



An Analysis of the Coffee Value Chain in the Kilimanjaro Region, Tanzania

David Gongwe Mhando and
Gimbage Mbeyale

NCCR North-South Dialogue, no. 27

2010

dialogue

The present study was carried out at the following partner institutions of the NCCR North-South:



Overseas Development Institute
London, UK



Sokoine University of Agriculture

Sokoine University of Agriculture
Morogoro, Tanzania



Regional Coordination Office, JACS East Africa
Centre for Training and Integrated Research in Arid
and Semi-arid Lands Development (CETRAD)
Nanyuki, Kenya

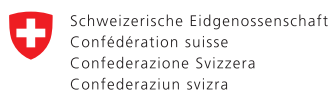


Universität Zürich

Department of Social and Cultural Anthropology,
University of Zurich, Zurich, Switzerland



Swisspeace
Bern, Switzerland



Swiss Agency for Development
and Cooperation SDC

The NCCR North-South (Research Partnerships for Mitigating Syndromes of Global Change) is one of twenty National Centres of Competence in Research established by the Swiss National Science Foundation (SNSF). It is implemented by the SNSF and co-funded by the Swiss Agency for Development and Cooperation (SDC), and the participating institutions in Switzerland. The NCCR North-South carries out disciplinary, interdisciplinary and transdisciplinary research on issues relating to sustainable development in developing and transition countries as well as in Switzerland.

<http://www.north-south.unibe.ch>

An Analysis of the Coffee Value Chain in the Kilimanjaro Region, Tanzania

**David Gongwe Mhando and Gimbage
Mbeyale**

NCCR North–South Dialogue, no. 27

2010

Citation

Mhando DG, Mbeyale G. 2010. *An Analysis of the Coffee Value Chain in the Kilimanjaro Region, Tanzania*. NCCR North-South Dialogue 27. Bern, Switzerland: NCCR North-South.

Editing

Theodore Wachs, Management Centre, NCCR North-South, Centre for Development and Environment

Cover photo/s

Left: Kilimanjaro area with the typical multi-storey agroforestry system, including coffee. *Middle:* Pulping red coffee cherries. *Right:* Harvested coffee cherries. (Photos by Eva Ludi, 2007)

Distribution

The PDF version of this paper can be downloaded from: <http://www.north-south.unibe.ch> under "Publications"

© by the authors and NCCR North-South

Contents

List of Acronyms	9
Executive Summary	10
1 Background Information	11
1.1 History of coffee cultivation in Tanzania	11
1.2 Importance of coffee in Tanzania	12
1.3 Current trends on the global coffee market	12
1.4 Inhabitants of the study areas: The Chagga	14
1.5 Population, land use dynamics and livelihood strategies in the study areas	15
1.6 General description of the study areas with respect to coffee production	16
1.7 Methods of data collection and analysis	17
2 Description of the Study Area	19
2.1 Physical characteristics of the villages	19
2.2 Age of household respondents	19
2.3 Political and administrative setup	20
2.4 Profile of the study area	20
2.5 Farming system	23
2.6 Livelihood activities of the respondents	24
2.7 Major household expenditure items	27
2.8 Household access to labour	28
2.9 Landholding characteristics	29
2.10 Access to farmland	29
2.11 Land use and production	30
2.12 Resource ownership in the two villages	31
2.13 Agricultural extension, access to information and credit	37
3 Coffee-growing Patterns in the Two Villages	39
3.1 Importance of coffee to the household economy	39
3.2 Services offered by cooperative unions to coffee farmers	40
3.3 The dynamics of the coffee economy in the study villages	41
3.4 Reactions of villagers to changes in the coffee economy	43
3.5 Shifting coffee marketing strategies in the study areas	43
3.6 KCB support in coffee production	44
4 The Coffee Value Chain	47
4.1 A value chain approach	47
4.2 Stakeholders in the value chain	49
4.3 Description of the value chain in Tanzania	50
4.4 Analysis of the value chain	52
4.5 The coffee marketing chain in the study area	53
4.6 Evaluation of actors in the marketing chain	59
4.7 Institutional relations between actors in the chain	60

4.8	Changing institutional arrangements	60
4.9	Legal regulations governing actors' interactions	63
4.10	Institutional relations between actors	64
4.11	Agreements between farmers, primary societies and cooperative unions	67
5	Challenges in the Fluctuations in Coffee Prices	69
5.1	Change in household strategies as a result of price fluctuations	69
5.2	Change in the marketing chain	70
5.3	Benefits accrued by actors at each node in the coffee chain	73
5.4	Impacts of changing household strategies	73
5.5	Self-assessment of the household	74
6	Conclusion	77
7	References	79
Appendix	81	
	Appendix 1: Income from different sources	81
	Appendix 2: Type of labour used in different economic activities in Mruwia and Mshiri	82
	Acknowledgements	90
	About the Authors	91

Figures

Figure 1: Age of respondents in the two villages.	19
Figure 2: Access to water by households in Mruwia.	21
Figure 3: Access to water by households in Mshiri.	23
Figure 4: Intercropping on a traditional Chagga farm plot in Mshiri.	24
Figure 5: Relative importance of current main income sources in the two villages.	25
Figure 6: Dairy cattle in Mshiri.	26
Figure 7: Mean area under coffee and large grains in the two villages.	31
Figure 8: Mean number of domestic animals per household in the two villages.	32
Figure 9: Mean cropland ownership by sex of household head in the two villages.	34
Figure 10: Mean ownership of coffee land by age of respondent in the two villages.	34
Figure 11: Mean ownership of large grain land by age of respondent in the two villages.	35
Figure 12: Average number of cows by age of respondent in the two villages.	35
Figure 13: Mean plot for number of cows and sex of household head in the two villages.	36
Figure 14: Mean plot for income from coffee with respect to farm size in Mruwia.	36
Figure 15: Mean plot for income from coffee with respect to land size in Mshiri.	37
Figure 16: Coffee cherries in Mruwia.	48
Figure 17: Primary coffee processing using a hand pulper in Mruwia village.	48
Figure 18: Coffee production and market chain in Kilimanjaro.	50
Figure 19: Account sale of coffee from Mruwia Primary Society.	51
Figure 20: The Secretary of the Mruwia Primary Society in his office.	54
Figure 21: Coffee collected at the Mruwia Primary Society, 2000/01–2005/06.	54
Figure 22: Coffee collection in the two villages.	58

Tables

Table 1: Coffee production, exports and foreign currency earnings in Tanzania.	12
Table 2: Summary of sample households in the two villages.	18
Table 3: Travel distance to water source in Mruwia and Mshiri.	21
Table 4: Number of livestock owned in the two villages.	26
Table 5: Major household expenditure items in the two villages.	28
Table 6: Landholdings among respondents in the two village.	29
Table 7: Production of crops in the two villages.	30
Table 8: Resource ownership in the two villages.	31
Table 9: Ownership of resources by sex of respondent in the two villages.	33
Table 10: Provision of extension services in the two villages.	38
Table 11: Facts and figures on land and coffee in the two villages.	39
Table 12: Income from coffee and other household economic activities in the two villages.	42

Table 13: Stakeholder analysis of the coffee industry in Tanzania.	49
Table 14: KNCU Fair Trade export status.	56
Table 15: Contribution of KNCU to Marangu East Primary Society to renovation of buildings.	57
Table 16: Differential prices offered to farmers at Marangu East Primary Society.	58
Table 17: Farmer preferences in selling coffee.	59
Table 18: Reasons for selling to cooperative union or society.	60
Table 19: Cost estimate for 1kg coffee in KNCU and Mruwia Primary Society.	62

List of Acronyms

AIDS	Acquired Immunodeficiency Syndrome
BOT	Bank of Tanzania
CBD	Coffee Berries Diseases
CRDB	Cooperative and Rural Development Bank
FGD	Focus Group Discussion
G-32	32 primary societies that have detached from KNCU
GDP	Gross Domestic Product
HIV	Human Immunodeficiency Virus
ICA	International Coffee Agreement
ICO	International Coffee Organisation
KCB	Kilimanjaro Cooperative Bank
KNCU	Kilimanjaro Native Cooperative Union
KINAPA	Kilimanjaro National Park
KNPA	Kilimanjaro Native Planters Association
MNC	Multinational Corporation
NBC	National Bank of Commerce
NCCR	National Centre of Competence in Research North-South
OPTCO	Organic Products Trading Company
PCB	Private Coffee Buyer
SACCO	Savings and Credit Cooperative Organisation
TaCRI	Tanzania Coffee Research Institute
TCB	Tanzania Coffee Board
UK	United Kingdom
URT	United Republic of Tanzania
US	United States
USAID	US Agency for International Development
VAT	Value Added Tax
WRS	Warehouse Receipt System

Executive Summary

This report presents the findings of a study on the coffee economy conducted at two sites in Moshi Rural District, Kilimanjaro region, Tanzania. The aim of the study was to assess coffee production, livelihood dynamics, and the coffee marketing chain at the two locations.

The research was carried out in 2007 in two villages, Mshiri and Mruwia. Mruwia produces coffee for the commodity market, whereas Mshiri is a member of the Kilimanjaro Native Cooperative Union (KNCU), which is linked to a Fair Trade scheme.

Household surveys, focus group discussions (FGDs), formal and informal interviews and observation methods were employed in the collection of qualitative and quantitative data. The main tools included questionnaires and checklists. Data obtained were subjected to both quantitative and qualitative data analysis.

The study found that coffee production is still important to the household economy in the two villages, but more important to households in Mshiri village. Although coffee does not contribute much in terms of overall household income, it is important because households depend on the payments that they receive over the year to meet key livelihood needs, such as paying for children's school fees and purchasing goods that require a lump sum. The primary society or union therefore acts as a bank for farmers. In addition, coffee on the farm carries with it a more secure customary tenure system (*kihamba*).

Apart from the high costs involved in the production of coffee, farmers felt that KNCU's institutional setup and the costs involved in sustaining the market chain were bottlenecks to profitability. This led 32 primary societies to resign their KNCU membership and reorganise their linkages with main markets in order to reduce the transaction costs that they had been obliged to pay in the KNCU. The fact remains that, despite the risks associated with coffee production (resulting from fluctuations in the international coffee market), farmers need a form of organisation that has minimum transaction costs. Mruwia Primary Society has achieved this, with the support of Kilimanjaro Cooperative Bank (KCB).

