Coffee and Household Poverty

A study of coffee and household economy in two districts of Uganda

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1.0 Executive Summary

1.1 This study forms part of a four-country research programme funded by DfID. The overall goal is to develop methods of measuring and analysing poverty and modelling the impact of change at household level.

1.2 The focus of this study was on the impact of changes in the global coffee market on household poverty.

1.3 The study was conducted at four sites: two in Mpigi district, where lower value robusta coffee is grown, and two in Mbale district, within the catchment area of a speciality coffee marketing association.

1.4 Household economy methods were used to describe and quantify the components of household income and expenditure, including food production and employment. A representative sample of households was interviewed in all sites.

1.5 Comparisons were made between the income and standard of living of different households and between the four sites. These comparisons were made on the basis of disposable income i.e. income remaining after the household has met its food requirements. A minimum standard of living, consistent with Millennium Development Goals was established, using household expenditure data from the study sites.

1.6 In each of the study sites, food and cash income are obtained from a wide range of sources and paid employment makes up a high proportion of income. However, major differences were identified between the sites. For example, in the two Mbale sites, coffee remains an important source of income, providing up to 10% of total income. In Mpigi, households have diversified into mairunge[1] production in site I, where production accounts for over 10% of total income, but in site II, diversification out of coffee has not taken place to the same extent. Returns on mairunge are higher than coffee and the relative affluence of Mpigi site I can be attributed to the substitution of coffee with mairunge.

1.7 The effect of a change in producer coffee prices on household living standards was simulated using a simple arithmetic model. The fall in coffee prices has had a substantial impact on disposable income and living standards in some households. This effect is seen chiefly in Mbale, in the middle and upper income ranges. It is also seen in the poorer Mpigi site, across a broader income range. At the lower end of the distribution, the fall amounts to approximately one fifth of the calculated cost of the minimum standard of living i.e. around 5,000 Ug SH.

1.8 Overall, the modelling exercise indicated that a restoration of coffee prices, for example to levels prevailing before the price collapse in 2000-2001, would not make a substantial impact on the disposable income of the majority of households currently below the standard of living threshold defined in this study.

[1] Mairunge (*catha edulis,* also known as qat or chat*)* is a stimulant originally grown in Harar and now widely produced in Yemen and in highland areas of East Africa

Coffee and Household Poverty:

a study of coffee and household economy

in two Districts of Uganda

2. Background

2.1 This study was undertaken as part of a DfID funded research programme. The purpose of the programme is to 'develop methods of measuring and analysing poverty and assessing the impact of policies and programmes at household level, in ways that are practical and useful for decision makers involved in poverty and food security'.

2.2 The work was carried out in two districts: Mpigi, 40 km south west of Kampala, where standard, low altitude robusta coffee is grown, and Mbale, 190 km east of Kampala, where higher altitudes allow the production of arabica coffee.[2] In both Mpigi and Mbale district, household economy based methods were used to analyse the impact of the international price collapse on poor households and to define a standard of living threshold

2.3 It is hoped that this work will contribute to the national debate on poverty reduction and poverty monitoring, and provide insights that are relevant to the Plan for the Modernisation of Agriculture (PMA)[3], with its explicit poverty reduction objectives. In the short term, it is hoped that the analysis presented in this report will enable donors and private sector organisations to better understand problems facing poor households in coffee producing areas and factors that limit progress towards wider poverty reduction objectives and Millennium Development Goals (MDGs). It should also provide the communities involved in the research with information they can use in the decentralised system of governance through which the PMA is being implemented.

2.4 In the longer term, national and international investment in household economy based information systems may prove to be an effective means of promoting and protecting the livelihoods of poor rural communities, including those that are vulnerable to international commodity price shocks.[4]

2.5 The report is divided into three parts. Part I provides an overview of the coffee production system in Uganda. Part II presents the findings of the Mpigi study and Mbale studies and draws conclusions from the field assessments. An account of speciality coffee production and marketing is included in Annexe 2.

[2] Robusta varieties are grown at altitudes of 900m-1,500m, while arabicas are grown at higher altitudes, of between 1,300m-2,300m.

[3] MAAIF/MFPED (2000) Plan for the Modernisation of Agriculture: Eradicating poverty in Uganda

[4] Note also debates set out in 'Ex ante poverty and social impact analysis Uganda demonstration exercise' Booth D, Kasente D et al (2002), which highlights problems in he current use of household budget surveys for poverty impact assessment.

Part I

3. The Coffee sector in Uganda: Organisation and marketing

3.1 Income from coffee currently contributes around 50% of Uganda's export earnings. These earnings have fallen steadily since the collapse of the International Coffee Agreement (ICA) in 1989[5], and dramatically since the late 1990s. For example, Uganda's coffee income in 2001 fell by $104.8 million (36%) on the previous year, despite a 5.4% increase in the volume of coffee produced (UCDA figures). The dilemma that faces both governments and smallholders in most coffee producing economies is that, although returns from coffee are falling, the lack of alternative income sources compels producers to maintain and even increase crop levels. The same drive to continue exporting coffee increases the problem of oversupply and contributes to the further decline in prices.

3.2 The Government of Uganda (GoU) response to this problem, led by the Uganda Coffee Development Authority (UCDA), has been to attempt to enhance the value and competitiveness of the coffee harvest[6]. The main strategy is to promote organic coffee, washed robustas and 'gourmet' coffee for speciality markets. Whilst the value of washed robustas is 20%-30% above ordinary robustas, speciality organic arabicas can command prices that are 100% higher than basic robusta (up to 2,500 UgSH per kg). Additionally, GoU is a signatory to ICO resolution 407, which aims to stem the international collapse of robusta prices by:

(i) defining minimum standards for exportable coffee, based on a defect count and maximum moisture content and
(ii) encouraging robusta producers to diversify into other crops.[7]

3.3 Marketing mechanisms

3.3.1 Uganda liberalised its coffee sector in 1991. This resulted in the abolition of a system organised around co-operatives and a central coffee marketing board. Under this system, farmers received fixed advanced payments for their crop through the co-operative and additional payments based on quality. Independent buyers have almost universally replaced the role of co-operatives in farm level purchase and marketing.

3.3.2 Although only a small proportion (as little as 20%) of the final value of their crop was paid to farmers before liberalisation, quality based premiums were paid directly to producers, and provided an incentive to maintain standards. Under the present system, farmers receive a higher proportion of the final export price (up to 70%). However, with the exception of a small minority of speciality producers, they have lost the quality incentive. Liberalisation and the demise of the local co-operative monopolies, has led to a proliferation of local buyers, who tend to purchase all coffee

[5] Coffee accounted for well over 60% of Uganda's export earnings for most of the '90s (Government of Uganda)
[6] This is the strategy adopted by major donors including DfID and USAID, and by the ICO. In Sept 2002, the ICO, which represents producer and importing countries, passed a resolution banning the to export of robustas that fail to meet basic quality standards. Note: the US government is not a member of the ICO
[7] The impact of resolution 407 cannot be measured in the context of this study, as its implementation began after the period for which data was collected

at a single price, and are unable to preserve the identity of small batches of coffee. At farm level this removes the incentive to invest in quality. [8]

3.3.3 The Uganda Coffee Development Authority (UCDA), was established at the time of liberalisation to deal with this problem, and maintain the export value of the coffee crop. Its role is to:

'Stimulate coffee production through development of high yielding and good quality planting materials, promote value addition through continuous improvement and processing, create a unique brand for Uganda and promote domestic consumption with effective participation of the private sector'.

Analysis presented in Part II of this report, explores the challenges the coffee sector faces in meeting this goal.

3.3.4 Other institutional players in the coffee sector include the recently privatised extension service (NAADS); the Ministry of Agriculture, Animal Industry and Fisheries (MAAIF) and the Uganda Coffee Farmers' Association. The largest on-going initiative to support the coffee industry is the government's replanting programme, which has been in place for nearly a decade.

3.4 Current initiatives to develop and modernise the coffee sector

(i) Replanting programme and coffee wilt disease.

3.4.1 Coffee wilt disease emerged in Uganda in 1993 and since then has spread rapidly, particularly in older, robusta stock.[9] In the decade since coffee wilt first appeared in Uganda, its is estimated that up to 30% of trees have been affected[10]. A national replanting programme was initiated in 1994, which has enabled affected farmers to restock at no capital cost; free, high yielding, disease resistant clonal saplings are available from a national network of nurseries. The programme is being implemented by UCDA, through local authorities at district level, under the supervision of Agricultural Extension Workers. The programme covers both robusta and arabica growing areas[11].

3.4.2 However, the uptake of clonal coffee is limited. Problems include lack of access to advisory services, and in some cases, poor quality of available extension services. Fluctuations in farm gate prices and the high cost of agricultural inputs required are also a disincentive. For many farmers, the levels of labour and other inputs involved in clonal coffee production make it uneconomical.

3.4.3 Rather than invest in a crop with falling value, farmers in robusta producing districts have been encouraged to spread production risks; thus, in Mpigi, the location of case study I, there has been some diversification into crops such as ginger and vanilla. Mairunge is also grown in some places. Other practices, such as intensive inter planting with food crops such as cassava, which further reduce coffee yields, are now widespread.

[8] Ponte, S. Standards, Trade and Equity: Lessons form the speciality coffee industry (CDR Working Papers 21, Copenhagen 2002)
[9] A recent study indicated an annual infection rate of 3% per year (Munyambonera E, Msc thesis, University of Makere 2000)
[10] Based on Munyambonera (ibid)
[11] Out of the 80,000 hectares planted with improved coffee stock since 1994, 50,000 hectares is already in production

(ii) Speciality coffee

3.5.1 In districts where arabica beans can be grown, production of higher value coffee has been encouraged by government and supported by donors and the private sector. This is seen as a means of sustaining revenue from coffee exports and raising living standards at producer level. The private sector now plays an important role in improving the quality of coffee produced in arabica growing areas, which in recent years have been marked through 'speciality' labels.

3.5.2 Case study II was conducted in an area where a speciality project has been in place since 1997 (the Gumutindo Coffee project, run under the auspices of Twin Trading, a Fair trade organisation based in the UK). The assessment looked at the contribution that speciality coffee, including coffee sold with the Fair trade premium, had made to household economy and living standards in the study area. Details of the project are set out in Annexe 2.

Part II

4. Summary of methodology and findings

4.1 Introduction to the study areas

Two assessments were carried out between February and April 2003. Study 1 was carried out in Mpigi district, where robusta coffee is produced. Study 2 was carried out in Mbale district, where arabica beans are grown.

4.2 Study area 1, Mpigi

4.2.1 Mpigi district is situated in central Uganda, and bordered by Mubende and Sembabule districts in its western boarder, Masaka in the south and parts of Wakiso and lake Victoria in the East. The district is made up of 3 counties and 17 sub counties. It has an estimated population of 414, 543 with a total of 89,303 households (2002 National Population and Housing Census).

Altitude ranges from 1,182 metres to 1,341 metres, above sea level.

The average annual rainfall for Mpigi district is 1320 mm. The two main agricultural seasons are February to June and September to December.

4.3 Food economy zones

Mpigi District has 3 main Food Economy Zones[12]

1. *The Semi Dry pastoral Zone*. This area covers the whole of Gomba Sub County and parts of Kabulasoke and is mainly occupied by pastoralists. Livestock in the area include cattle, goats, sheep, pigs, and poultry.

[12] The term 'food economy zone' is an area in which most households obtain their food and cash incomes from roughly the same combination of means In primarily agricultural areas food economy zones tend to relate fairly closely to agro-ecological zones. The zones used here were defined as part of the assessment, and have now been incorporated in an on-going national food economy and livelihoods zoning exercise (led by FEWSNET/USAID and SC UK funded by DfID).

2. *The low land Fishing Zone.* The low land fishing zone mainly covers the areas in Mawokota County and the swamps around lake Victoria. The main livelihood is fishing in Lake Victoria, although horticulture is also carried out, including production of pineapples for sale to the urban areas such as Mpigi Town and Kampala.

3. *The Mid Coffee growing Zone.* The mid coffee growing zone is located in the centre of Mpigi district and covers Butambala County, with a few other areas in Buwama and Mawokota County. The main economic activity in this area is agriculture. The traditional cash crop is coffee, although this has been severely affected by coffee wilt disease since the mid 1990s. More recently cash crops including beans, cassava, ginger, mairunge and groundnuts have been introduced. Horticultural crops such as tomatoes, onions and fruits such as avocados are produced, as the zone is situated near to the main district town (Mpigi) and to the road network linking Mpigi to Kampala. Only small numbers of cattle and goats are kept. Poultry keeping is more important and poultry and eggs are sent to the Kampala market.

