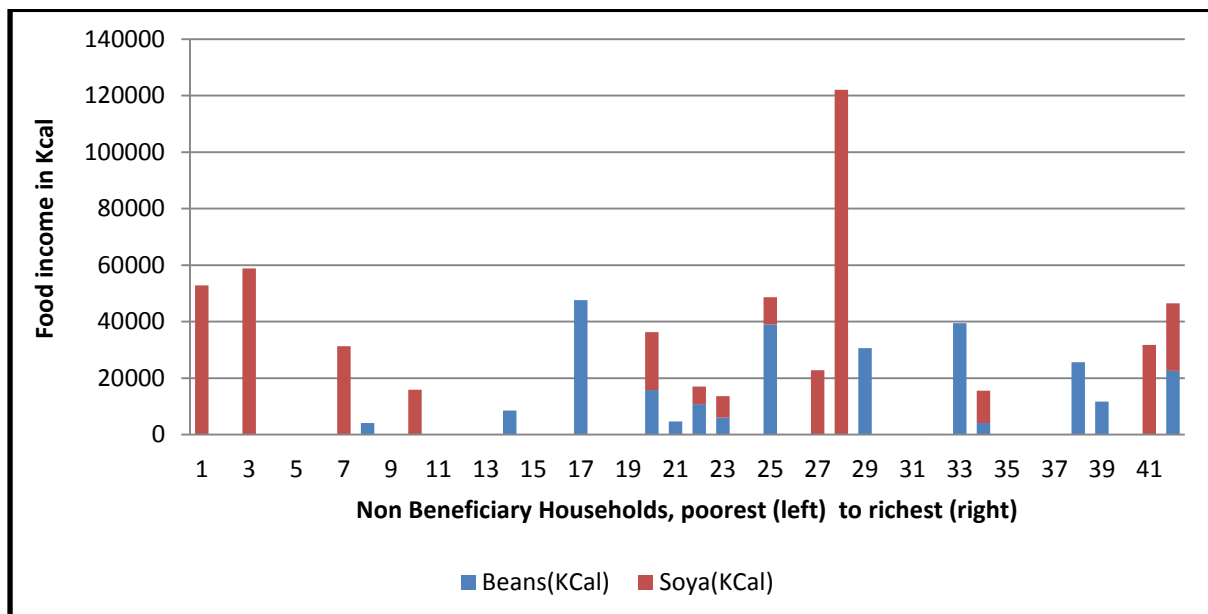


Figure 20 presents food income from beans and soya beans among non beneficiary households in Namisangy village. This indicates that less than 50 percent include own produced beans and/or soya in their diets.

Discussion

47 percent of households produced common beans and/or soya in the study village. Discussion with key informants revealed that farming practices are simple and the use of inputs is negligible due to their high cost. There is some variation in productivity at household level, indicating the potential for significant improvement. Second, since all households in the section have access to land and are essentially farming households, all could become involved in bean and soya bean production with the potential for improved yields and higher income. Households in the section currently rely on maize production for food security and commercial farming. However, maize production was reported to be profoundly associated with risks such as climate change and price fluctuations compared to legume plants.

In the reference year high maize prices benefitted farmers. Maize prices in Namisangu village ranged from MK30 just after harvesting to MK120 in the period December-February. This was due to devaluation which caused food price inflation combined with high demand of maize from neighboring countries and some parts of Malawi due to poor weather experienced in the 2011-2012 agricultural year. Despite the gains from selling of maize, the communities were worried about the risk associated with the current Tanzanian market which farmers described as illegal and could be banned at any time. The risks associated with current sources of income mean that the project could have a very positive impact i.e increasing resilience to climate change by providing drought tolerant varieties. The project also opens up new legal marketing opportunities reducing the risk associated with current illegal markets/cross border trade. Currently, potential markets for bean and soya include Kariekera, Rumphu, Karonga and companies in Chitipa and other districts.

Among poor households, only a few had a reliable source of income. Most poor households were using local seed varieties and had fewer means of adapting to climate

change (for example, by using manure or improved varieties of seed to increase yields). This has created a kind of poverty trap in which extremely low income inhibits the adoption of more advanced farming practices, including the use of improved legume varieties. Third, these conditions coincide with bean farmers' own assessments of their situation. They believe that improved varieties could result to better conditions because the community has good soil for bean production. Many bean farmers in the section believe that opportunities are there if they can be trained and given certified seeds.

Expected impact of the project on household income

A series of simulations were carried out, to explore the likely impact on the project. The first exercise looked at the potential increase in income among project beneficiaries.

The assumptions used in the simulation are as follows:

- Beneficiaries will each receive 20kg of either phaseolus beans or soya beans to use as seed, from which they will produce roughly 200kg of bean crop.
- Of this 200kg crop, roughly 22kg will be returned to selected other community members, leaving the original beneficiaries with 178kg of beans.
- The sale price of beans is estimated in the Chitipa context information to be between K100-K120 per kg - I'll use K110 per kg as the midpoint.

Assuming that all goes to plan, the beneficiaries sell their new crop and do not get less income from other sources as a result of changes in land use or labour time *each beneficiary household should gain an extra K19,580 after a year of the project intervention.*

CONCLUSION

The purpose of the baseline survey was to collect and analyses information that will assist in implementing, monitoring and evaluating the FEDES project. The sites randomly selected for the study were within Zambwe section, Chitipa district. Data was collected from all households in Namisangu village and all beneficiary households in the section. The district has a number of projects focusing on agriculture and livelihood support systems, with most current projects sponsored by NGOs.

Maize, cassava, local ground nuts, local beans and tobacco were grown in the study village. Many farmers reported soya beans, beans and pigeon pea as potential crops. These are currently grown in small quantities because of poor performance due to lack of knowledge, technology and markets. Other crops such as pigeon peas are low yielding and take time to mature. Generally, in Namisangu many crops are of local variety and are grown for home consumption with only a few (maize and tobacco) produced for sale. In the village, maize was ranked as the most profitable in the reference year due to an increased demand of maize in Tanzania, Zambia and some parts of Malawi.

A number of markets, including traders, local trading centres and sales within the village exist in the section and beans are normally sold in these markets. The roads linking villages under Zambwe section were good at the time of the study but reported to be bad during the rainy season. There is one clinic in Namisangu village and four in Zambwe section. The major transportation modes were walking and cycling. Petrol or diesel-powered transportation modes were rarely used for market produce. This affects access to markets and the wide use of mobile markets and local vendors. Inputs such as fertilizer, seeds and chemicals are the main constraints limiting the adoption of new crops and crop diversification.

Study Limitations and Challenges

The baseline study included one randomly selected whole village assessment and project beneficiaries from across one livelihood zone (Chitipa Central Plain). Whilst this process should provide a good representation of the livelihood zone the project might have

a different impact on household income in different livelihood zones within the project area. In order to better measure the impact it might be advisable to carry out further assessments in other livelihood zones, or if this is not practical to identify factors that might lead to variation in impact in different zones within the project area.

Language was the main challenge faced by interviewers. However, local translators were used to reduce language barriers.