In general, there is no notable difference between households that sell to the Fair Trade market (Mruwia) and those that sell to other markets. KNCU is the only cooperative in the region that is registered with and allowed to sell coffee to Fair Trade markets, but even so only 20% of production is sold to the Fair Trade market. In addition, the money generated cannot be channelled into the household economy because it is used in community projects. Therefore, Fair Trade has not produced any visible impacts on individual coffee farmers apart from these collective community projects; most farmers are not even aware of this, beyond knowing about organic farming, which is commonly referred to as 'Fair Trade business'.

1 Background Information

1.1 History of coffee cultivation in Tanzania

In 1898, German missionaries introduced coffee in Tanzania, planting it for the first time at Kilema Mission, Marangu, along the foot of Mount Kilimanjaro (Wrigley, 1988). Initially, coffee was cultivated only on plantations owned by Europeans: the colonial government did not allow the Chagga to cultivate coffee, fearing that they would spread pests and diseases to plantations. They also feared that if the Chagga started to cultivate coffee, it would affect the supply of labour to European-owned plantations (Kimario, 1992; Mpangala, 2000). But the Chagga who worked on plantations stole coffee seeds and started to plant coffee secretly on their own farms.

By 1920, coffee had become a popular crop among Chagga farmers living on the slopes of Mount Kilimanjaro. Farmers had planted 14,000 coffee trees by 1916; by 1924, there were 4400 farmers, with 1200 acres of coffee trees (Kimario, 1992). Expansion of coffee cultivation among Chagga farmers went on at a tremendous pace, despite strong resistance from the European settlers, who wanted a monopoly on the crop. For its part, the colonial government did not directly prohibit the Chagga from growing coffee but it did not support the provision of advisory services, financial assistance or even marketing. Thus, the initial years of coffee cultivation in Kilimanjaro were difficult for Chagga farmers. All coffee was sold through unscrupulous Asian and European middlemen, who enjoyed government support and exploited farmers in every possible way (ibid). It did not take long for Chagga farmers to discover that they were receiving lower prices than settlers received. This prevented them from investing in fertilisers and insecticides, so they produced low-quality coffee. It was difficult for farmers to cope with this situation.

In the 1920s, District Commissioner Sir Charles Dundas, a Scottish baronet, began to enable Chagga coffee growers to compete in world markets on equal terms with European growers. Dundas motivated Chagga farmers to set up their own organisation to deal with coffee production and marketing. This was called the Kilimanjaro Native Planters Association (KNPA), established in 1925 to protect the interests of indigenous coffee growers and assist in the proper control of coffee planting and the provision of guidelines on how to protect coffee plants against pests and diseases. KNPA also assisted farmers in selling their produce at the highest possible price, as well as supplying fertilisers and other agricultural inputs necessary for the improvement of the industry (Kimario, 1992). Both cultivation and farmers' cooperatives spread into the Kilimanjaro region and, later on, to other parts of Tanzania.

Coffee cultivation in other parts of Tanzania, for example in the Mbinga district, Ruvuma region, was initiated in 1929, after the Matengo (ethnic local inhabitants of Mbinga district) asked the colonial government to introduce a cash crop so that they could pay their taxes (Hill, 2001). The District Commissioner brought coffee seeds from Kilimanjaro and handed them over to Christomas Makita. Mpangala (2000) cred-

its Makita as having worked very hard to educate the Matengo and as being instrumental in the spread of coffee among the Matengo in Mbinga.

1.2 Importance of coffee in Tanzania

For many years, coffee has been among the most important foreign exchange earners in Tanzania. Tanzania produces two types of coffee: Robusta and Arabica. Robusta is produced mainly in Kagera region and Arabica in the Kilimanjaro, Arusha, Mbeya and Ruvuma regions. It is estimated that today 95% of the coffee in Tanzania is produced by smallholder growers (TCB, 2002), who grow coffee mainly for commercial purposes. Only 1% of annual production is consumed domestically (ibid).

Although other sectors such as minerals and tourism currently produce greater revenue than coffee, coffee is still one of the most important cash crops in Tanzania. However, its contribution to the national economy has decreased recently. For example, it made up 4.4% and 3.6% of gross domestic product (GDP) in 2005 and 2006, respectively. Among the factors contributing to its decline in importance are low production and price fluctuations (high production costs compared with income) (Mhando, 2005). Meanwhile, in 2005 and 2006, minerals accounted for 42.2% and 47.8% and cotton 6.7% and 6.5%, of GDP respectively. Tourism has continued to expand: foreign exchange earnings increased from \$258.1 million in 1995 to \$862 million (by 17.5%) in 2006 (URT, 2007). Annual coffee production in Tanzania fluctuated between 52,960 tons in 2003 and 39,446 tons in 2006 (ICO, 2007). Its share of the world coffee market is less than 1% (TCB, 2002).

Table 1: Coffee production, exports and foreign currency earnings in Tanzania.

Year	Quantity (tons)	Export (US\$ millions)	Contribution to GDP (%)
2000	54,400	83.70	n.a.
2001	48,390	57.10	n.a.
2002	36,369	35.22	n.a.
2003	52,960	49.8	n.a.
2004	38,528	49.8	n.a.
2005	46,100	74.3	4.4
2006	39,446	61.4	3.6

Notes: US\$ in 2006 base year. Source: URT (2007).

1.3 Current trends on the global coffee market

Coffee is the world's second most valuable market commodity after petroleum, and the US consumes one-fourth of the beans traded in the global market. Coffee is a significant source of foreign exchange for many Latin American countries and has played a major role in the political history of nations such as Mexico, Colombia, Guatemala and Brazil. It was traditionally developed as a colonial cash crop, planted and harvested by

serfs or wage labourers on large plantations, then exported to imperial countries (Ponte, 2002).

Coffee production and coffee consumption are clearly separated. Coffee is produced by over 60 mainly developing and less developed countries. The developed countries of Europe along with the US and Japan consume most of the coffee produced. Coffee is one of the major export-driven commodities for almost all coffee producing countries: over 60% of total production is exported. It is estimated that 25 million farmers worldwide produce coffee, most of them smallholders with plots of 1-5 hectares (USAID, 2003). They operate in a global market where there is currently an oversupply of low-quality coffee, which is driving down prices (ICO, 2005).

Before 1989, the global coffee trade was regulated by the International Coffee Agreement (ICA), in which countries negotiated a system of price bands and export quotas for coffee traders. Thus, coffee export was regulated by quotas, which controlled supply in international markets. After the collapse of the ICA, the coffee market changed significantly. Coffee supply increased and there were changes in the governance structure of value chains in favour of roasters and global traders in the consumption part of the chain, with fragmentation of coffee farmers on the production side of the chain. Consequently, coffee prices decreased, which was a blow to smallholder coffee farmers in producing countries. In addition, there was increased differentiation of coffee brands, consumption of sustainable coffee, and coffee sector liberalisation in many producing countries. As a result, the proportion of income from coffee for farmers decreased while roasters and international traders received greater returns.

Moreover, the past 15 years have witnessed broad economic liberalisation, whereby the governments of coffee-producing nations were forced to withdraw subsidies that once supported training, extension, marketing and financial services. As a result, farmers suffered a loss of access to these important services and responded by reducing investment in coffee production (ICO, 2005). The livelihoods of smallholder coffee farmers deteriorated, resulting in the near collapse of the coffee industry in several producing countries.

To resolve this situation, stakeholders initiated several projects aimed at improving the income of smallholder farmers, including adoption of coffee certification systems (organic coffee, Fair Trade, etc). These ensure that coffee is produced under strictly prescribed standards and codes, which has an impact on coffee quality and productivity and means higher prices and thus increased income for farmers. Meanwhile, direct sale aims to bridge the gaps between producers and buyers by eliminating agents who exploit farmers. Direct sale of coffee involves a premium and speciality coffee, which has motivated farmers to produce high-quality coffee that fetches higher prices.

Together with other issues, this study examines how various stakeholders in the coffee value chain have adjusted to the above-mentioned changes and whether they will continue to produce coffee under current conditions.

1.4 Inhabitants of the study areas: The Chagga

The Chagga (also called Wachaga, Jagga, Dschagga, Waschagga or Wachagga) are a group of Bantu-speaking African indigenous people constituting the third largest ethnic group in Tanzania. They live on the southern and eastern slopes of Mount Kilimanjaro and Mount Meru, as well as in the Moshi area. The origin of the mountain's name is unclear, but it is thought to derive from the Swahili word *kilima*, meaning little mountain. *Njaro* in Chagga has a meaning similar to caravan: indeed, the mountain has been an important landmark for trading caravans over the years (Kimario, 1992).

The Chagga are descended from various Bantu groups that migrated from the rest of Africa to the foothills of the mighty Kilimanjaro. They speak a unique mixture of dialects, related to Kamba, spoken in northeast Kenya, along with other languages spoken in the east, such as Dabida and Pokomo. The Chagga are believed to have arrived in the area in the 15th Century and to have lived in a number of independent chiefdoms which fought for supremacy over each other. These chiefdoms were united in the 18th Century by the Chagga chief Horombo, until he was murdered by Maasai warriors in one of the sporadic raids launched against the Chagga, who hid from the raiders in nearby caves. After Horombo's death, the Chagga again became a society of small chiefdoms, a situation that was encouraged first by the Germans, who colonised Tanzania, and then by the British, who took over the German colony after World War I (Dundas, 1932).

Chagga lands were traditionally divided into a number of politically independent chiefdoms, with an egalitarian social system. The Chagga are culturally related to the Pare, Taveta and Taita people. They follow a patrilineal system of descent and inheritance. While many Chagga are Christians, traditional beliefs still play an important role in their lives. Polygamy is still practised, although it is less common than in the past. One tradition during the marriage ceremony is to wrap the mother of the bride in a blanket donated by the guests, to show that she will now feel cold without her daughter (Dundas, 1932).

The supreme god of the Chagga is called Ruwa, and spirits of the dead are believed to return to the earth in different forms. Today, the Chagga are divided into around 400 different clans, some descended from the Maasai, others from the Taita (who originate in Kenya).

Probably as a result of their wealth derived from coffee and other income-generating activities, most Chagga have a high standard of education and are well represented in business and politics. Many work as officials, doctors and teachers throughout Tanzania.