4.4 Location of the study site

4.4.1 The study took place in the Mid coffee growing zone. Two villages (termed Mpigi I and Mpigi II) were selected in Kalamba sub county. Mpigi I has 196 households and a population of 984 people; Mpigi II has 262 households and a population of 1311. The distance between the two is approximately 1.5 miles (2.4km).

4.4.2 Sites were selected on the grounds that these villages would provide a picture of the range of production and employment options available to households in an area producing robusta coffee, with reasonably good links to the wider economy. Since the main purpose of the study was to demonstrate a methodology, and to illustrate the range of problems it could be used to explore, it was decided to avoid very poor or particularly well off sub counties.

4.4.3 Kalamba Sub County is well served by feeder roads, and Kampala can be reached in less than one hour's driving time.

4.4.4 The landscape is hilly and has a fairly thick cover of tropical forests, which are used for firewood, timber and charcoal burning. The study area also includes protected National Park land.

4.5 Coffee in Mpigi district

4.5.1 For over forty years, from the 1950s until the early1990s, coffee was the most important cash crop grown in the study area. A combination of factors, including the global collapse of coffee prices during the1990s, and the arrival of coffee wilt disease around 1994, have resulted in a fall in both the volume and value of coffee produced in Mpigi [13].

4.5.2 In the last agricultural year (Jan 2002- Jan 03), at least 10 coffee dealers operating in the locality were able to buy an average of 9,000 kg of coffee each, bringing the total to 90,000 kilograms of coffee over the year. The purchase price from farmers was from around 150-450[14] Ug SH per kg. This was sold on either to larger traders (on a contract basis) or directly to the main exporters, at 1030 Ug SH

[13] Exact figures for district level production are not available

per kg and 1050 Ush per kg respectively. The role of coffee factories is now limited to coffee processing i.e. (removing the husk) at a cost of 30 Ug SH per Kg.

4.6 Study area 2, Mbale

4.6.1 The second study was carried out in Mbale district, a prime arabica growing area. Mbale is situated in Uganda's eastern highlands, and shares an international boarder with Kenya. The district is 160 miles (192 kilometres) from Kampala.

4.6.2 Altitudes range from 1,299 metres to 1,524metres above sea level. The highest point, mountain Elgon, is 4,321 metres above sea level.

4.6.3 Mbale is in a high rainfall zone with annual precipitation of approximately 1191 mm per annum. Rainfall peaks at 800mm to 1,200 mm in March-June and July-November, with drier spells from December to February.

4.6.4 The district has a population of around 720,780 people with a total of 90,097 households (2002 Population and Housing Census).

4.7 Food Economy Zones

Mbale district has two distinct Food Economy Zones:

(I)The highland coffee growing zone occupying 25% of the total land area

(II)The lowland cotton-growing zone, which occupies 75% of the total geographical area.

The highland coffee-growing zone is characterised by steep, highland terrain, which is affected by landslides and soil erosion. Soils are mainly a fertile volcanic clay and loam mixture, which reaches across the entire highland area.

4.8 Population

The zone has a total population of approximately 159,381 people, most of whom are subsistence farmers, and rely on agriculture for both household food and cash income.

4.9 Main Crops.

The main cash crop grown in this zone is arabica coffee, although other crops such as vanilla have recently been introduced. The main staple food crops are matooke, cassava, sweet potatoes and beans. Yams, maize, pumpkins, sukuma, groundnuts, fruit and vegetables and sugar cane are also grown for sale and own consumption. Due to the small size of most landholding (0.5-2 acres) coffee is intercropped with other crops.

All crops are prone to pest infestation and disease due to the high rainfall.

[14] The price range reflects the level of on-farm drying and processing

4.10 Livestock

Livestock numbers are limited in the highland zone and include local varieties of cattle, sheep, goats and some few pigs in specific households. Government has also introduced some exotic breeds of cattle, through the PMA.

4.11 Location of the study sites

The team was directed to two adjacent communities by district level authorities. The same criteria applied as in Mpigi i.e. that the communities should not be particularly well off, or particularly poor. An additional criterion was that the communities should be in the catchment area of a speciality coffee project. The Mbale project allows producers to market their coffee at higher Fair trade prices, and has recently introduced an organic production scheme.

Village 1 (termed Mbale I) has 234 households and a population of approximately 1170 inhabitants

Village 2 (termed Mbale II) MB has 102 households and a population of approximately 511 inhabitants.

4.12 Coffee production in Mbale.

High quality arabica coffee has been grown in Mbale for over a century. The crop was initially restricted to the higher altitude slopes of Mount Elgon. Cultivation has now spread to the lower lying central and Southern parts of the district, which is known nationally and internationally for its local "Bugishu Coffee". Lower quality robusta coffee is not grown in the district.

4.13 Production levels

Household landholdings are generally small and coffee yields are relatively low, averaging 1 kg per tree. This is mainly due to inter-cropping, poor management and low use of fertilisers and pesticides leading to disease infestations such as leaf rust. Arabica coffee is mainly harvested in a single season, between the months of September and February.

4.14 Variation in yield

Yields from arabica bushes tend to fluctuate considerably between years. Farmers give various explanations for this. Irregular application of inputs, pesticides and fertilisers clearly reduce yields. It is also recognised that the official replanting effort has both increased the number and improved the varieties grown in some coffee plantations, and resulted in higher yields.[15]

[15] Reliable statistics for coffee production either at district or sub county levels were not available to us

5. THE STUDY

5.1 Study Methods

The study was conducted by a team of eight, three of whom had prior experience of both the standard Household Economy Approach (HEA) and individual household techniques, one who had experience of standard HEA field work and four translators/field assistants. Information was obtained from secondary sources, 'key informants' (individuals with specialised knowledge of particular subject) and from interviews with a sample of households

5.2 Background information on the population and the economy of Mpigi and Mbale districts, with specific reference to coffee production and trade was collected from secondary sources before the start of the study (UCDA and Uganda Bureau of Statistics).

5.3 The study sites were selected in consultation with district agricultural officers and other local administrative officials. The purpose of the study was explained, and its potential contribution to local decision making and poverty reduction processes was discussed. The final site selection was made at sub county level. Sub county leaders facilitated introductions with the local council (LC1) chairman. The sites should not be seen as representative of all coffee growing villages in these areas.

5.4 At each study site a comprehensive list of all crops, (including minor crops, fruit trees, timber, fodder, vegetables etc) and all livestock and their uses (traction, milk, meat, live sale and sale of products) was compiled from interviews with farmers (men and women selected from different economic groups) and with agricultural and livestock extension workers. The results from these interviews were cross-checked to reach a consensus view. A list of market prices for all traded produce was compiled, together with conversion rates for local measures.

5.5 For each agricultural activity information was obtained on:

(ii) Seasonal agricultural labour requirements (crops and livestock) i.e. a labour calendar, identifying the labour required for a defined area of land (i.e. – actual amount used) for each task (e.g. land preparation), and who (men/women/children) typically does this work.

(iii) The costs of all crop and livestock inputs (land, labour, fertilisers and pesticides, veterinary services etc) and the yields expected at different input levels and details of seasonal prices.

(iv) Employment. For each type of paid employment (including salaried and self employment):

- An estimate was obtained of the amount of labour typically available for each type of employment (days per month), seasonal variation in this, wage rates, and the requirements (age, gender, skill or qualification) for employment.

- Information on markets was obtained from key informants and the secondary literature. This included the names and locations of local markets for goods and services. Information on the operation of markets for major traded commodities, including how prices are set, was obtained from interviews with traders in those commodities (*e.g.* primarily based on levels of competition between traders)

5.6 Credit and loans. Information was obtained from household interviews and other key informants on formal and non-formal sources of credit and loans; interest rates; and estimates of proportion of the population using credit and the size of loans taken.

5.7 To gain further understanding of the role of coffee in household economy, key informant interviews were conducted with older farmers, whose livelihoods had been affected by changes in coffee prices, and by coffee wilt disease. Questions included:

- A historical overview of local coffee production from the late 1980s:
- General discussion of the reasons why farmers continued to grow coffee despite low prices, and constraints on diversification.
- The main changes in coffee marketing, extension, and access to inputs over past 10yrs.
- The use of clonal coffee and reasons for low uptake.

5.8 Interviews with individual households

At each site two samples of households were drawn, one for long interviews and one for short interviews.

5.8.1 Long interviews. 23 long interviews were conducted at site 1, (Mpigi), and 21 at site 2, (Mbale). Interviewed households were selected in proportion to the wealth distribution obtained from key informant estimates. Long interviews (which typically take 2 hours) used standard semi-structured interview techniques[16], to obtain a detailed account of household membership, a household budget (food and cash income and expenditure) and assets (land, livestock holding and items such as bicycles).

5.8.2 Short interviews. 39 interviews were conducted at Mpigi I, 37 at Mpigi II and 30 and 29 respectively at the two Mbale sites. Households were selected by taking every house on a series of transect walks, the routes being selected from the village map to ensure that each section of the village was covered. Questionnaires for the short interviews (which took approximately 25 minutes) were designed after the long interviews were completed, in order to ensure that the questions included were sufficient to obtain a reliable estimate of all household income sources.

5.8.3 Information in both the long and short interviews was collected with reference to the period Jan-December 2002. This was the most recent full agricultural year, and one in which general conditions and production were characterised as 'average to good' in both locations.

[16] The Household Economy Approach, (Seaman J et al SCF UK 2000)

6. Findings and analysis

6.1 Data from the long and short interviews has been combined [17].
Definitions and terms

6.2.1 In order to make meaningful comparisons between the income and standard of living of different households, food and non-food income must be reduced to common terms. There is no completely satisfactory way of doing this. The households included in the study obtain part of their income as food produced for consumption and part in cash (from the sale of food and non-food crops, employment, remittances and gifts[18]). Converting all income to its money equivalent runs into the difficulty that there is no market for some s of food produced (chiefly fruit). Conversion of income to food energy (kilocalories (kcal)) is also inexact as the quality (i.e. nutrient content) of food produced for consumption varies between households. (A list of income sources is given in Annexe 3).

Further, the interest in this study is not in income as such, but in the standard of living. This is more satisfactorily represented by the 'disposable' rather than total income of each household i.e. the amount of money remaining to the household after this has met its food costs. The household information has therefore been organised in the following way:

Disposable income

The results of the analysis have been presented in terms of household disposable income, defined as the money remaining to the household after its minimum food needs have been met.

- Household food energy requirement has been estimated by calculating the sum of the requirement of three age categories: Adults, 2500kcal/day; older children (aged 12 to 18), 2300 kcal/ day; and younger children at 1500 kcal/day. These requirements were adapted from World Health Organisation estimates [19].

- Any household food needs not met by household production (most households were found to produce less than they consume) is satisfied by the purchase of cassava (90% of estimated household energy need) and beans (10% of household energy need) at the prices prevailing at the time of the study. These food items were chosen, as they are reasonably representative of the diets of the poorest households in the longer detailed household interviews.

6.2.5 Total household income (which is not used in the main analysis) has been calculated as the cash value of all income (cash + the cash value of food grown for consumption, excluding the value of fruit), where food items grown for consumption have been priced at producer price. The distortion introduced by the exclusion of fruit is very small (approximately 2.3% of total food energy consumption in Mpigi, 1% in Mbale)

[17] The total number of household interviews included at each site was Mpigi I, 52, Mpigi II, 47, Mbale I 43, Mbale II 38. 15 points were dropped because of obvious errors in the data or illegible forms

[18] 'Gifts' include all transfers between households on 'non-market' terms. This would include charitable gifts, gifts between kin, reciprocal arrangements between households etc.

[19] World Health Organisation (1985) Energy and protein requirements. WHO technical report series 724. Geneva.

'Adult equivalents'.

6.2.6 To ensure the comparability of disposable income between households, results have been standardised in terms of 'adult equivalents'. The number of adult equivalents/ household = the total annual household food energy requirement / average (male and female) annual adult energy requirement (2,500kcal).

6.3 The standard of living. A minimum standard of living has been defined as the cost to a household of meeting:

- basic household expenses i.e. kerosene (for lighting), matches, and household utensils. Additionally an allowance has been made for seeds as this is a regular expenditure even of poorer households.