Bananas are the staple food of the Chagga, although various crops, such as yams, beans and maize, are also cultivated. The Chagga land (Kilimanjaro) is best known for Arabica coffee, which is mainly for export – very little is consumed locally. Thus, coffee is the primary cash crop among the Chagga. The relative wealth of the Chagga comes not only from the favourable climate of the area but also from their successful agricultural

methods, which include extensive irrigation that has been practised for many years. The Chagga are believed to be the first tribe in the area to have converted to Christianity when European missionaries came to Tanzania. This may have given them an economic advantage over other ethnic groups, as they had better access to education and health care as Christians.

1.5 Population, land use dynamics and livelihood strategies in the study areas

Among the Chagga, population growth has emerged as a forceful driver of land use change and out-migration. The higher altitudes have become very heavily populated, with population densities in some areas higher than typical urban population densities (Soini, 2006). This causes the Chagga (especially young adults) to migrate from their villages to seek land and income-generating activities elsewhere. The average size of a household in Moshi Rural district at the time of study was between four and six people. However, in most households, children had migrated to the towns in search of employment and other economic opportunities. It is common to see households composed of elderly people only, while houses built by their children are locked up and empty. Christmas is an important time for the Chagga, when most of those residing in other parts of the country return home to Moshi for various traditional and cultural activities. They also use this occasion to perform other cultural and religious activities, such as building cemeteries, performing baptisms and allotting land to relevant household members. Along with population expansion, the cultural practice of fragmenting land has been a big blow to the coffee economy. Most of the little land available is still divided up to be given to each son, reducing the land available for the production of coffee and other cash crops.

Coffea arabica thrives well starting at 1200 metres above sea level. A cool climate, reliable rainfall and a high altitude, coupled with the volcanic soils of the Kilimanjaro mountain area, are some of the factors that favour cultivation of Arabica coffee. Cultivation of Arabica coffee is labour-intensive throughout the year. Activities involved include pruning, spraying, application of fertiliser, weeding, picking, processing, fermentation and drying.

The dominance of Kilimanjaro as a major coffee producing zone has decreased over the years. In the 1985/86 season, Kilimanjaro accounted for 19,000 tons of Tanzania's annual production of 25,000 tons. Production decreased to 5000 tons in 2002/03 and 3000 tons in 2005/06 (TCB, 2007). This trend is different from that in other coffee-producing zones in Tanzania, namely Mbinga District (in Ruvuma region) and Mbozi District (in Mbeya region), which have expanded coffee production. For example, coffee production in Mbinga increased from 5000 tons in 1984 to 12,000 tons in 2006/07 (Mhando, 2005). It is possible to conclude that there has been a clear shift in the major production zones, from Kilimanjaro to the southern regions of Tanzania. Land fragmentation and limited room for expansion are some of the reasons explaining the decline in the Kilimanjaro zone.

Although there are a number of coffee plantations in Kilimanjaro, most of the Chagga coffee producers are smallholders (subsistence level). Almost all coffee produced by the Chagga is sold for cash in the market, making coffee an important source of income for most households. Maghimbi (2007) observed that most households still cultivate and maintain coffee trees that they have inherited from their parents, reaching this conclusion based on the fact that some of the coffee trees are more than 100 years old. This observation was verified by most respondents in this study. However, over the years farmers have planted new coffee trees to fill the gaps left behind after old trees became infected by pests and diseases. Recently, the Tanzania Coffee Research Institute (TaCRI) introduced a hybrid coffee clone that is resistant to both coffee berry diseases (CBD) and coffee leaf rust. It is expected that the new hybrid clones will reduce the costs of production, making coffee cultivation a profitable venture for coffee farmers again.

1.6 General description of the study areas with respect to coffee production

This study was conducted in Mruwia and Mshiri villages, both located in Moshi Rural district in Kilimanjaro region. It focused on two primary cooperative societies, which are usually the smallest units in the cooperative setup, constituted of individual persons as members and covering a more limited area of operation than other cooperatives, such as unions. Because of their very limited area of operation, they are simply referred to as 'local cooperatives'.

Kilimanjaro region was selected for this study because it is the only region/zone in Tanzania that sells some of its coffee to Fair Trade markets. The study focused on examining the livelihoods of two categories of coffee growers, those who market their coffee to a Fair Trade system (Marangu East) and those who sell to conventional markets (Mruwia). The two primary societies, Mruwia and Marangu East, which have different coffee marketing arrangements, were selected so that we could compare the livelihoods and benefits obtained by villagers who sell their coffee in a conventional market (Tanzania Coffee Board (TCB) auction in Moshi) and those who sell to Fair Trade markets outside Tanzania.

At the first site, under the Mruwia Primary Cooperative Society, two villages, Mruwia and Materuni, were purposely selected because of their close proximity to each other. We aimed to find out from the villagers of Materuni their reasons for choosing Mruwia Primary Cooperative Society as an outlet for their coffee sales. Mshiri village, located in Marangu ward, has a bigger area than Materuni. Mshiri village, served by the East Marangu Primary Society, was selected to represent farmers who sell their coffee to Fair Trade markets, under the supervision of the Kilimanjaro Native Cooperative Union (KNCU).

The primary society at the first research site, Mruwia and Materuni villages, is among the 32 primary societies that have resigned their KNCU membership and now market their coffee directly to the TCB auction. G-32 is supported financially by Kilimanjaro

Cooperative Bank (KCB). Mshiri village has different marketing and financial arrangements. Marangu East Primary Society is among 61 societies that have maintained their membership in the KNCU. It was assumed by the researchers that the villagers of Mshiri, because of their KNCU membership, would have an advantage marketing their coffee in Fair Trade markets outside Tanzania. It should be noted that, as the holder of an export licence, KNCU is among the organisations in Tanzania licensed to sell coffee in Fair Trade markets. Thus, this study aimed to examine the welfare of farmers in the two scenarios: those who sell their coffee in Fair Trade markets and those who market their coffee within Tanzania, at the TCB auction.

1.7 Methods of data collection and analysis

1.7.1 Study objectives

The objectives of the research were to answer the following questions:

1. How have coffee growers adjusted to changing world market prices? What have farmer's reactions been? Are they abandoning coffee plantations and moving to other crops or income sources? Has overall income from coffee cultivation declined over the past 20 years? Have farmers adapted their land use practices or not?
2. How have coffee growers been affected by economic liberalisation policies? To what extent have government extension services been affected? Have private traders been allowed in as a result? Have producers gained more outlets where they can sell coffee (e.g. to farmers' groups, cooperatives, private traders, government agents, etc)?
3. What changes in the terms of ways of growing coffee have taken place? Is organic/Fair Trade coffee a solution for coffee growers? Is it true that prices paid to growers are better if they are 1) organised in a cooperative, and 2) grow organic/Fair Trade coffee? What impacts on other household activities have there been as a result of the introduction of organic coffee (e.g. are other crops promoted to be grown together with coffee)? Is it beneficial for the environment when coffee is grown organically,? Does Fair Trade affect only the price that growers receive or other aspects of their livelihood as well? Do they really get more for their coffee or is the additional profit 'lost' somewhere?

1.7.2 Data collection

Primary and secondary data were collected and utilised to achieve the study objectives. Primary data were collected from coffee growers at the study sites and secondary data were gathered from books, internet sources and reports.

Primary data were collected through household surveys, focus group discussions (FGDs) and interviews with the KNCU, cooperative societies, village leaders, elders and other influential people in the villages. Officials from KCB, TCB and TaCRI were

also interviewed. During the study, researchers collected both qualitative and quantitative information through questionnaires, checklists and interview schedules.

Respondents were selected randomly from each village. 52 people were interviewed in Mruwia village and 51 in Mshiri, for a total 103 respondents. Researchers were assisted in the selection of the respondents by village leaders in each Primary Society. Both quantitative and qualitative questions were distributed to the 103 households. Quantitative questionnaires were administered by trained enumerators, and the researchers conducted the qualitative data collection. All researchers and enumerators participated in familiarisation visits and FGDs. Table 2 summarises samples and sampling intensity in each village.

Table 2: Summary of sample households in two villages

Village	Number of households	Sampled households	%
Mruwia	643	52	8.1
Mshiri	500	51	10.2
Total	1043	103	9.9

FGDs were conducted to validate information collected from the household surveys. Participants in FGDs were picked from among the 103 respondent households, based on knowledge and experience of coffee-related issues. In addition, other methods such as informal interviews, observation and photographic evidence were employed in data collection. The data were analysed using SPSS.

2 Description of the Study Area

2.1 Physical characteristics of the villages

2.1.1 Mshiri

Mshiri is located 1720 m above sea level on hills around the slopes of Mount Kilimanjaro. The soils are volcanic and suitable for agricultural production, with a favourable living environment. Because of population pressure, cultivation and housing are very dense, with a population of 250 per km². All respondents were engaged in cultivation of banana and coffee: their livestock are stall-fed. The village is close to Kilimanjaro National Park (KINAPA) on the eastern side of Mount Kilimanjaro, and young people in the village are therefore employed seasonally as porters. The mean annual rainfall is 1000-1800 mm, with mean temperatures of 20-30° C.

2.1.2 Mruwia

Similar geographical conditions are found in Mruwia village. The village is at 1430 m above sea level, on hills around the slopes of Mount Kilimanjaro. It has fertile volcanic soils suitable for crops like bananas, coffee, yams, vegetables, fruits, pulses and livestock such as cattle, goats, sheep and pigs. Chickens are the preferred domestic fowl in almost every household. The mean annual rainfall is 1000-1600 mm, and the population density is similar to that of Mshiri (250 per km²).

2.2 Age of household respondents

Figure 1 shows the age of respondents in the two villages. Most were over the age of 51, with very few between 31 and 50, an age category regarded as active. This indicates that most heads of household are over 51, often retired civil servants who have decided to settle in their native village. Those under 50 often still migrate to towns and cities in search of employment.

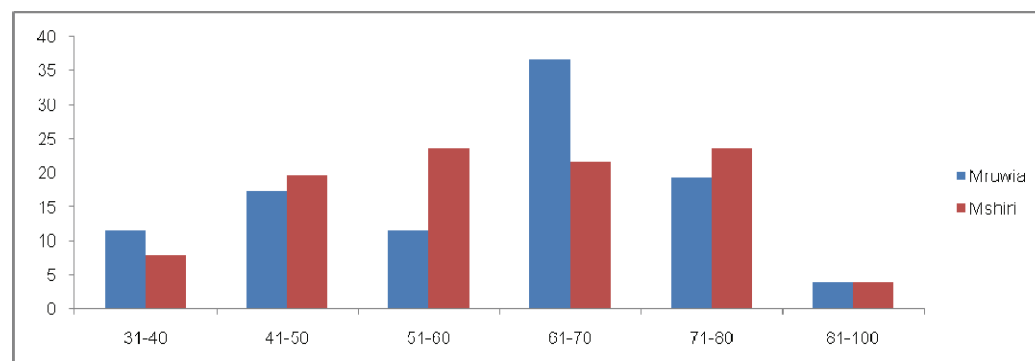


Figure 1: Age of respondents in two villages (%)

2.3 Political and administrative setup

The lowest level of political organisation in Tanzanian villages is a 10 cell, headed by a 10 cell leader, who is responsible for 10 households. What counts is the number of households and not the number of people in the household. In addition, the concept of a 10 cell leader differs from one place to another. Recently, population expansion has increased the number of households to more than 10 per cell.

Just above the 10 cell is the sub-village, headed by a chairperson, who commands several 10 cell leaders and their households. A village may have between five and eight sub-villages, depending on its population. The village chairperson is the head of the village, elected by villagers for a term of five years and not an employee of the district council. The village executive officer is an employee of the district council, responsible for all matters relating to governance in the village.

Several committees form the village government: committees on security, finance and planning, development activities, health, education and water. The chairpersons of these committees are members of the village government.

2.4 Profile of the study area

2.4.1 Mruwia and Materuni villages

The two villages of Mruwia and Materuni are situated close to each other: the boundaries separating the two is hardly noticeable. It is said that the two villages were once one village, but they were separated in 1985 to facilitate provision of social services and accommodate development projects.

Mruwia village is located 20 km from Moshi town. It consists of four-sub villages, namely, Mtoloni, Njauni, Chuweni and Munjeni, with a total of 301 households. Materuni village has five sub-villages, namely, Wondo, Kitirni, Kiwowo Juu, Kitirini Chini and Kiwowo Chini. The village has a total of 342 households.

The inhabitants are immigrants who came to Mruwia, settled, formed a village and developed a common language used by the villagers today. Most of the inhabitants of Mruwia and Materuni are from the Materu clan.

Social services

There are three primary schools in Mruwia and Materuni villages. One is located in Mruwia and the other two are in Materuni village. Mruwia village lacks health services, and villagers go to Materuni village for medical treatment. The health centre in Materuni village offers maternal health services as well as other services.

Market

The village has no market, only small shops that sell various consumer goods. There is a market in a nearby village, Uru Kishimundu, about 7 km south of Mruwia, on Tues-

days and Fridays. This bi-weekly market sells mostly agricultural products from the vicinity. Villagers walk there to sell their farm produce, mostly bananas, fruits and vegetables, to middlemen who come in from the towns. Alternatively, villagers can hire a pick-up and take it to Kibololoni market in Moshi municipality 20 km away, where the market for coffee is also located.

Water availability

Most of the villagers have access to clean and safe water from pipes. Although not all houses are connected, water pipes go through the villages and can be found close to their compounds. In addition, wells and springs are found in all villages. Figure 2 shows the different sources of water used by respondents in Mruwia village.

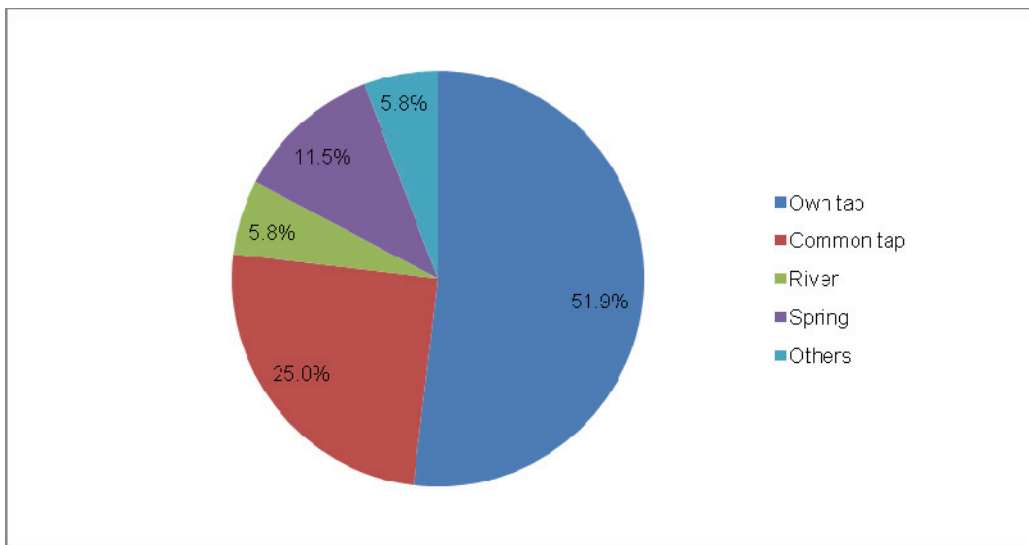


Figure 2: Access to water by households in Mruwia (in percent).

Table 3 shows travel distance to water sources. Given that Mshiri has more private tap water and less public tap water, the mean time needed to get to a water source was just 3.3 minutes, regardless of the season. In Mruwia village, 7 minutes were required during the dry season and 7.8 minutes during the rainy season.

Table 3: Travel distance to water sources in Mruwia and Mshiri.

Village		Mean (minutes)	Standard deviation
Mruwia (N=52)	Travel distance to main water source in rainy season	7.00	4.66
	Travel distance to main water source in dry season	7.80	5.07
Mshiri (N=51)	Travel distance to main water source in rainy season	3.33	5.77
	Travel distance to main water source in dry season	3.33	5.77

Electricity

The villages are connected to electricity. However, researchers observed that not all households utilise this source of power.

Religious buildings

Most of the villagers are Christians of the Roman Catholic and Lutheran dominations. There is no mosque in the village.

Transportation

Mruwia village is accessible by gravel road, although this is difficult during the rainy season. Minibuses go between the village and Moshi town. Villagers from Materuni must travel on foot to Mruwia village to catch the bus to Moshi town. During the research period, the bus fare from Moshi town to the village was Tsh 600 per trip (\$0.50). Easy transport to and from the villages allows people to carry out temporary (daily) migration to Moshi town to work as casual labourers and in other income-generating activities.

Daily migration is very common among the Chagga in Kilimanjaro. It was reported that most of those employed or engaged in activities such as trade or public services in Moshi live in villages such as Marangu, Uru, Machame or Kibosho. Cheap transport and accessible roads have facilitated this tendency.

Credit and financial services

In 2006, villagers, backed by the cooperative division, initiated a savings and credit cooperative organisation (SACCO), situated in Mruwia village close to the primary society, drawing members from both Mruwia and Materuni villages. This organisation depends mainly on contributions from its members for its operations and has not yet built up enough capital to give loans to villagers. Villagers and organisation members were of the opinion that in future their SACCO will provide them with capital and thus they will not need to seek loans from commercial banks at higher interest rates.

2.4.2 Mshiri village

Mshiri village is located 45 km from Moshi town and has 500 households, with an average household size of five to six people, equal to the national average in Tanzania.

Social services

The village has two primary schools, a secondary school and a vocational school, which offers computer courses for primary school leavers.

The village has no market of its own apart, only small shops which sell consumer goods. The closest market is in Marangu Mtoni, approximately 30 minutes on foot. Since all sampled villages are easily accessible from Moshi town, daily migration is a common phenomenon.

Mshiri village is part of Marangu East Primary Society, which also includes Ashira, Lambakanaa, Samanga, Ravya, Sembeti, Aris and Songora. The primary society has a total of 1281 members. Villagers who want to join pay Tsh 1000 (\$0.83) and Tsh 5000 (about \$4.17) as membership and contribution fees, respectively. In 2004, the primary society formed a SACCO, which helps members to obtain soft loans to boost their income-generating activities.

Figure 3 shows access to water by households in Mshiri village. Generally, Mshiri village has better access to water than Mruwia. Most respondents have piped water either inside their house or within their compound. In all villages, water originates from rivers and the protected areas of Mount Kilimanjaro Forest Reserve. Water is used for domestic purposes and processing coffee. Mshiri village receives sufficient rainfall throughout the year, so none of the respondents reported using piped water for irrigation (unlike in Materuni and Mruwia).

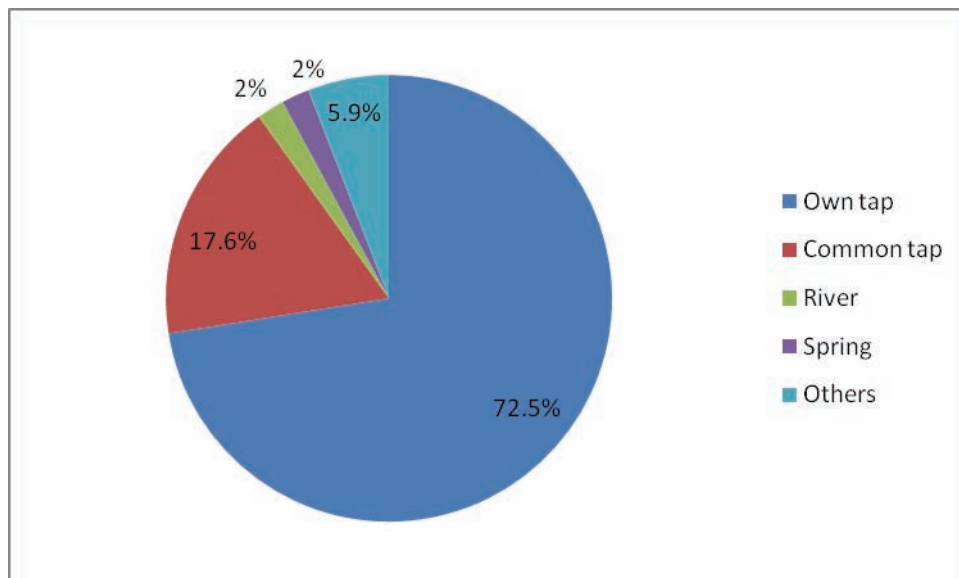


Figure 3: Access to water by households in Mshiri (in percent).