- personal expenses i.e. clothing, soap and medical costs.

- primary school costs i.e. uniforms and books[20].

6.3.1 Estimates of the costs of each of these have been made from the long interviews of poorer households at each site. As the difference in costs in each category at each location is small, an average has been taken (household costs, 25,750 Ug SH personal expenses 45,770 Ug SH, primary school costs 4,750 Ug SH). This estimate provides a minimum standard of living consistent with poverty reduction targets and the Millennium Development Goals (MDGs) in nutrition, basic needs and access to services. Income is of course only one element in achieving poverty reduction and broader MDGs: investment in health, education, and other social and physical infrastructure is equally necessary. However, children in households where disposable income cannot meet the basic requirements set out in this report, will inevitably have fewer developmental opportunities and worse life chances than children from households that do.

6.3.2 As the household demographic composition varies between households, the cost to each household of achieving the minimum standard of living has been calculated for each household as:

Household expenses + (personal expenses * number of people in household) + (number of primary school age children * cost per child).

6.3.3 This approximates the efficiencies which larger households may enjoy in the consumption of some items (e.g. a larger household is likely to spend less per person on fuel for household lighting and utensils) and the larger cost associated with larger numbers of people and school age children.

6.3.4 Comparisons between households within and between sites are therefore in reasonably common terms. Approximations aside, the only specific omission is in terms of differences in the food quality (nutrient composition) of food grown by each household for its own consumption.

[20] UPE has had great success in increasing primary school attendance. Whilst primary schooling is free in Uganda there are nevertheless some costs attached to this.

6.4 The quality of the income estimates.

There is no absolute measure of this. The long interview technique used includes several checks for internal consistency and plausibility [21]. The chief potential sources of error in the short interviews appear to be:

(i) The omission of income sources. As care was taken to identify all sources of potential income in each area before designing the short interview questionnaire we are reasonably confident that this did not occur. It is probable that, particularly in the poorest households, minor sources of income were underestimated, the most likely source of error being some degree of 'self-provisioning' by children [22].

(ii) Estimates of income from matooke and sweet bananas. As bananas are produced in bunches, with variable numbers of bananas per bunch and bunches per tree, and with harvesting in stages rather than at a single time, a household cannot estimate the weight of edible banana produced. Therefore, household Matooke production has been estimated from the number of trees reported multiplied by an estimated average edible production/ bunch [23].

6.5 Coffee production has been estimated in the same way (i.e. as an average return per bush). As coffee production / bush varies from year to year this ensures consistency in the analysis. Coffee returns have been taken at 1kg/ bush, a figure calculated using returns recorded for the reference year, 2002.

6.6 Note that except where otherwise indicated, all quantitative results shown by household are presented in ascending order from the poorest to the richest, *where the relative income level is set in terms of disposable income* [24].

7. Results

(i) Sources and levels of household income

7.1 Sources of income. At both study sites food and cash income are obtained from a wide range of food and cash crops, livestock, employment and gifts (Figure 1, Sources of income: Mpigi I, Mpigi II, Mbale I, Mbale II).

7.2 Table 1 shows the estimated contribution of the main income sources to the total village income at each site.

7.3 Figure 2 shows the relative importance of different sources of income at each site

7.4 Figure 3 (Mpigi I, Mpigi II, Mbale I, Mbale II) shows the importance of coffee and Mairunge relative to total cash income by household.

[21] See The Household Economy Approach, op cit.
[22] This was not investigated. Poor hungry children find additional food where they can by hunting, begging and undertaking small tasks in exchange for food.
[23] The estimated edible weight of matooke is based on studies undertaken in Uganda (African Crop Science Jnl, 1999)
[24] Ordering household income by cash (minus fruit)/ adult equivalent; food energy / adult equivalent and the 'disposable income / adult equivalent' all yield a similar household wealth ranking.

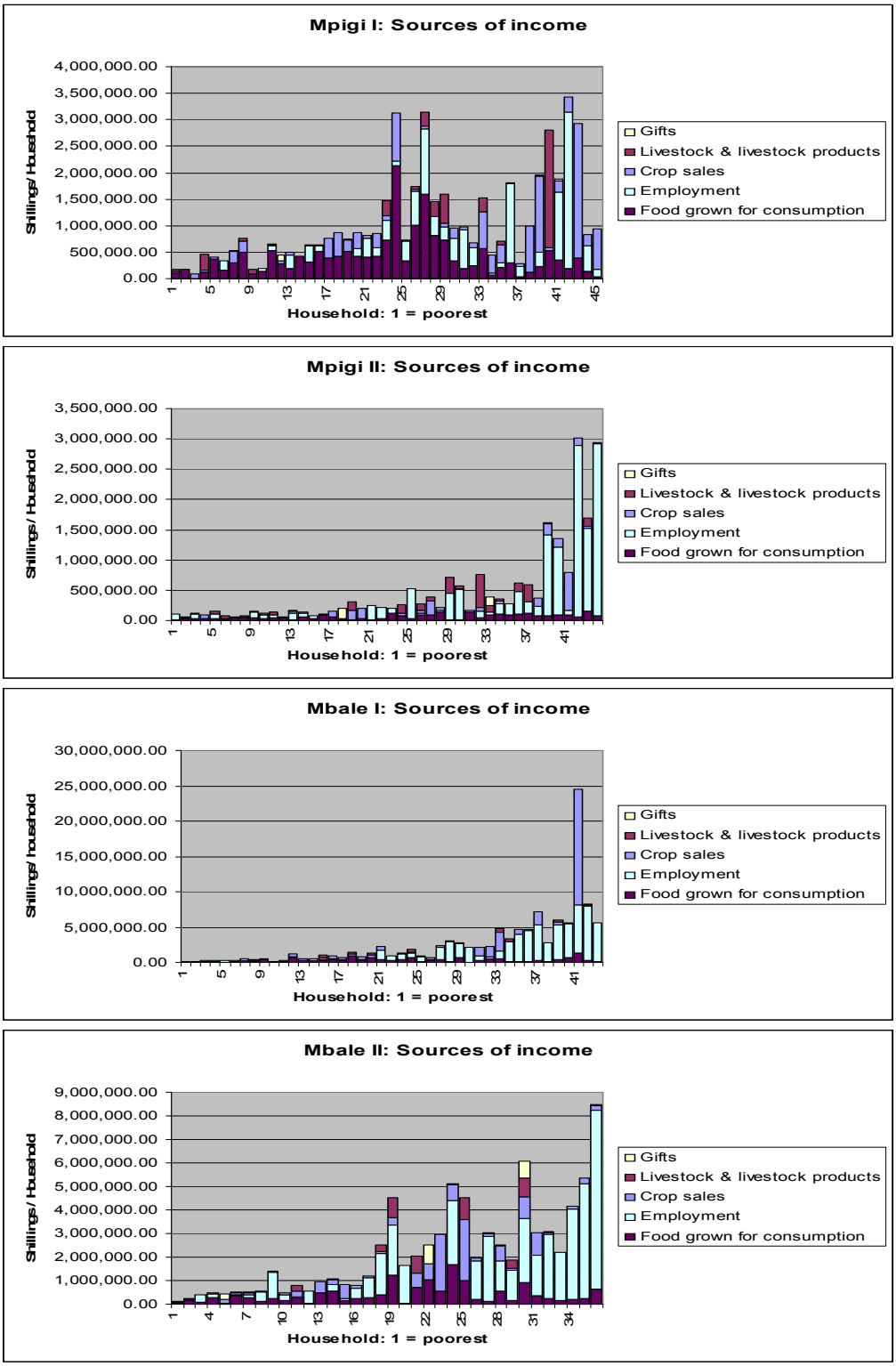


Figure 1. Sources and amount of income/ household, by household at the 4 study sites. Food grown for consumption has been converted at producer prices and excludes fruit. Households ranked by estimated disposable income/ adult equivalent.

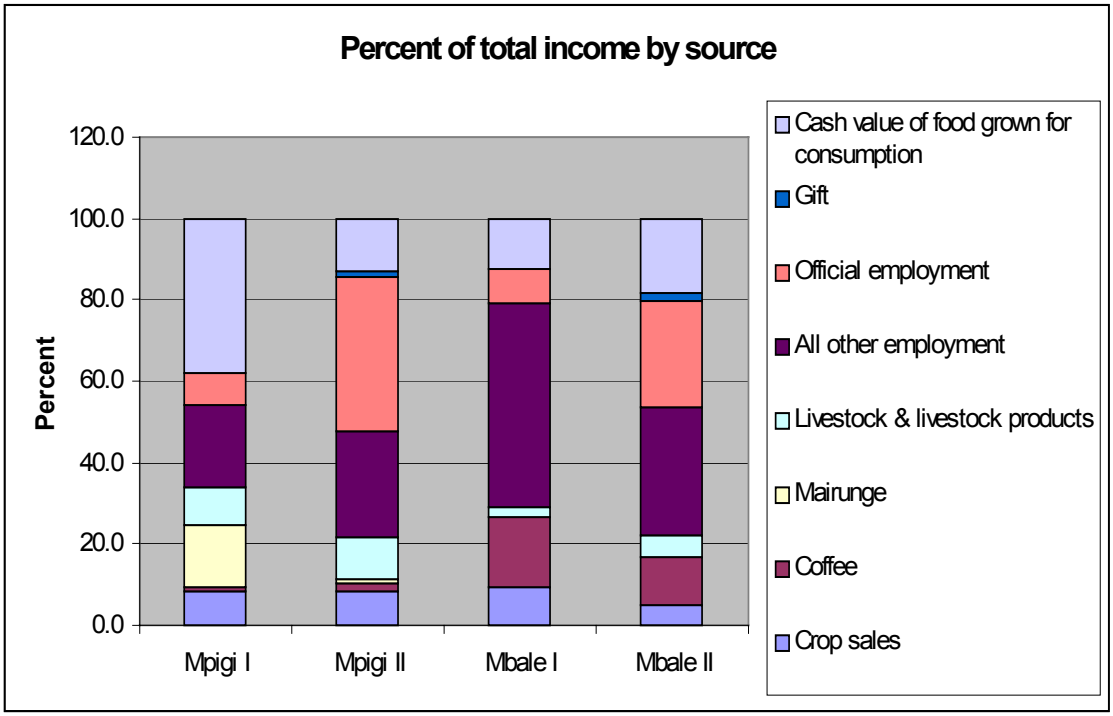


Figure 2. The relative importance of different income sources at each site.