2.5 Farming system

The farming system of the Chagga is based on the kihamba system, which acts as a home garden. The land in highland areas is heavily intercropped, as shown in Figure 4. The intensive cropping system of the Chagga involves the integration of several multipurpose trees and shrubs with food and cash crops and livestock on the same unit of land. The crops grown – banana (*Musa spp.*), beans (*Phaseolus vulgaris*), cabbage (*Brassica oleracea*), cow pea (*Vigna unguiculata*), chilli (*Capsicum spp.*), eggplant (*Solanum melongena*), maize (*Zea mays*), onion (*Allium cepa*), potato (*Solanum tuberosum*), sweet potato (*Ipomoea batatas*), taro (*Colocasia spp. and Xanthosoma spp.*), tomato (*Lycopersicon esculentum*) and yam (*Dioscorea spp.*) – are food crops cultivated in home gardens. Within this cropping system, several agro-forestry practices can be identified, including the use of multipurpose trees and shrubs to provide shade for

coffee, to serve as live fences for fodder, to provide mulch for bee forage, and to offer anti-pest properties.

In addition, livestock, mostly cattle, goats and pigs, are an important source of manure in the kihamba. Shortage of land in highland areas has forced the Chagga to practice intensive cultivation and utilise manure from livestock to improve the fertility of the soils.



Figure 4: Intercropping in a traditional Chagga farm plot in Mshiri. (Photo by Eva Ludi, June 2007)

2.6 Livelihood activities of the respondents

2.6.1 Income sources

The livelihood activities of most villagers are farming and livestock keeping. Coffee is the most important cash crop and banana is a staple food of the Chagga. The two crops are cultivated by almost all the households in the study areas.

The main income sources do not vary much between the two villages and included selling of agricultural crops (coffee, bananas, grain) and livestock and to some extent remittances from relatives. Tourism is more developed in Marangu East, where Mshiri village is located, so villagers, especially young men, benefit from seasonal employment as porters.

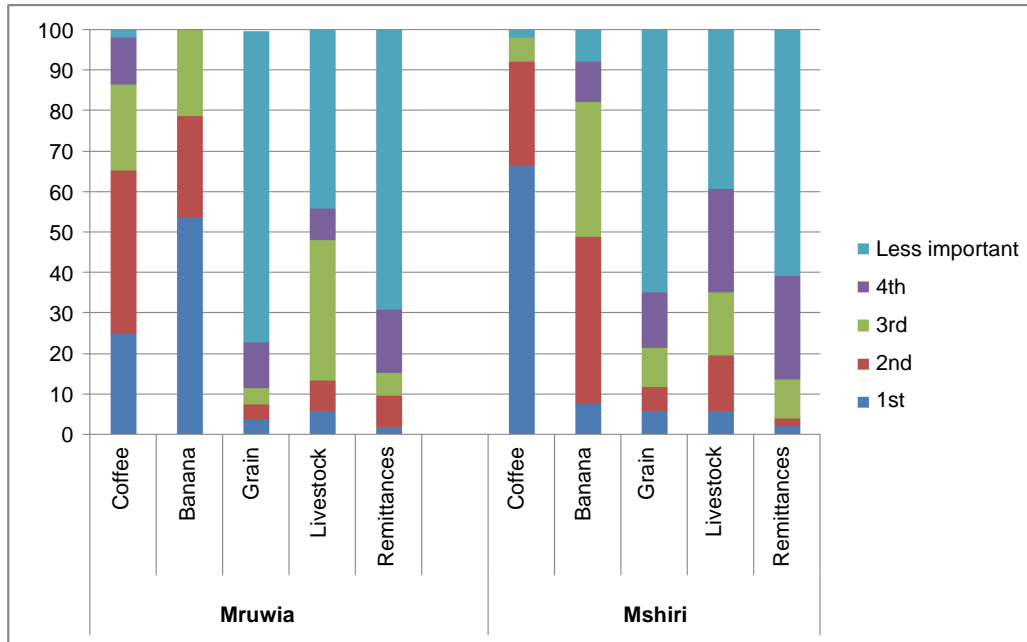


Figure 5: Relative importance of current main income sources in two villages (in percent).

Coffee

Historically, coffee cultivation has been the most important source of income for most households: coffee is cultivated by almost all households sampled in the study area. It is a perennial crop and respondents indicated that they receive income only one season of the year from this crop. Respondents acknowledged that the importance of coffee as a major source of income has declined recently, although it remains one of the most dependable sources of income in most of the households, as shown in Figure 5. In Mruwia, 25% and 40% of respondents indicated that coffee was the most important and second most important source of income, respectively. In Mshiri, the figures were 65% and 24%, respectively. This shows that most households in Mshiri attach more importance to coffee production despite the production bottlenecks in the area, for example land fragmentation and fluctuating prices.

Livestock holding

Livestock keeping is part and parcel of the livelihood strategies of most villagers. Common livestock are local breed and crossbreed cows, dairy cattle, goats, pigs, chickens and sheep. Cows are kept for manure, which is utilised on both banana and coffee plots, since most households cannot afford to purchase industrial fertilisers. Livestock are kept indoors. In most households, the average number of animals is two and three for cattle and goats, respectively. Because grazing land is limited, most households cannot increase the number of livestock they keep.

Excess manure is also an important source of income: 7 tons of manure can be purchased for Tsh 70,000 (about \$58.33). However, most respondents indicated that they want to reduce the number of livestock they keep because of a shortage of feed and space. The researchers did not find any draught animals in the villages, probably because of the shortage of land and the mountainous terrain.

Table 4: Number of livestock owned in each village.

Livestock type	Mruwia (N=52)		Mshiri (N=51)	
	Mean	SD	Mean	SD
Cows	1.6	1.28	2.1	1.30
Sheep	0.4	1.26	0.14	0.57
Goats	1.1	1.73	2	1.92
Pigs	0.59	1.22	0.5	1.25
Chickens	2.3	3.2	8.7	15.88

In both Mruwia and Mshiri, some households perform very intensive livestock keeping, mainly milking cows (Figure 6) and raising chickens and goats. Figure 5 indicates that about 13% and 20% of respondents in Mruwia and Mshiri villages, respectively, said that livestock keeping was the first or second most important source of income in their household. Declining coffee production, increasing prices for agricultural inputs and increasing costs of production are some of the reasons behind an increase in the importance of livestock keeping.



Figure 6: Dairy cattle in Mshiri. (Photo by Tobias Haller, June 2007)

Local brewing

Mbege is a traditional local brew of the Chagga, produced and marketed mostly by women. It is made up of a special type of banana (*ndizi kijivu*), finger millet and water. It is regarded as another source of household income to supplement income from the main economic activities of farming and employment. Normally, income from mbege is controlled by women and meant to cater to domestic needs: men do not have access to it. Men control income from coffee and livestock.

Mount Kilimanjaro porters

In Mshiri village, respondents stated that coffee cultivation is an activity for old people. Most young people prefer to be porters for the tourists who climb Mount Kilimanjaro, because they can get \$100 for four days of work. Based on current prices and production, this is more than they would get if they were engaged in coffee cultivation, because of fluctuating income and increasing input prices.

2.6.2 Major food crops

Bananas remain the main staple food of the Chagga. All respondents (100%) have banana plots, heavily intercropped with coffee, yams and other crops close to their households. Banana is a food crop and the surplus is sold in nearby markets, both within and outside the village. Since selling of bananas takes place throughout the year, and farmers do not keep records, it was difficult to establish the precise amount of income obtained. However, subjective estimates were made. Figure 5 shows that in Mruwia village, 55% and 22% of respondents ranked bananas the most important and second most important source of income, respectively. In Mshiri, only 7% and 41% of respondents stated that bananas were the first and second most important household income source, respectively.

Maize is cultivated in small areas in the highlands. Very few farmers sell the maize they produce, with most of it produced for household food. Figure 5 indicates that 88% and 86% of households in Mruwia and Mshiri villages, respectively, ranked maize or grain as a less important source of household income.

Sunflowers are cultivated in the lowland areas in Moshi. The area known as porini (bush) by the Chagga is famous for maize and sunflower cultivation. Sunflowers are sold on the local market. Recently, demand has increased because sunflowers are used as a raw material in the production of cholesterol-free cooking oil.

2.7 Major household expenditure items

Table 5 shows the mean of major household expenditures in both villages. Expenditures relating to food items, health and education score higher than others. Expenditures differ from one village to another. For example, in Mshiri most respondents spend more on labour (Tsh 307,500 compared with Tsh 98,750 for Mruwia (\$256.25 vs. \$82.29)). This could be attributed to a higher demand for labour in Mshiri to tend to various activities such as livestock. Other expenditures differ only slightly. School fees are a major expenditure in most households (Tsh180,460 and Tsh190,454 for Mshiri and Mruwia, respectively (\$150.38 vs. \$158.71)).

As for coffee inputs, farmers in Mruwia said they spent Tsh28,000 (\$23.33) on pesticides and insecticides (as against \$0 in Mshiri). This could be attributed to the KNCU motivation to abandon agro-chemicals and produce organic coffee, for which demand is higher than for conventional coffee.

Table 5: Major household expenditure items in the two villages (calculated for one calendar year).

Foods	Mshiri (N=51)	Mruwia (N=52)
	Mean	Mean
Meat/animals for consumption	211,959.0	140,587.5
Cooking oil	119,918.6	86,277.5
Salt and spices	14,607.4	15,271.4
Local beer and other alcohol	29,359.3	18,188.9
Industrial beer and alcohol	96,736.4	80,786.3
Other foodstuff	46,333.3	76,766.7
Water	120,000.0	69,800.0
Energy		
Oil/gas/kerosene	29,358.1	45,138.7
Health		
Modern medicine and health care	94,680.0	97,291.7
Clothes		
For household head	103,428.6	31,750.0
Wife	43,500.0	28,461.5
Children	113,000.0	57,222.2
Education		
School fees	180,459.3	190,453.1
Educational materials (pencils, books)	18,875.0	33,800.0
School uniforms	19,600.0	45,579.2
Contributions	45,000.0	128,622.2
Festivals		
Regular religious festivals	70,750.0	32,623.5
Funerals and commemorations	17,000.0	32,464.3
Other festivities	28,769.2	69,809.5
Farming		
Pesticides and herbicides	-	28,000.0
Salaries for labourers	307,500.0	98,750.0

2.8 Household access to labour

Most respondents depend on family labour to carry out their activities. However, in labour-intensive cases such as coffee-related activities, households have to engage hired labour. Appendix 2 indicates that hired labour is used in varying degrees with respect to the activities undertaken and the level of intensity of work required. In Mruwia, household labour is used to cultivate tubers, bananas, pulses, oilseeds and fruit, and for livestock keeping. In Mshiri, bananas, tubers, pulses and poultry are raised us-

ing household labour, whereas coffee, livestock and oilseeds are raised using both household labour and hired labour. Based on the number of livestock kept by respondents in Mshiri, it is obvious that family labour alone is not enough. This is also reflected in expenditures on hired labour, as indicated in Table 5.

In both villages, a combination of both household labour and non-relative (hired) labour is common in coffee production. This is probably because coffee production is labour intensive and activities such as pruning, weeding, picking, processing and drying demand attention for most of the year.

2.9 Landholding characteristics

Most respondents have access to agricultural land, in both highland and lowland areas. Land pressures among the Chagga have led to small landholdings, in the range of 1-2 acres (0.4-0.8 ha). Land in the highlands is used for settlement and coffee and banana cultivation, whereas that located in the lowlands is used for maize and sunflower production (sunflowers having been introduced as part of the response to the fluctuation of coffee prices). Land in the highlands is also very important for burial ceremonies.

Table 6: Landholdings among respondents in the two villages.

		Mean	Standard deviation
Mruwia (N=52)	Number of plots of cropland or fallow land	1.52	0.63
	Famland by household (acres)	2.56	3.32
	Land for coffee (acres)	1.59	1.18
	Land left fallow (acres)	0.11	0.29
	Land size cultivated in last agricultural season (acres)	2.28	3.27
Mshiri (N=51)	Number of plots of cropland or fallow land	1.51	0.99
	Famland by household (acres)	1.55	1.2
	Land for coffee (acres)	1.06	0.68
	Land cultivated in last agricultural season (acres)	1.29	0.96

2.10 Access to farmland

According to Chagga customary law, a father is the owner of the land, with full control over it. However, a father, who has himself inherited land from his father, is obliged to divide his land among his sons. The youngest inherits the parent's house and the land surrounding it. A father may have access to the land (banana and coffee farms) after dividing it among his sons so long as his sons live outside the village. In such cases, the father has allocated land to his sons to build a house but continues to harvest coffee and/or bananas. It is common among the Chagga for sons to build a house on their father's land but live outside the village.

Chagga customary law does not grant daughters the right to own land. In addition, even after marriage Chagga women have no right to use their father's land and cannot inherit it. Women have access to land through their husbands and, in the event of the death of their husband, have the right to inherit it, as long as they do not remarry. In this way, women become custodians of the land for their sons.

2.11 Land use and production

The land is composed of highlands and lowlands. Land in the highland areas is used mostly for settlement and crop cultivation. Crops such as coffee, bananas, maize and vegetables are common. In some households, trees have been planted for timber and to prevent soil erosion.

Table 7: Production of crops in the two villages.

	Yield from different crops	Mean	Standard deviation
Mruwia (N=52)	Coffee (kg per household)	63.78	80.93
	Maize (kg)	749.71	2957.99
	Pulses (kg)	60.5	110.40
	Banana (bundles)	106.96	102.26
	Tubers (kg)	204	345.09
	Vegetables (bundles of 0.25kg)	10	14.14
Mshiri (N=51)	Coffee (kg per household)	67.43	52.30
	Maize (kg)	282.50	211.06
	Pulses (kg)	48.387	37.17
	Banana (bundles)	60.52	60.39
	Tubers (kg)	170	183.84
	Vegetables (bundles of 0.25kg)	20	7.07

The average amount of coffee land is 1.1-1.6 acres per household. Because coffee cultivation is a year-round and labour-intensive activity, most plots are located close to the house so family labour use can be maximised. Fear of theft of coffee beans is also likely to have been a factor in plots being located close to the house. Land in the lowland areas is used mostly for maize and sunflower cultivation. Livestock is kept indoors and reserve land is used for fodder grass production.

When a family member dies, it is customary among the Chagga to bury him/her on clan land, except for married female family members, who are buried on their husband's land. Informal interviews with elders revealed that at least four coffee trees and other crops must be cleared to make way for a grave. Although this custom has existed for many years among the Chagga, increasing numbers of deaths as a result of HIV/AIDS have given rise to a danger that more coffee land will have to be used for graves. This issue is beyond the scope of this study, but it would be interesting to explore the impact of this practice on the number of coffee trees.

2.12 Resource ownership in the two villages

2.12.1 Resource ownership by village

Table 8 shows ownership of resources in the two villages. Respondents in Mruwia village have more land under coffee and grain than their counterparts in Mshiri village.

Table 8: Resource ownership in the two villages.

		Coffee area (acres)	Grain area (acres)	No. of cows	No. of sheep	No. of goats	No. of chickens
Mruwia	Mean	1.53	1.51	1.63	0.40	1.12	2.33
	N	52	28	52	52	52	52
	Standard deviation	1.15	3.59	1.28	1.26	1.73	3.20
Mshiri	Mean	1.14	0.84	2.16	0.14	2.02	8.75
	N	51	43	51	51	51	51
	Standard deviation	0.87	0.59	1.30	0.57	1.92	15.89
Total	Mean	1.34	1.11	1.89	0.27	1.56	5.50
	N	103	71	103	103	103	103
	Standard deviation	1.03	2.3	1.32	0.98	1.88	11.8

However, analysis of variance indicates that the area under coffee is significantly different ($P < 0.05$) in the two villages, whereas areas under large grain are not significantly different. Furthermore, other production factors being constant, respondents in Mruwia can produce more coffee than those in Mshiri village, partly because of the amount of land and the value that is attached to coffee. On the other hand, few respondents (28) in Mruwia had land in the lowlands (Mshiri 43). Proximity to tourist centres and Mount Kilimanjaro have led respondents from Mshiri to engage in other livelihood activities related to tourism, although they have not abandoned coffee cultivation.

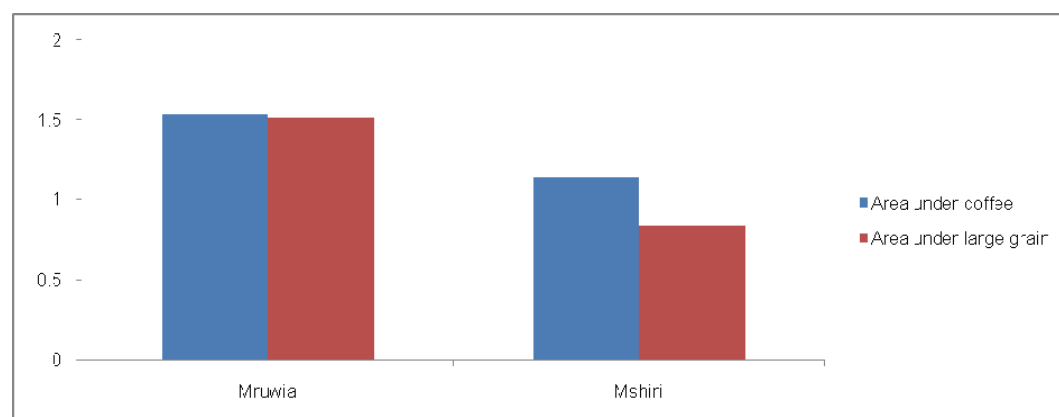


Figure 7: Mean area under coffee and large grains in two villages (acres).

Table 8 also shows that respondents from Mshiri have more livestock than those in Mruwia. For example, the number of cows and goats in Mshiri (mean 2.2 and 2, re-

spectively) is greater than that in Mruwia (mean 1.6 and 1.1, respectively). However, the analysis of variance indicates that the area under coffee is significantly different ($P < 0.05$) in the two villages, whereas areas under large grain are not significantly different. This is attributed to the easy transportation available for livestock products from Mshiri, such as meat, eggs and milk, to Marangu Mtoni and other centres such as Marangu Hospital and Marangu Teachers' College. In addition, close proximity to KINAPA means a market for milk and meat in the Marangu tourist centre. The number of chickens is also greater in Mshiri village than in Mruwia.

It was reported by respondents in Mshiri village that there is a good market for manure in Marangu, where a 7-ton truck of manure is sold for Tsh 70,000 (\$58.33). Most respondents cannot afford agricultural inputs: the price of 50 kg of urea increased from Tsh 19,000 in 2004 to Tsh 30,000 in 2008 (\$15.83 to \$25), leading many people to turn to manure to increase soil fertility. For many respondents, keeping livestock, mostly cows, ensures that manure is available for coffee and banana plots as well as for generating an income. This also partly explains why respondents in Mshiri have a higher income from milk than those in Mruwia.

Table 9 below suggests that respondents in Mruwia have more land and those in Mshiri more livestock. These findings negate the assumption that those with more land have more opportunity to keep livestock. In addition, households with little land have to raise livestock very intensely in order to compensate for the income that they cannot generate from crops. Consequently, respondents from Mruwia depend more on land for their livelihood, whereas those in Mshiri depend more on livestock and other non-income activities, such as portering.