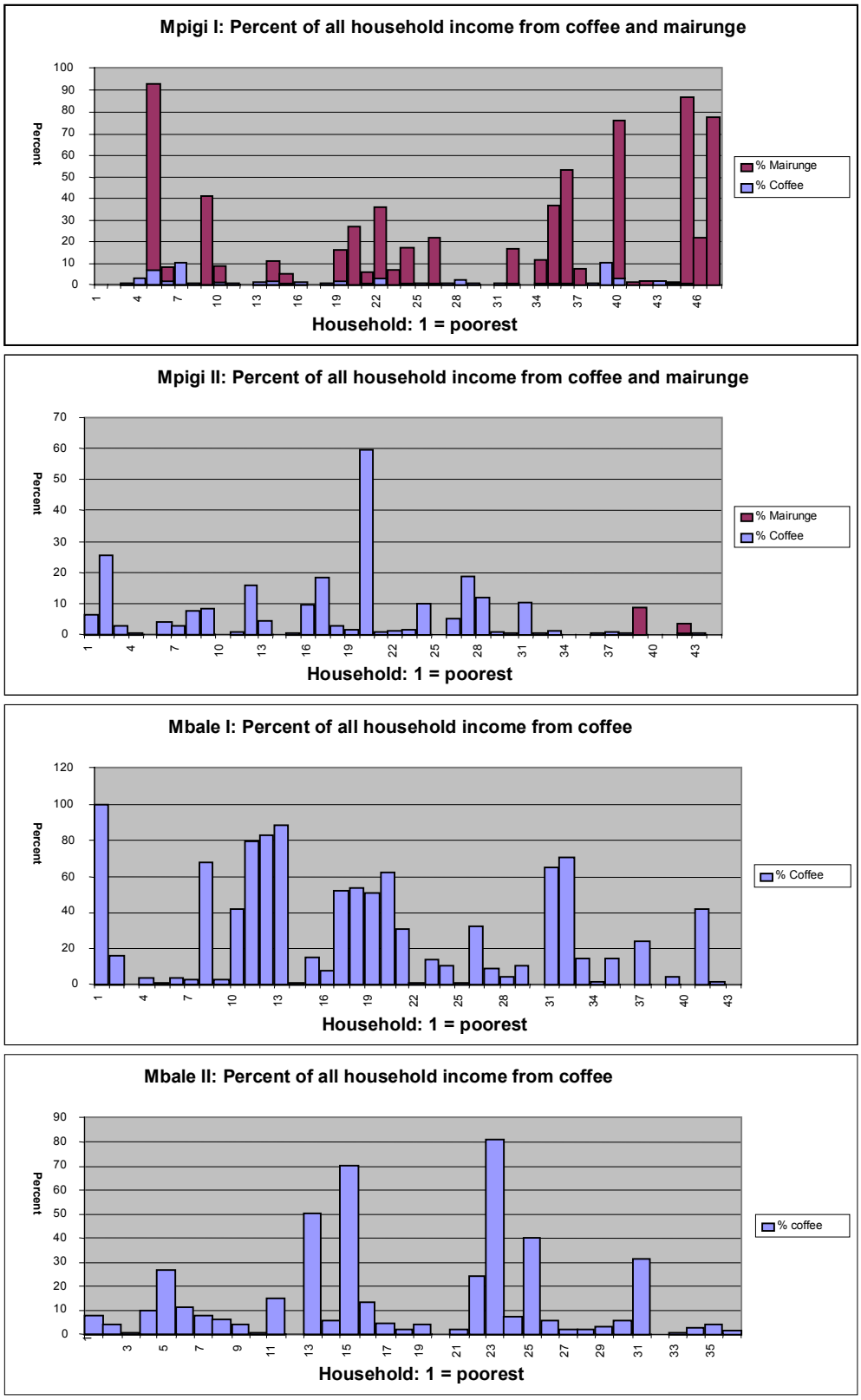


Figure 3. Percent of total income (i.e. including food crops grown for consumption) from Mairunge (Mpigi I and Mpigi II) and coffee (all sites). Households ordered by disposable income.

Table 1 Estimated contribution of main sources of income to total income.

Source of income	Study site: Mpigi I	Mpigi II	Mbale I	Mbale II
	Percent total income			
Crop sales	8.5	8.2	9.3	4.8
Coffee sales	0.9	2.0	17.1	11.9
Mairunge sales	15.1	1.2	0.0	0.0
Sale livestock & livestock products	9.5	10.3	2.4	5.6
Teacher, other government employment	7.5	38.0	8.2	26.0
All other employment	20.3	25.8	50.5	31.2
Gifts	0.3	1.6	0.1	2.3
Cash value of food grown for consumption, not including food	37.8	12.9	12.3	18.2
Average income/ person, Shillings	106,707	78,796	371,770	423,361

The chief features of the four sites are:

(i) The Mpigi sites are much poorer than those in Mbale.

(ii) All sites show an extreme polarisation of income.

(iii) The contribution of coffee sales to the overall economy of the Mpigi sites and particularly Mpigi I, where mairunge is the major cash crop, is very small. At Mpigi I, mairunge accounts for approximately 15% of gross income.

(iv) Paid employment makes up a large proportion of all income at all sites. Much of this is obtained from official employment (teachers and government officials), despite the relatively small numbers of people employed in these occupations (Figure 4: Mpigi I, Mpigi II, Mbale I, Mbale II).

7.5 Disposable income and the standard of living.

Household disposable income (described in section 6) is shown in Figure 5 (Mpigi I, Mpigi II, Mbale I, Mbale II). In each case some of the poorest households show a negative disposable income.

7.6 This implies that the household is unable to meet its food needs, to the food quality defined in para 6.2.6 above i.e. to meet this level of consumption, it would have to spend more money than it has available from other income sources. In turn this implies that (i) the household is actually consuming less than this quantity and/ or (ii) for the reasons given in para 6.4, household income has been underestimated. It is likely that for the very poorest households both explanations hold i.e. wild foods and self-provisioning add to the recorded food income (para 6.4 ii), and energy intake is lower than the requirements set (6.2.6). The observed household standard of living in the very poorest households was very low. Energy intake in the range of 75%-85 % of requirement was recorded in the poorest households in some of the long interviews.

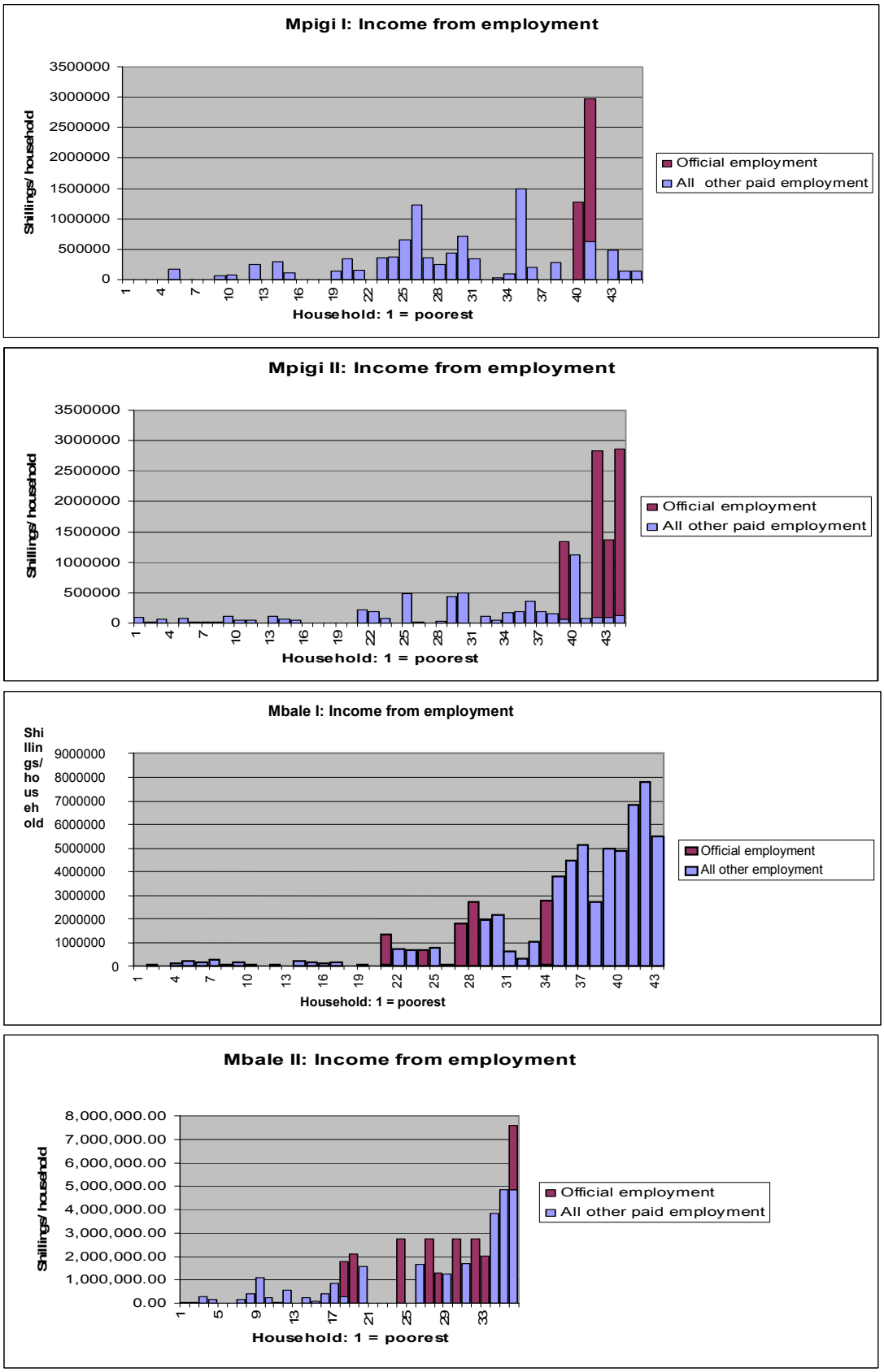


Figure 4. Household income from official employment (teaching, Government officials) and all other employment

7.7 Figures 5 (Mpigi I, Mpigi II, Mbale I, Mbale II) also show (households in red) those households which fall below the defined minimum standard of living (para 6.3). The proportions falling below this threshold are Mpigi I (44%), Mpigi II (77%), Mbale I (37%) and Mbale II (22%). For comparison, the Uganda 'absolute poverty line' is also shown.[25]

[25] Based on information in 1. Poverty Trends in Uganda 1992-1996 (Ministry of Finance and Economic Planning Discussion Paper no 2, Aug 1998). 2. Poverty Indicators in Uganda (Ministry of Finance and Economic Planning Discussion Paper no 4, June 2001). 3. Changes in Poverty in Uganda 1992-1997. Appleton, S (Centre for the Study of African Economies Working Paper 106, 1999). Two poverty lines have been used in Uganda. (I) A 'Food Poverty Line', which is defined in terms of the cost of a basket of specific food items, using 1993/1994 prices. This basket includes 28 items, including meat, fish and eggs. (ii) An 'Absolute Poverty Line' defined as the amount of money ((23,500 Ug SH/ household/month) required to meet non-food costs, over and above the food cost. Applying the Uganda food poverty line to the survey data *using food prices obtained on the survey* (24% more expensive than the 1993/1994 prices) i.e. taking total household income, including the value of food produced for consumption, and subtracting the Food Poverty Line household food cost - a close agreement is found with disposable income calculated using our method (see figure 8). Comparing the Uganda 'Absolute poverty line' to the survey disposable income for each household shows, there is close agreement with the survey approach in terms of the number of households below the poverty line (Mbale 24% below the poverty line versus 27% using the survey method, Mpigi 60% versus 57% using the survey method). In summary, and allowing for 33% inflation in the 10 years since 1993/1994 when the data used to define the Uganda food poverty lines was collected (Africa Economic Research, Standard Bank), there is a close agreement between our estimates of the proportion of people in poverty and those obtained using the Uganda methods. However, the two methods would not select exactly the same group of households as being in poverty.