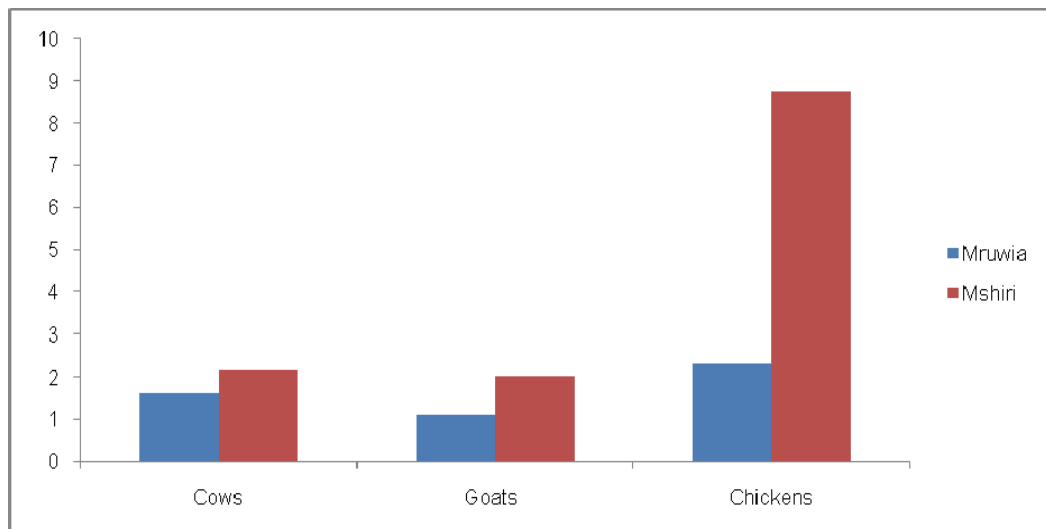


Figure 8: Mean number of domestic animals per household in the two villages.

Table 9: Ownership of resources by sex of respondent in the two villages.

Village	Sex		Coffee area (acres)	Grain area (acres)	No. of cows	No. of sheep	No. of goats	No. of chickens
Mruwia	M	Mean	1.56	1.5	1.69	0.44	1.21	2.27
		Median	1	0.5	2	0	2	3
		N	48	26	48	48	48	48
		Standard deviation	1.18	3.73	1.32	1.30	1.77	3.24
	F	Mean	1.19	1.75	1.0	0.0	0.0	3.0
		Median	1	1	2	0	1	4
		N	4	2	4	4	4	4
		Standard deviation	0.75	0.35	0.0	0.0	0.0	2.94
	Total	Mean	1.53	1.51	1.63	0.41	1.11	2.33
		N	52	28	52	52	52	52
Standard deviation		1.15	3.59	1.28	1.26	1.73	3.20	
Mshiri	M	Mean	1.19	0.88	2.26	0.13	2.21	9.7
		N	39	32	39	39	39	39
		Standard deviation	0.90	0.64	1.37	0.57	2.04	17.9
	F	Mean	1.00	0.75	1.83	0.17	1.41	5.67
		N	12	11	12	12	12	12
		Standard deviation	0.76	0.42	1.03	0.58	1.38	4.58
	Total	Mean	1.14	0.84	2.16	0.14	2.01	8.74
		N	51	43	51	51	51	51
		Standard deviation	0.87	0.59	1.30	0.57	1.9	15.9

Table 9 compares ownership of resources by the sex of respondents. In both villages, men own more coffee land than women. The customary inheritance system among the Chagga, which excludes women from land ownership, is a major factor in men owning more land than women. In addition, most households are headed by males: men own the resources at household level and women have little control or, rather, only have user rights.

However, in Mruwia village, women respondents own more grain land than men. Grains are regarded as crops for women and hence men are not interested in owning land for grain/cereal production. Most respondents reported not selling grains (maize) produced in lowland areas, which is instead consumed in the household. As such, men own more coffee land because it is culturally a man's crop and a source of cash; women own grain land because it is a source of food for the household.

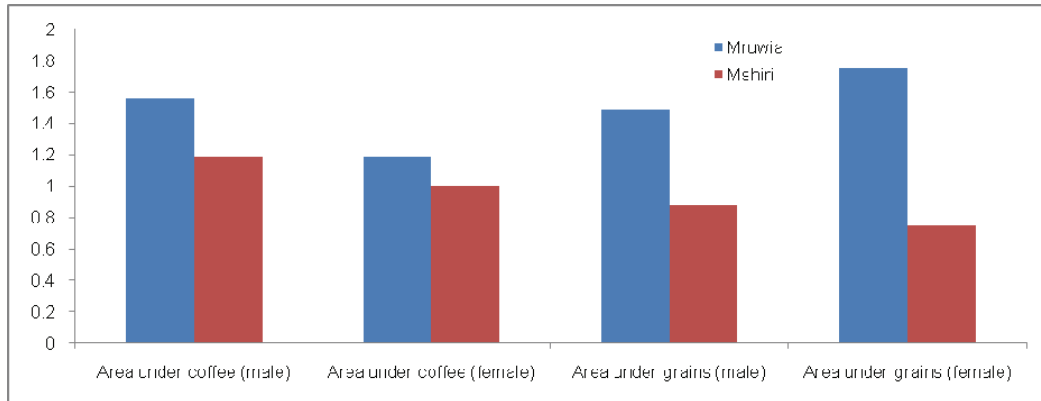


Figure 9: Mean cropland ownership by sex of household head in the two villages (in acres).

Village-wise, both men and women in Mruwia own more coffee land than their counterparts in Mshiri. Women only own chickens in larger numbers than men in Mruwia village, although in Mshiri men own more chickens than women. In Mshiri, chickens and their products fetch a good market price, which is said to warrant the attention of men.

2.12.2 Resource ownership by age

Although there is great deal of fluctuation, as Figure 10 indicates, ownership of land generally increases with age, such that most respondents under 64 have less land (around 1-1.2 acres). Those above 64 have more land, although the amount decreases as the age advances, because of customary land fragmentation among sons, demand for land for burial ceremonies, and diminished ability to cultivate highly demanding coffee plots.

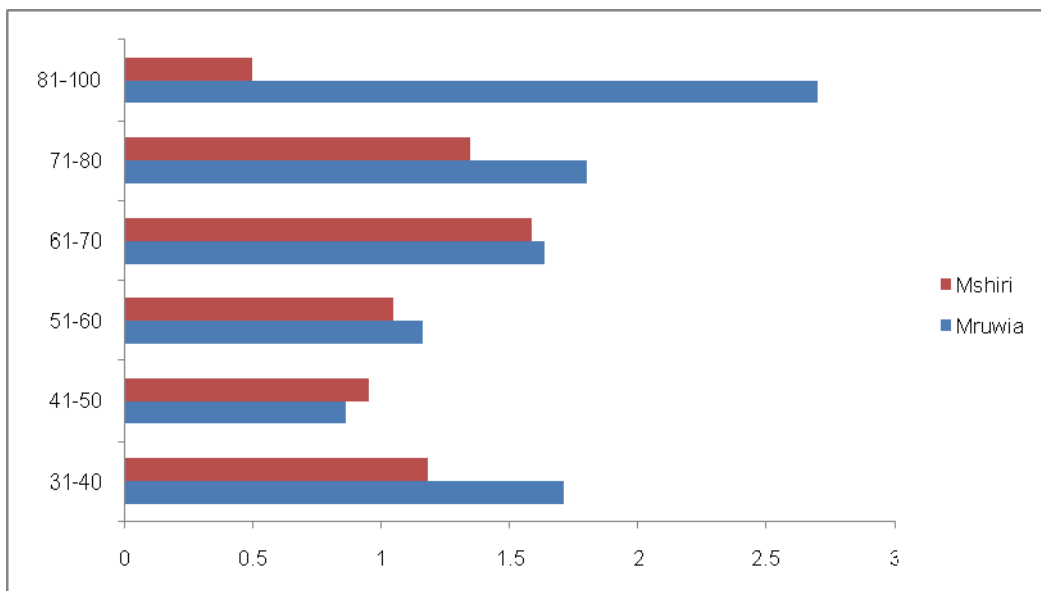


Figure 10: Mean ownership of coffee land by age of respondent in the two villages (in acres).

This explains why the same respondents have more land in the lowland areas, as indicated in Figure 11. The Chagga reside in highland areas and use land in the lowlands for maize and sunflower cultivation.

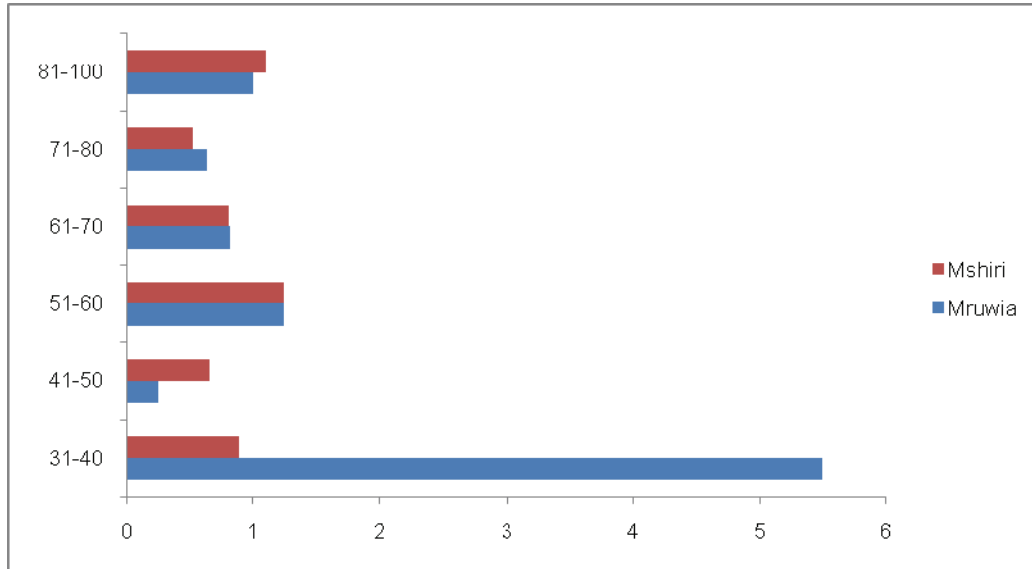


Figure 11: Mean ownership of large grain land by age of respondent in the two villages (in acres)

Ownership of livestock, mostly cows, fluctuates with age. The Chagga keep their livestock indoors and thus it is difficult for those over 65 to keep large numbers, unless they utilise hired labour. Most animal feed comes from outside the village. Older people find it difficult to cope with demand and end up reducing the number of livestock they have, keeping only what they can afford to feed.