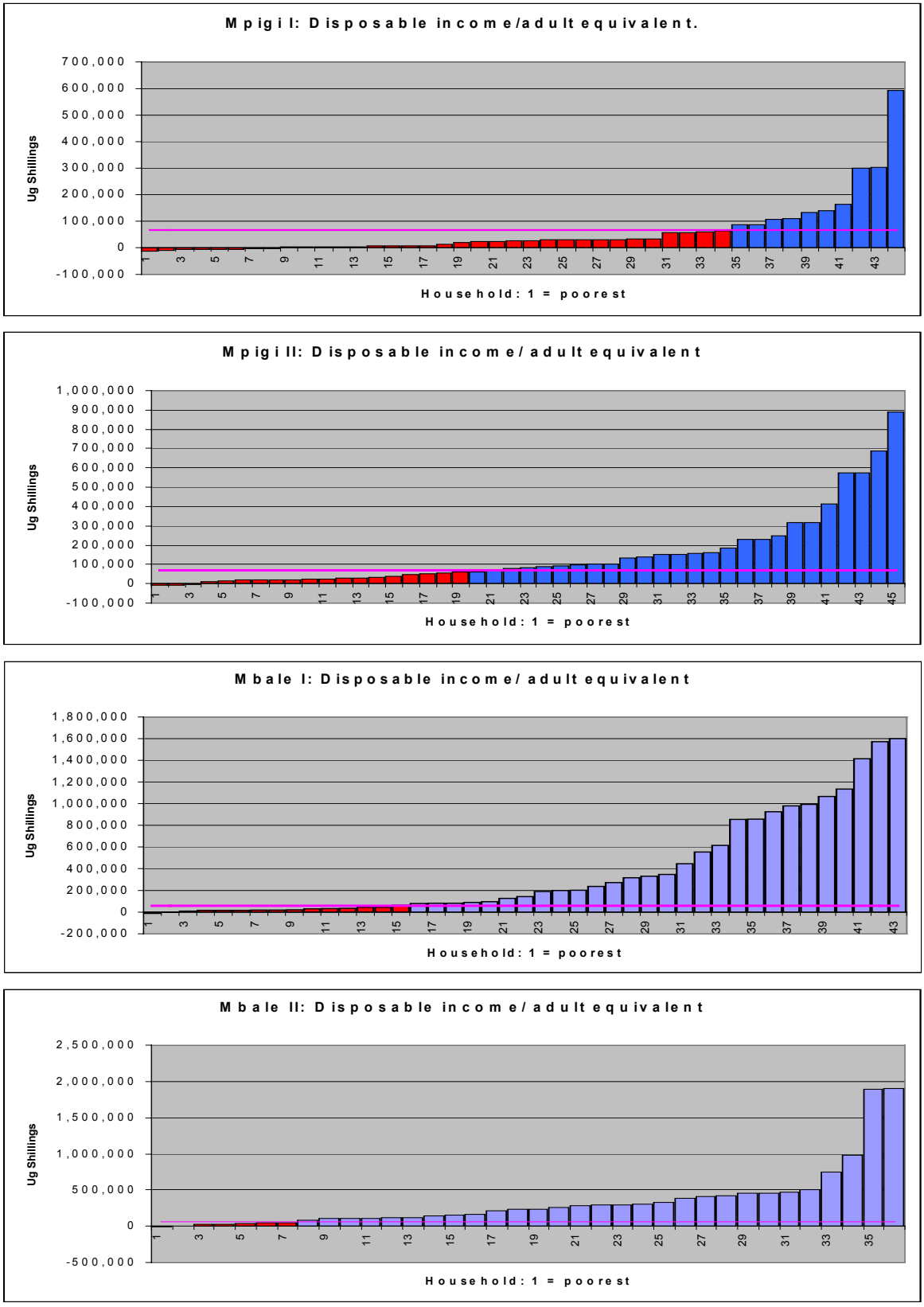


Figure 5. Disposable income/adult equivalent, Mpigi I & II, Mbale I & II. Red bars indicate households falling below the defined standard of living. The horizontal line indicates the Uganda Absolute poverty line. Note that the absolute poverty line is expressed as an amount/household (282,000). The level shown = the average value of the absolute poverty line/adult equivalent for all households in each series. Figure 5a gives a direct comparison for Mbale.

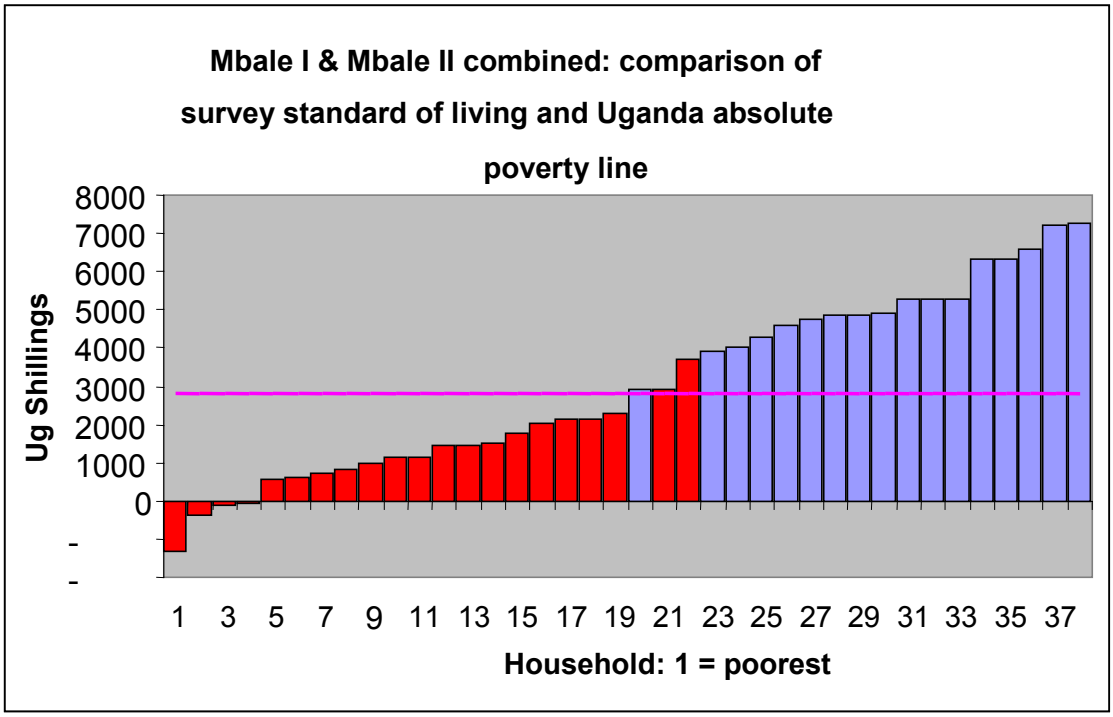


Figure 5a. Mbale 1 & II combined, only the poorest 38 households shown. Total household disposable income (bars) and Uganda absolute poverty line (horizontal line). Total household disposable income in ascending order. Red bars = households which fall below the defined survey standard of living.

7. 8 Coffee price changes, household income and standard of living.

7.8.1The primary aim of this analysis is to relate changes in the international coffee price and the income and standard of living of coffee producing households.

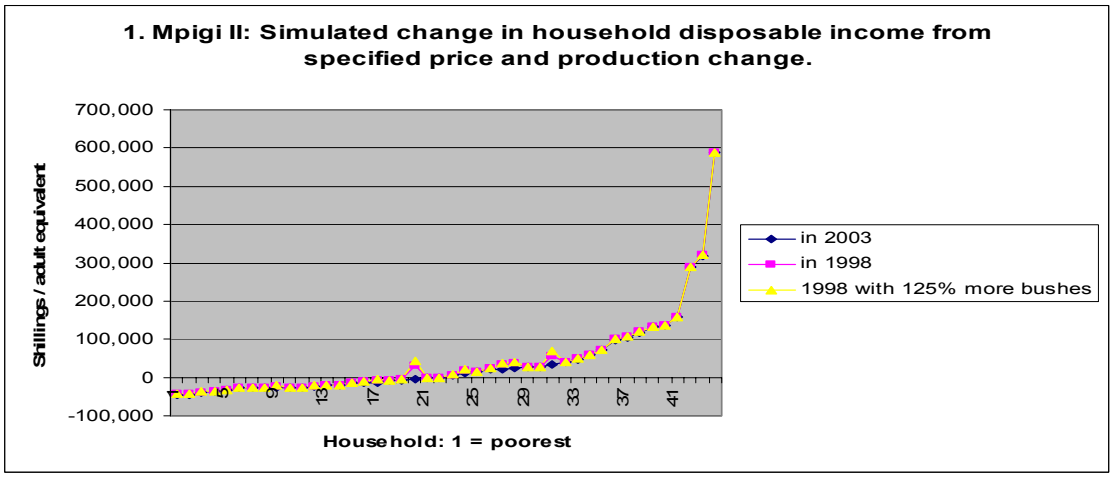
7.8.2 To demonstrate the effect on household disposable income and the standard of living from changes in the producer coffee price, a simple arithmetic model has been used (see Annexe I)[26]. This simulates the impact of a change in household income resulting from a fall in coffee price. The analysis was carried out using purpose-designed software.

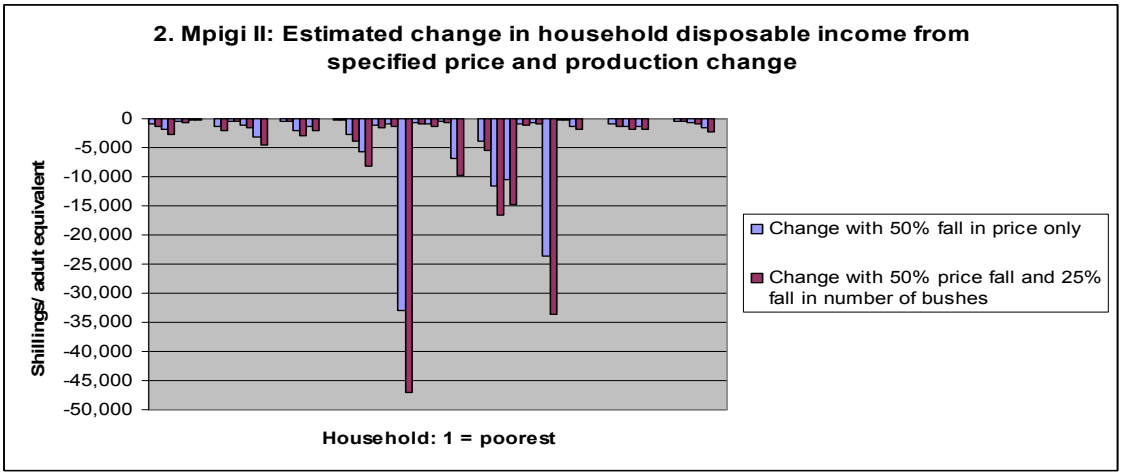
7.8.3 This model is based on the assumption that households will maintain broadly the same pattern of economic activity over the period to which the model is applied. Clearly, over a long period of time this assumption is not likely to hold, as some households' dependence on coffee will change e.g. due to the loss of bushes from wilt, the changed use of inputs, inter-cropping coffee bushes or (as at Mpigi I) shifting production to alternative crops. Additionally the fall in coffee price and production has led to a loss of labour opportunities No attempt has been made to estimate the effects of these [27]. Further, to the extent that a household is able to adapt to the loss in coffee income by investing more heavily in other economic activities, the actual fall in standard of living would be less.

7.8.4 The simulated effect on household disposable income of a simulated fall in coffee prices is shown in Figures 6a (Mpigi II Simulated change in household disposable income from specified price and production change;) Figures 6b (Mbale I Simulated change in disposable income) and Figures 6c (Mbale II Simulated change in disposable income). Mpigi I has been excluded as only a very small quantity of coffee is grown.

[26] See also 'The Household Economy Approach', op cit.

[27] In Mpigi, the loss of trees from coffee wilt disease and the fall in coffee prices has resulted in a fall in agricultural labour opportunities. Given the lack of alternative work for unskilled workers, there is no doubt that poverty in Mpigi partly reflects a decline in agricultural labour.





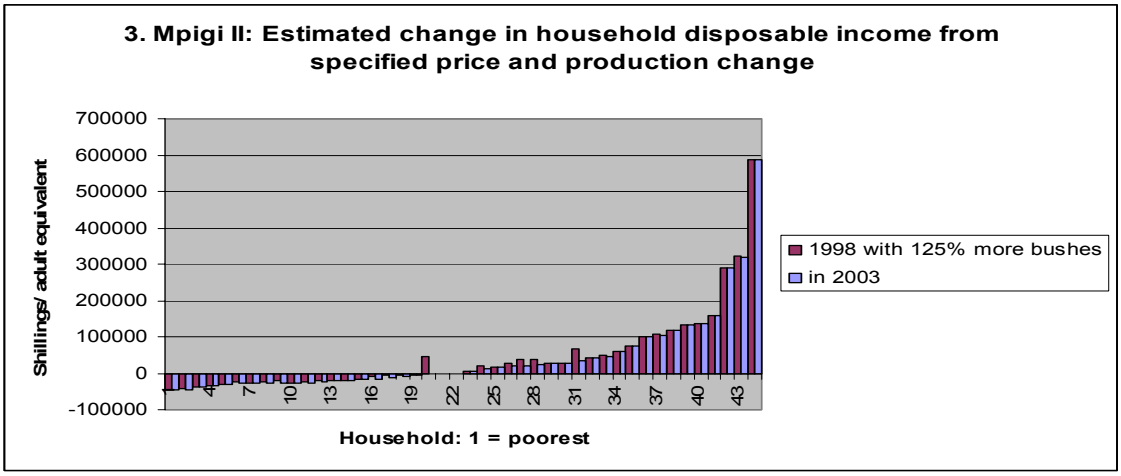
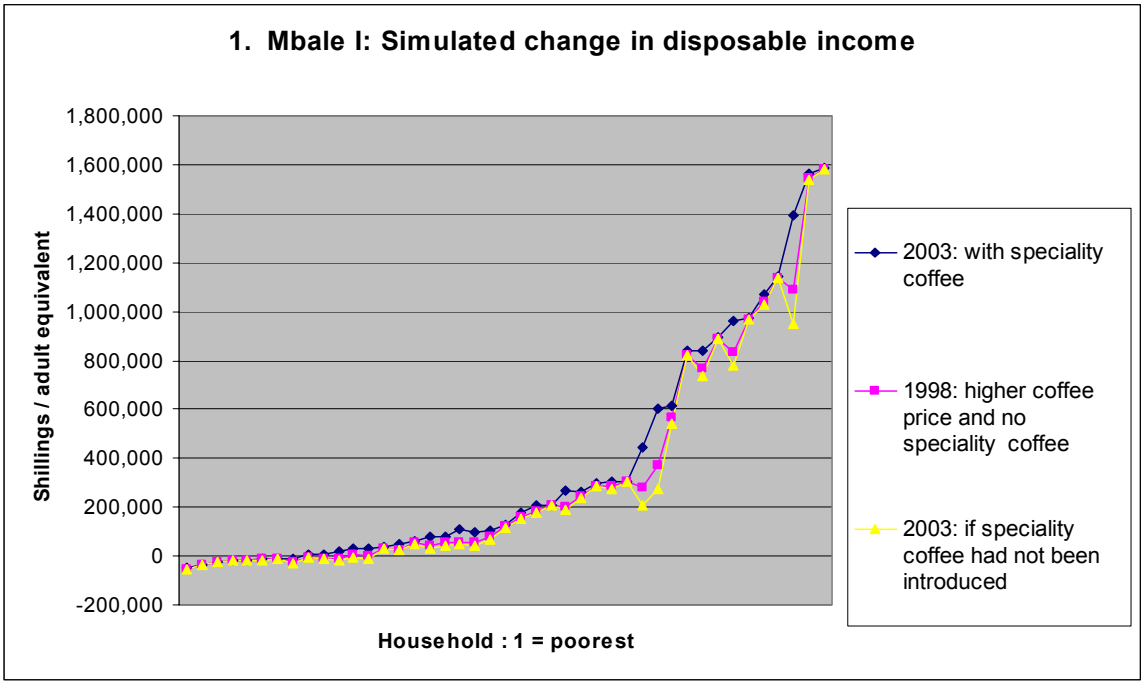


Figure 6a Simulated change in household disposable income following 1. A 50% fall in coffee price, 1998 – 2003 2. 2. The same price change and a loss of 25% of all coffee bushes.



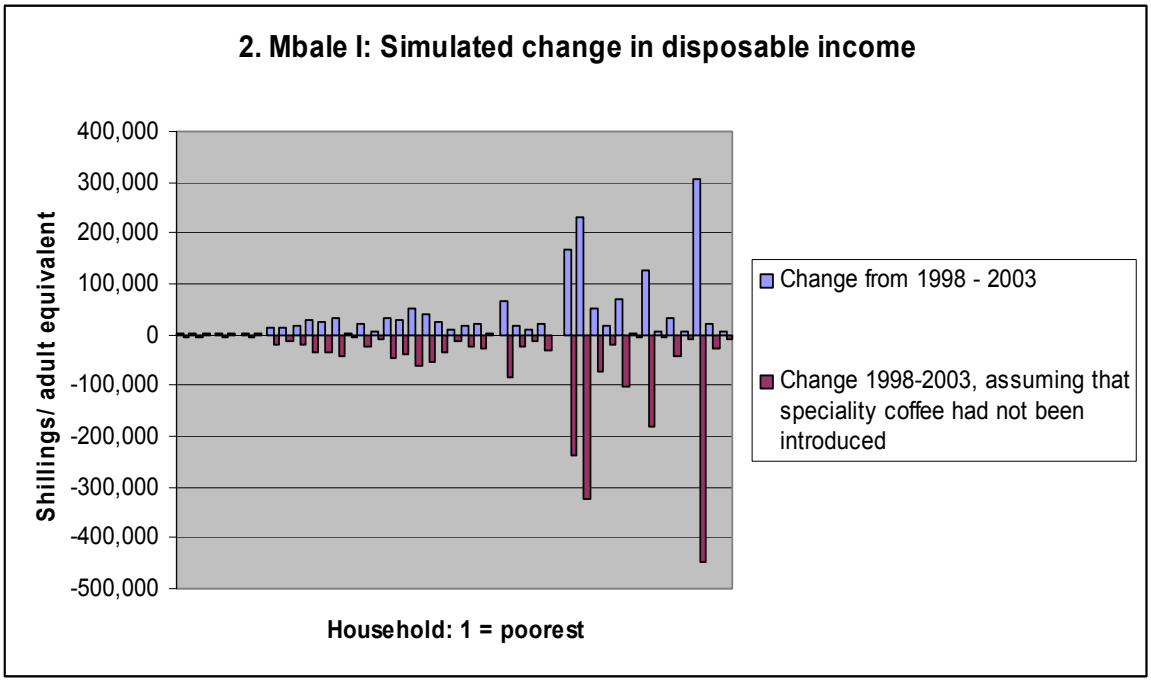
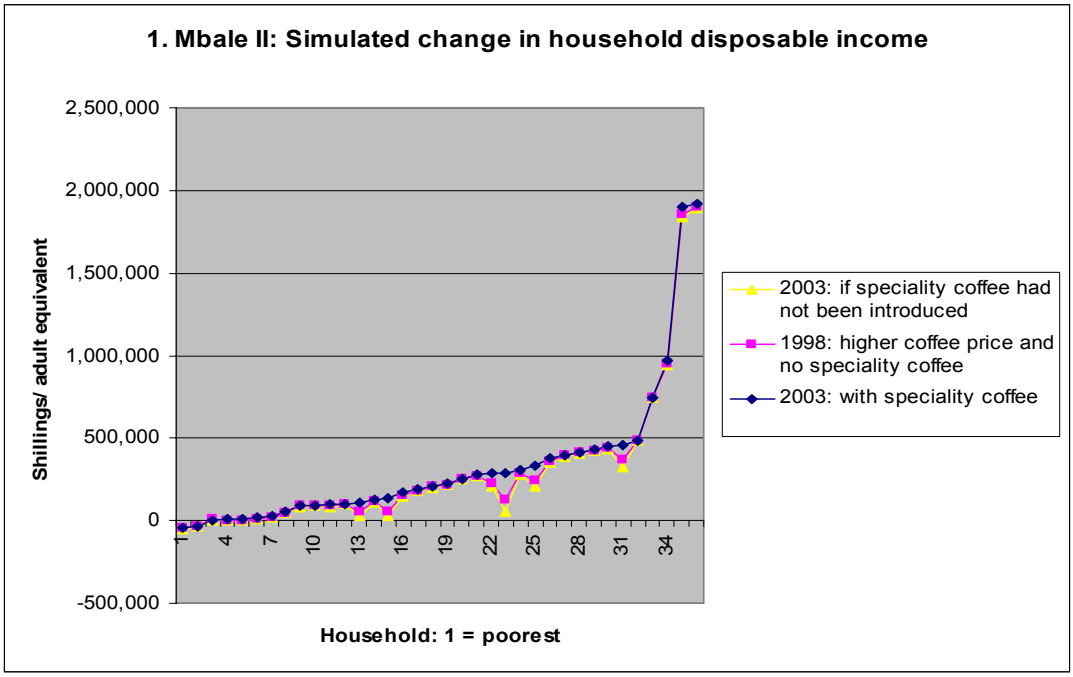


Figure 6b. Mbale I. Simulated change in household disposable income following (i) A 50% fall in coffee price, 1998 – 2003, with a change by larger producers to speciality coffee. (ii) The same price change assuming that speciality coffee had not been introduced.



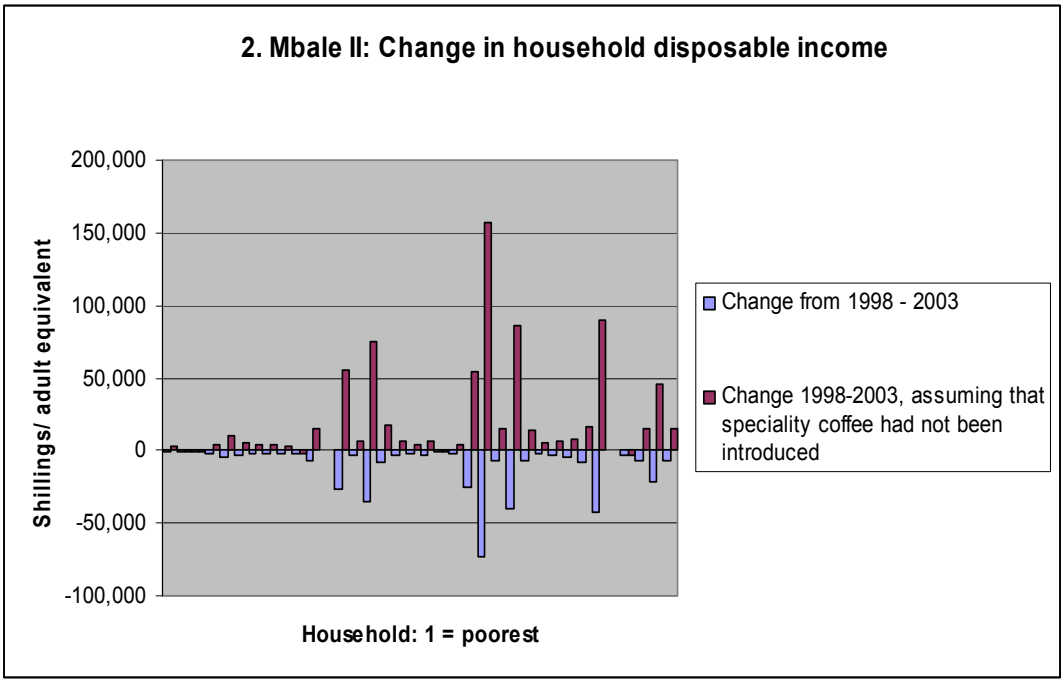


Figure 6 c. Mbale II. Simulated change in household disposable income following (i) A 50% fall in coffee price, 1998 – 2003, with a change by larger producers to speciality coffee. (ii) The same price change assuming that speciality coffee had not been introduced.

The trials simulate:

7.9. Mpigi II (Figure 6a)

(i) the effect of a fall in robusta coffee price from 580 Ug SH to 290 Ug SH, roughly that which occurred over the period 1998 - 2003.
(ii) the effect of this price fall and a reduction in the number of coffee bushes of 25%

7.9.1 In terms of the impact on the overall income of the village the effect of the second simulation would be to reduce total disposable income by about 9%. For individual households, where the fall in disposable income is as much as 50% the impact would be felt more keenly. The impact on the poorest households, which lose proportionally less, approximates one-fifth of the calculated cost of the minimum standard of living. However, the estimated change is sufficient only to move one additional household below the calculated standard of living.

7.9.2 Analysis shows that coffee continues to provide essential cash income in both robusta and arabica growing areas. However, it has been noted that coffee accounts for only a small proportion of total household income (Figures 3). For poor households this is clearly important. But the analysis shows that, even if coffee prices were to double, household income would still be insufficient, for example, to allow poor households to access secondary education. In fact, to have real meaning, the change due to coffee price and production should be set in the context of between-year fluctuation in income from other crops and employment .

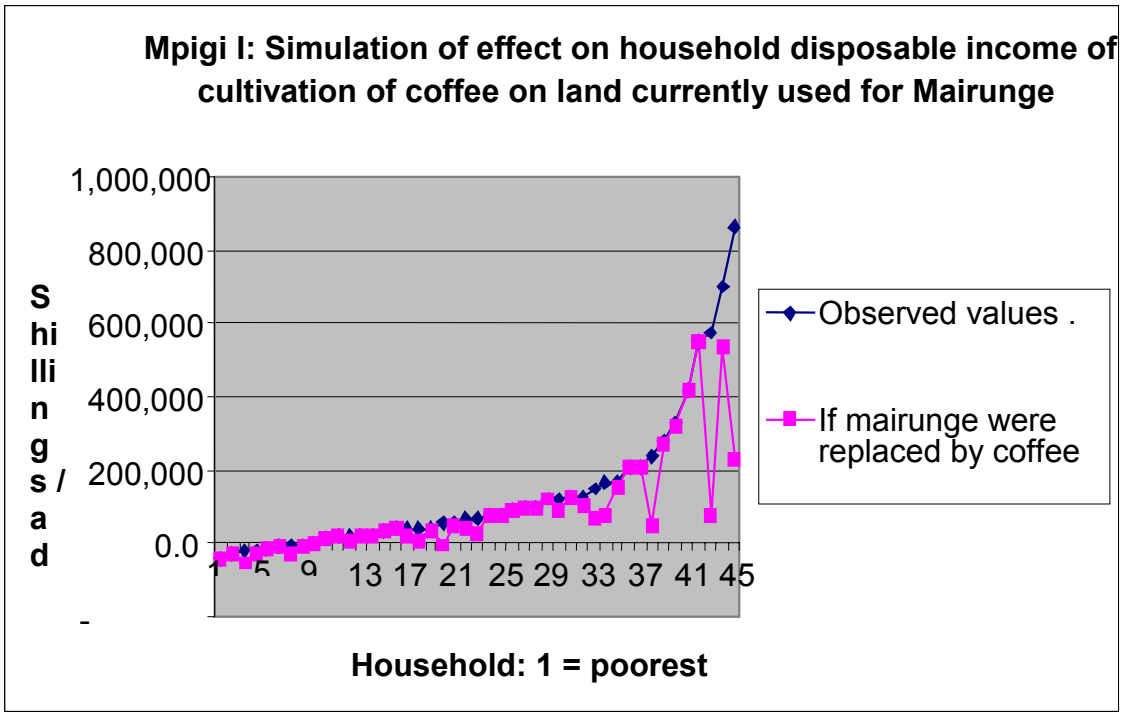
7.10 Mbale I (Figures 6 b) and Mbale II (Figures 6a and 6b).

(i) the effect of a fall in coffee price from 580 Ug SH to 290 Ug SH, assuming that a) only growers with less than 30 bushes continued to get this low price and that larger growers have changed to speciality coffee. In the latter case they would receive 1200 Ug Sh/ kg.
(ii) the effect of a fall in coffee price from 580 Ug SH to 290 UgSH, assuming, purely hypothetically, that no speciality coffee has been grown.

7.11 As the price of speciality coffee is much higher than other coffee grown in the district, the effect of this simulation on household disposable income is much larger, chiefly for the middle to better-off income groups. It is also possible to estimate the impact of the change that can be attributed to speciality coffee i.e. the increase in total current disposable income minus the total disposable income if speciality coffee had not been introduced. This suggests that speciality coffee has increased total disposable income by about 14%.

7.12 Lastly in Mpigi I, where coffee has largely given way to mairunge, an estimate has been made of the impact of this shift in on disposable income (Figure 7). The comparison is not exact as mairunge has significantly higher labour and input costs than robusta coffee.

7.12.1 The simulation assumes that: (a) Land currently used for mairunge is used for robusta coffee. (b) There are 500 mairunge trees/ acre and 300 coffee trees / acre.



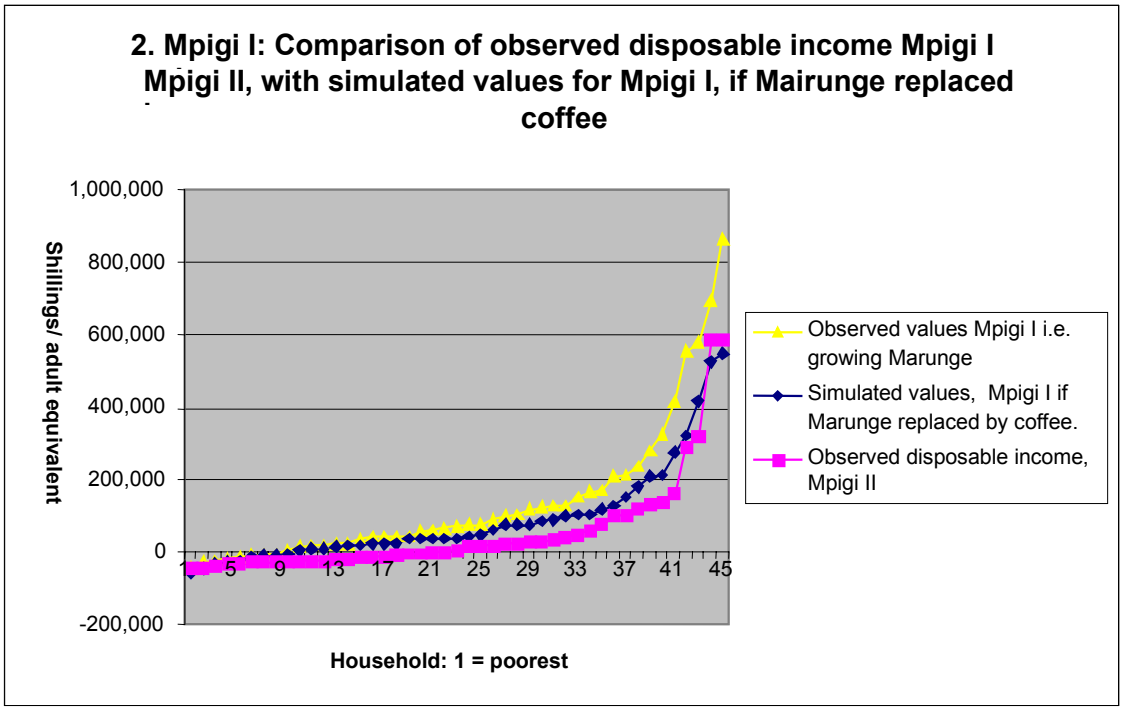


Figure 7 1. Simulation of household disposable income, Mpigi I, if households currently cultivating Mairunge were in fact cultivating an equivalent area of robusta coffee. Based on 500 trees/acre and Shillings 3,750 /tree/year of marunge: 300 trees/acre at Shillings 290 tree/ year of coffee. 2. Disposable income for Mpigi I, ordered by disposable income (i.e. the same values as in 1). Disposable income for Mpigi II, which grows very little mairunge, is included for comparison.

(c) The return / tree for coffee and mairunge are respectively 290 Ug SH and 3,750 Ug SH. The estimated impact on disposable income is, not unexpectedly, large. This would be sufficient to explain most of the difference in the observed disposable income between Mpigi I and Mpigi II, which are, apart from the cultivation of marunge, similar (Figure 2).

8. The relationship between changes in coffee price and changes in disposable income

Using the combined survey data at each of the survey sites (i.e. taking Mpigi I and II together, and Mbale I and II together), a 1% increase in coffee price would increase total estimated village disposable income by :

Mbale 0.14%.

Mpigi 0.02%, bearing in mind that one of the two villages produces very little coffee.

At the Mbale sites the disposable income of the poorest 21 households would increase by 0.47%

Conclusions

This research focussed specifically on estimating the impact of changes in global coffee prices on household poverty.

The method provides an empirical basis for

(i) measuring the proportion of households in material poverty and (in this case) showing the extent to which household disposable income was dependent on coffee sales. The studies identified a minimum living standard below which households were unable to meet food and other basic needs required for human and social development.

(ii) Defining the characteristics of households at different levels of income e.g. the relationship between household demography, land holdings and poverty.

(iii) Modelling the change in household disposable income and standard of living that would result from a change in coffee price, the introduction of speciality coffee, and alternative crops. In one village that had adopted mairunge (qat), in favour of coffee, it was possible to show the value of this change to economy, at the level of individual households and the village population. Other crops (e.g. vanilla which is being introduced to some villages in Mpigi, Uganda) could be similarly evaluated. As the analysis is conducted on individual households, it is possible to determine which households would benefit, or have benefited, from an intervention.

The approach provides a measure and a partial explanation for current levels of poverty. Combined with other social research tools, it can contribute to in-depth analysis of the underlying nature and causes of that poverty. For example, the studies provide information on household access to land, labour and employment. Building on this information, further research could identify the characteristics of households that have been able to accumulate capital, and those whose resource stock is diminishing.

The Uganda coffee study, as a methodological trial, was conducted in four non-randomly sampled villages. To be useful nationally it would be necessary to scale up to include all six coffee-producing districts. This would provide a capacity to monitor and evaluate some current coffee interventions aimed at reducing poverty, potentially help to identify other possible interventions e.g. other alternative crops, and give a great deal of other relevant information .

The study showed that, whilst investment in niche market production could improve coffee income, higher levels of wealth were only achieved by households that had access to salaried employment. Coffee did not provide a reliable route out of poverty and in fact niche market projects missed the poorest households, (although they did benefit households in the middle income range).

This study has used a measure of disposable income and a standard of living threshold to draw comparisons between households and between locations. The impact of changes in coffee price and production have been simulated to demonstrate the impact of price and production changes on disposable income.

Whilst income sources in the study areas are uniformly diverse and household economy in all the sites is intricate, a relatively simple analytical technique has been used to predict the impact of change. The findings of this report raise questions across a range of policy areas. Of most immediate interest are those relating to the relationship between coffee prices and poverty reduction.

Save the Children UK, March 2004

ANNEXE 1

The model

In this study, household economy methods adapted from methods originally developed at SC UK for famine prediction, (the 'household economy approach') have been used. Famine prediction requires the ability to estimate household 'food entitlement' i.e. the ability of a household to acquire food under changed conditions e.g. of price, production, and market access. (Sen, 1981). Knowledge of reduced food production levels, (for example from drought) is not in a reliable or useful predictor as some or all households may (I) not grow crops, or crops that are drought prone (ii) may be able to make up any deficit in production in other ways e.g. by selling assets, falling back on wild foods etc.

The household economy approach was developed to see if it was possible to estimate household entitlement within and between defined populations of different economy (e.g. poor, better-off; cultivating, pastoral) with sufficient accuracy to allow predictions to be made of the likely impact on household economy of production failure and other shocks. To be effective the method also had to

- Produce output in terms that would be convincing to donors and other agencies.
- Be based on clear objectives e.g. to allow for a household to retain livestock and other assets and to maintain some access to non-food goods as well as food.
- Be able to identify possible interventions e.g. market support, which could be used to prevent a food crisis occurring.

The approach developed was therefore based on an economic model, to simulate the most likely outcome of the impact a shock or shocks on household food entitlement. To meet the other operational criteria it was important to keep the model as simple as possible. Put in other terms, the aim was to allow a user to develop a logical, quantified case about the most likely impact of a stated shock on economy at a high level of disaggregation (e.g. the impact on the poor) where the assumptions are explicit, areas of uncertainty are revealed, and where the prediction is open to test e.g. if a prediction is made that people will sell livestock, this, or a fall in livestock prices should be observed.

For famine prediction, information is required on large areas of diverse economy and a simplified data set is used. For each defined population, this includes a household budget and an estimate of household assets, for each of at least three 'typical' wealth groups (poor, middle, rich), with information on access to wild foods and gifts e.g. charity, food and asset transfers between kin. In larger scale applications an understanding of the market in labour, livestock and other goods is required.

The basic simulation is extremely simple i.e. the shock is used to adjust household food and non-food income to reveal the amount of food and cash remaining to the household and therefore (given stated assumptions about non-food costs) the ability of the household to acquire sufficient food. For example, at the simplest level, a household that made 50% of its income from maize cultivation in a baseline year, would, if maize production fell by 50%, suffer a fall of 25% in its income. If the household had maize stocks equivalent to 10% of its annual requirement, this would reduce the deficit to 15%.

In practice, households may produce some of their own food, exchange this for other food items and cash and have multiple employment and other income sources, and the 'shock' may involve multiple changes e.g. to prices and production levels. The basic calculations become very intricate but remain the same.

This approach has proved to be very effective. In all cases where we have some measures of actual outcome (a total of 14 examples) this has been consistent with prediction. The method has been widely used (e.g. by Operation Lifeline Sudan (OLS) in southern Sudan, for the prediction of the recent famine in Malawi), and has been adopted by USAID/FEWSNET and others. The operational effectiveness of the model lies largely in its structure (i.e. the simulation of the actual steps which households can take to preserve their livelihoods); the detail and 'completeness' of the data set, and the relative simplicity of the mathematics.

In this study the same basic model was used, the only difference being that the data is based on a representative sample of individual households and that the output is in terms of the household disposable income/ adult equivalent.

The impact of a change in coffee price on the disposable income of a household is estimated as follows. Taking for example a household of 3.2 adult equivalents which produced all the food it required for consumption and had a total cash income from all sources, of 300, 000 Ug SH of which 50,000 Ug SH was from the sale of 250kg of coffee at the reference year price of 200 Ug SH/kg

The disposable income/adult equivalent in the reference year would be 300,000/3.2 = 93,750 Ug SH.

Assuming that production remained constant, the effect of an increase in the coffee price to 300 Ug SH/ Kg would be to raise total income by (250*50) = 12,500 Ug SH. Total income is now 312,500 Ug SH i.e. a disposable income/ adult equivalent of 97,656 Ug SH, i.e. an increase of 4.2%.

If production had in fact fallen and an estimate was available (e.g. a loss of 30% due to coffee wilt disease), this or any other combination of changes permitted by the data available (e.g. changes in input prices, and the prices and production of other commodities) could be included in the estimate.

ANNEXE 2

Speciality Coffee marketing, Mbale [28]

The marketing of speciality coffee or 'gourmet brands' in the North has provided opportunities for some producers in arabica growing districts to increase the value of their produce. The impact on household economy and living standards is described in the previous section. This section provides a more detailed narrative account o f speciality coffee production in Mbale and the prospects for its further development.

Background

Prior to liberalisation, all farmers in Mbale sold their coffee through the local monopoly, the Bugishu Co-operative Union (BCU) and received around 30% of the co-operative's selling price. BCU supported coffee farmers throughout the district, providing agricultural inputs such as pesticides and fertilisers.
One of the consequences of the Uganda's coffee liberalisation policy has been a fall in the quantity and quality of Bugishu arabicas. Various factors have contributed to this, including the loss of incentives to produce high quality beans; the ending of guaranteed pricing arrangements; the withdrawal of cheap farm inputs etc. A

[28] Based on field research by James Acidri

European Commission (EC) extension programme, implemented from 1992-5, aimed to help farmers maintain and improve the quality of their production post liberalisation, and more recently, DfID has supported coffee marketing. However, farm gate prices have remained low for much of the coffee produced in Mbale.[29] In response to this problem, both government and international donors have encouraged speciality coffee production. The private sector also now plays an important role in improving the quality of coffee produced in Mbale, which is marketed though 'speciality' labels.

Marketing mechanisms

In 1997 Twin Trade, the trading department of the 'Twin World Network Information', (a Fair Trade organisation based in the UK), made contact with the Bugishu Co-operative Union (BCU), with a view to establishing a Fair Trade association in the district. Subsequently, Twin Trade organised a conference for local farmers on speciality coffee production, and set up the Gumutindo Coffee Speciality project. Farmers who were able to meet the project's production requirements, and wished to take part in the project, were organised by Twin Trade into the Gumutindo Coffee Association. The association subsequently secured a Fair Trade mark to sell speciality coffee through Twin Trading.

Incentives to producers

Producers who market their coffee through Gumutindo receive a price incentive of 600Ush per kg. This is added to the standard price (currently around 800Ush per kg) and is made up of:

- 200 Ush per kg 'quality premium'
- 400 Ush per kg 'Fair trade premium'

If the market price increases, the Fair Trade premium pays an additional 10% as a guarantee for farmers.

The Gumutindo Association is currently focussing on organic coffee production, in addition to improving quality through better processing. As well as the standard Fair Trade and quality premiums, farmers producing organic coffee (i.e. coffee produced without the use of chemical fertilisers and pesticides) receive a further payment of 200Ush per kg. This is a relatively new initiative (started in 2001); so far 35 metric tonnes have been exported through the BCU.

Local farmers also sell their coffee through the normal market system. If producers need to raise cash before the initial drying has taken place, they have the option of selling to middle men but at this stage will receive less than half the speciality coffee price.

Disincentives

Gumutindo does not purchase all the high quality coffee produced in the project area directly from farmers. If it is not able to buy at a given time, farmers generally sell to the BCU at the standard rate (800-1000 Ush per kg). BCU may sell on to Gumutindo at a later date, and receive the higher 'Fair Trade' price of around 1,500 Ush per kg.

[29] Non speciality prices in 2002 ranged from 400-800 Ush per kg, compared to factory prices of 1,000-1,200 Ush per kg and UCDA prices of 1,300-1,500 per kg

This partly reflects the storage costs of 70 Ush per kg per month that the BCU needs to cover. [30] This is seen as discouraging some potential producers. [31]

Organic Coffee.

Over the past two years, Gumutindo has also introduced an organic marketing scheme. Due to its high value, most farmers in the highland areas where organic coffee is already promoted have joined organic coffee societies, despite the three-year period before they receive certification and higher returns. Members of organic coffee societies pay a membership fee and like other co-operatives, elect a committee. The primary farmers association is responsible for ensuring that the quality of coffee is maintained.

Farmers are not required to produce a minimum quantity of coffee, or possess a minimum number of trees. However the following rules are enforced:

- They must only use organic manure on the coffee bushes. This means that households must possess or have access to livestock.
- They must not use chemical fertilisers-only local organic fertilisers e.g. ash, cattle urine & chilli mix etc. Farmers are also advised to introduce pests that eat pests that can destroy coffee.
- They must follow a strict drying process.

This reduces input costs of up to 650 USh per kg[32]. Farmers reported that their coffee was doing better with the organic fertiliser and recognised that it was more cost effective to practice organic coffee farming.

Although it takes 3 years for coffee to pass the organic quality test, during this period the coffee farmer still gets a better price from Gumutindo (approx 1500 Ush per kg) than from middlemen. They also have a guaranteed market for their coffee.

Membership of Coffee Speciality Societies

Factors that prevent wider participation in Gumutindo and other speciality coffee schemes include:

(i) Lack of capital to invest in the basic facilities for processing coffee. Many farmers lack the equipment needed to ensure high quality: for example coffee drying stands, mats and trays. Some farmers involved in speciality coffee have only acquired processing facilities through loans.

(ii) The Gumutindo Project has limited capacity to involve more farmers. Existing members fear that enrolment of more farmers without additional management input might compromise quality. Lack of extension services at sub county level also prevents some farmers from making the necessary changes in production techniques

(iii) The project catchment area only covers 10 % of coffee farmers in Mbale district,

(iv) The marketing agreement between Bugishu Cooperative Union (BCU) and Gumutindo Coffee project, which allows the BCU to retain the Fair trade

[30] Coffee can be stored locally for only 3 months without loss of quality.

[31] Membership in the project catchment area has risen from 400 in 1997 to an estimated 1,620 by the end of 2003.

[32] Optimum input based on 10 kg per 50 trees: note that use of inputs varies enormously, from zero to optimum inputs.

margin on any coffee it buys from farmers and sells on to Gumutindo is not popular with some farmers. This is thought to have slowed the process of enrolling new farmers.

(v) The geographical advantage of the highland in terms of coffee quality limits the expansion of coffee speciality to other parts of the district – preventing a significant proportion of the population from participating in this initiative. The high population of the highlands also prevents more households from acquiring fertile lands for coffee growing, particularly for speciality coffee.

Non speciality coffee growing farmers

Most farmers continue to produce non-speciality coffee, sold at lower farm gate prices.[33] The main reasons for low producer prices are:

- Small quantity of coffee sold
- Sale before coffee is completely dried or cleaned
- Poverty: some farmers are unable to carry out processing procedures due to lack of basic equipment and time; they may also be unable to wait until the price improves and the coffee dries
- Limited awareness among farmers of official UCDA market prices for coffee
- Lack of capital/transport that would allow them to sell directly to the factory, rather than through middlemen.

Efforts to maximise the value of coffee grown by non-speciality producers include:

- Employment of extension staff linked to speciality coffee projects to reach more farmers. Farmers pay for services through higher income from Fair Trade Premium.
- Organisation of farmer support seminars and practical demonstrations on how to improve coffee value and quality.

Other district level coffee initiatives

In contrast to Mpigi, for most farmers in Mbale coffee remains the preferred cash crop and the UCDA replanting initiative has been widely taken up. This has led to a recent increase in the number of coffee bushes in the district. In addition to private sector initiatives such as the Gumutindo project, an Africa Development Bank (ADB) project, the Bugishu Coffee rehabilitation project is currently under discussion. This aims to improve household income through increased production of high quality coffee. It will focus on improved extension services, availability of improved coffee seedlings, correct processing procedures and marketing in the liberalised economy.

[33] Farmers can sell their crop as
(i) Raw coffee i.e. wet coffee still in husks (150 – 400/- per kg)
(ii) Block coffee i.e. half dried for 1 day, husks removed but coffee not cleaned (750 – 1000/- per kg)
(iii) Dry coffee i.e. Harvest, pulp, ferment for 3 days, wash, dry on raised mesh racks until completely dry, cleaning & remove all husks. All prices quotes are for 2002 crop

ANNEXE 3

Diversity of food and income sources, Mpigi and Mbale

Types of food	
Mpigi	**Mbale**
Food crops	
Maize (intercropped)	Maize
Beans (intercropped)	Beans pure stand
Sweet potatoes	Beans (intercropped)
Yams (bwaise)	Soya beans
Irish potatoes	Sweet potatoes
Groundnuts	Cassava
Cowpeas	Yams 'coco'
Tomatoes	Irish potatoes
Onion	Groundnuts
Matooke	Cowpeas
Sweet bananas ndisi	Tomatoes
Musa bananas	Onion
Kivuvu bananas	Sukuma Wiki
Yam (copper)	Cabbages
Mangoes	Cowpea leaves (libosche)
Jak fruit	Dodo
Avocado	Other greens
Papaya	Sugar cane
Sugar cane	Matooke
Pumpkin	Sweet banana 'ndisi'
Cassava	Sweet banana 'bogoya'
Sorghum	Yam 'sibama'
Pineapple	Mangoes
Cabbage	Avocado
Yams (coco)	Jak fruit
Other greens	Papaya
	Cabbage heads
	Pumpkins
	Passion fruit
	Sugar cane stem
Livestock and livestock products	
Cow Meat	Cow Meat
Cow Milk	Cow Milk
Goat Meat	Chicken Meat
Sheep Meat	Chicken Eggs
Pig Meat	Duck Meat
Chicken Meat	

Chicken Eggs
Duck Eggs
Goat
Gifts
Cassava flour

Mpigi	**Mbale**	**Mpigi**	**Mbale**
Cash crops		*Employment*	
		Mairunge trade	
Maize (intercropped)	Maize	Handicrafts	Brewer
			Kiosk
Beans (intercropped)	Beans pure stand	Teacher	Carpenter
Sweet potatoes	Beans (intercropped)	Contract labour	Butcher
Yams (bwaise)	Soya beans	Tailor	Barber
Groundnuts	Sweet potatoes	Carpenter	Vegetable seller
Cowpeas	Cassava	Butcher	Coffee middle man
Tomatoes	Yams 'coco'	Brick maker	Cattle trader
Ginger	Irish potatoes	Hawker	Herbal/traditional healer
Coffee robusta	Coffee arabica	Local government official	National park worker
Mairunge, kibooke	Cowpeas	Timber feller	Taxi driver
Matooke	Tomatoes	Security guard/ watchman	Secondary teacher
Sweet bananas ndisi	Onion	Mairunge trader	Mandazi seller
Musa bananas	Sukuma Wiki	Charcoal manufacture	Nairobi/ other remittance
Yam (copper)	Cabbages	Basket making	Small trade bananas
Avocado	Cowpea leaves (libosche)	Petty trade	Small trade butcher
Sugar cane	Dodo	Remittance	Fruit and veg middle man
Cassava	Other greens	Sale of firewood	Landlord
Sorghum	Sugar cane	Brewing	Transporting food
Cabbage	Groundnuts		Coffee trade
Other greens	Matooke		Charcoal sales
Eggplants	Sweet banana 'ndisi'		Sugar cane sales
Irish potatoes	Sweet banana 'bogoya'		Petty trade clothes
Tomato sale	Mangoes		Local government official
Sale of Cassava plants	Avocado	Agricultural labour	Agricultural labour tree cutting
	Papaya	Collecting water	
	Cabbage heads	Charcoal making	Porter
	Pumpkins	Construction	Teacher
	Passion fruit	Kiosk owner	Nurse
	Sugar cane stem		

	Coffee under thirty
	bushes
	Sale of trees
	molasses sale
	Sale of grass

Sale livestock & livestock products

Cow Milk sales	Cow Milk sales
Cow Live sales	Cow Live sales
Goat Live sales	goat Live sales
Sheep Live sales	calf Live sales
Pig Live sales	pig Live sales
Chicken Egg sales	piglet Live sales
Chicken Live sales	chicken Egg sales
	chicken Live sales
	ducks Live sales

This study forms part of a four-country research programme funded by DfID. The overall goal is to develop methods of measuring and analysing poverty and modelling the impact of change at household level. The focus of this study was on the impact of changes in the global coffee price on household poverty in a coffee producing region of Uganda.

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