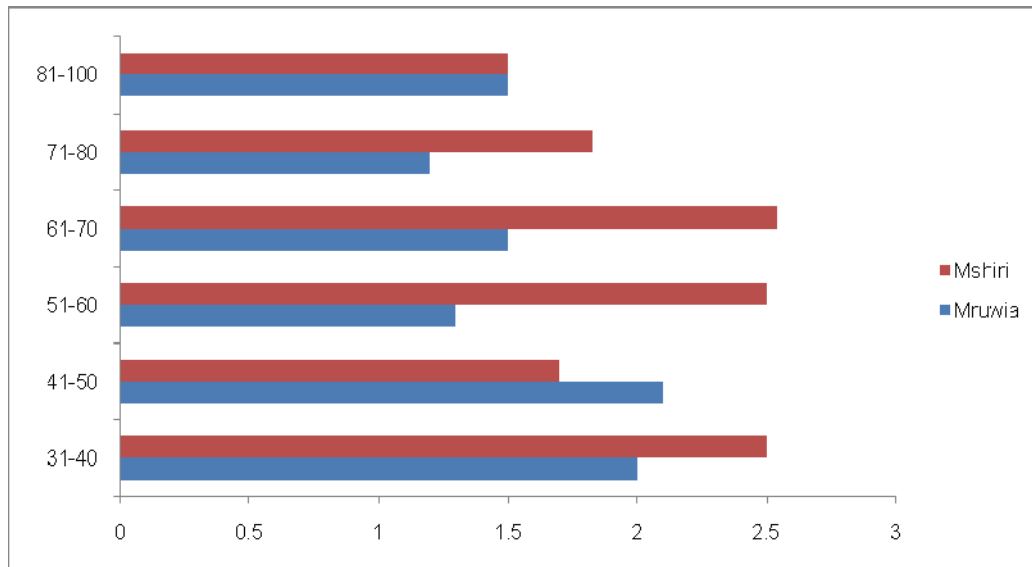


Figure 12: Average number of cows by age of respondent in the two villages.

Men keep more livestock than women. This is not uncommon in African families, as men head families and own the resources. Figure 13 shows that men own more cows in both villages (mean 1.95, as opposed to 1.65 for women). Thus, although women are

expected to take care of both domestic and productive activities in the household, including feeding livestock, they do not own the resources, except for small stock such as chickens.

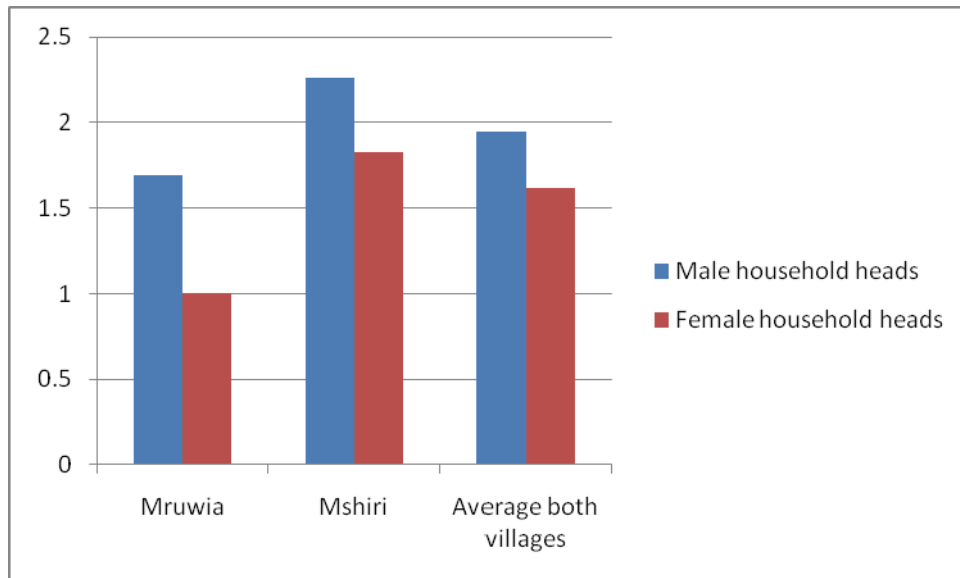


Figure 13: Average number of cows owned by male and female household heads in the two villages.

Income generally tends to increase with farm size. In Mruwia, production (expressed in terms of income) is a function of farm size rather than of extension services and inputs (Figure 14). However, in Mshiri production (expressed in terms of income) is a function of factors other than the amount of land (Figure 15), including the adoption of farming techniques from KNCU extension staff and use of agricultural inputs. In addition, those with smaller plots utilise their plots intensely and therefore increase the productivity of the land.

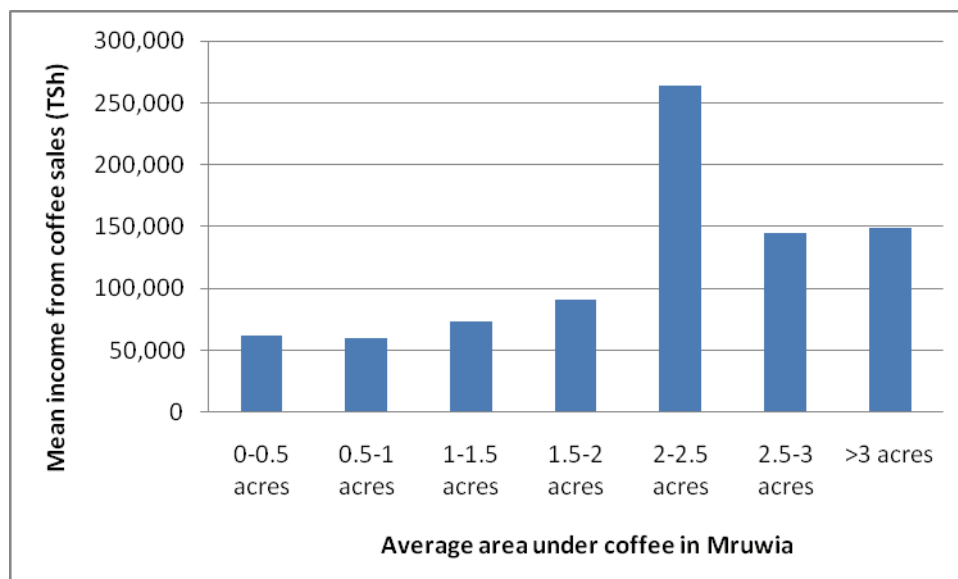


Figure 14: Mean income from coffee in relation to area under coffee plantations in Mruwia.

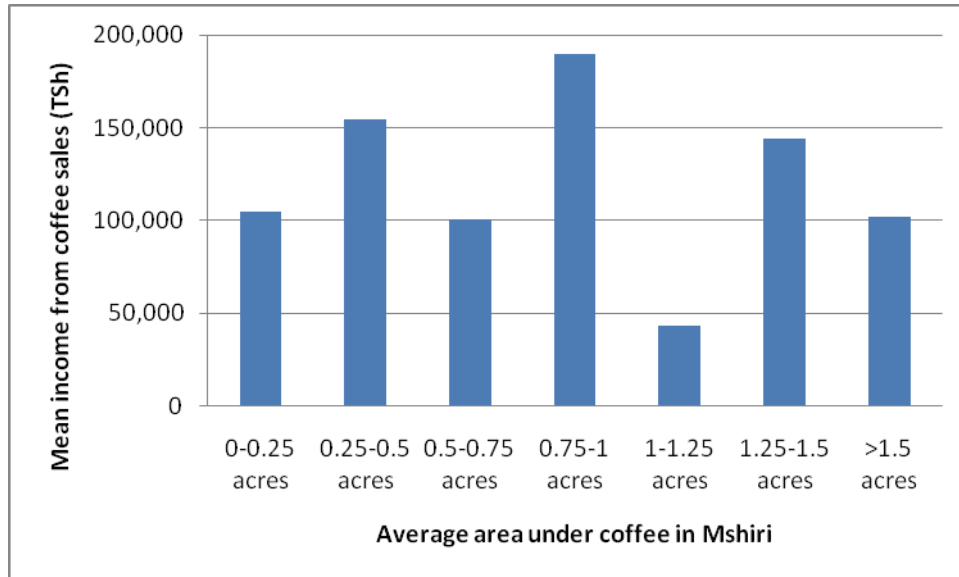


Figure 15: Mean income from coffee in relation to area under coffee plantations in Mshiri.

2.13 Agricultural extension, access to information and credit

Most respondents (96.2% in Mruwia and 96.1% in Mshiri) did not have access to credit. This is mainly because most financial institutions are located in urban areas and hardly operate in rural areas (a claim made by more than 80% in Mruwia and more than 60% in Mshiri). In addition, because farmers do not have collateral to use to guarantee their loans, most of them end up without loans, resorting to their personal savings from coffee cultivation. The data provide no clue on credit from relatives and friends. These results tally with Mhando et al. (2008), who found that 98% of all respondents in Mbinga use their personal savings to sustain coffee cultivation.

In both study areas, farmers have initiated their own SACCOs, which is a recent development in Tanzania. Although still in their infant stages, SACCOs can assist farmers in two ways: 1) by cultivating a culture of savings before farmers are eligible to borrow, and 2) by enabling members to take on the responsibility of loan repayment.

Respondents from Mshiri received most extension services relating to coffee production and management from the KNCU (Table 10). Services such as those to do with drying coffee at home, post-harvest treatment, intercropping coffee, growing coffee for organic certification, fertilisers for grain crops, and organising cooperatives scored more than 70%. This indicates that the KNCU maintains contact with its farmers through extension workers, who train farmers in better management of coffee production and processing to ensure that they grow high-quality coffee that can fetch a higher price, and also perhaps to attract farmers and primary societies to remain with the KNCU instead of defecting to G-32. Table 11 in the next section shows that Mshiri produces more coffee – 59.12kg per acre as compared with 41.7kg per acre in Mruwia.

In Mruwia, the data indicate that respondents are receiving very little in terms of extension services. The majority of farmers do not receive or use extension services. For

example, only 19.2% of respondents indicated that they used services relating to post-harvest treatment of red cherries before selling or drying. The primary society provides no such services and there is little support from the government, so farmers have to continue to produce coffee using the old techniques in a competitive coffee market.

Table 10: Provision of extension services in two villages

Extension service	Mruwia (N=52)		Mshiri (N=51)	
	Yes	No	Yes	No
Improved coffee seedlings	2	50	5	46
Local coffee seedlings	0	52	1	50
Pesticides for coffee	5	47	1	50
Herbicides for coffee	4	48	2	49
Post-harvest treatment of red cherries before selling or drying	10	42	50	1
Drying coffee at home	3	49	41	10
Intercropping coffee with other plants	2	50	43	8
Growing coffee for organic certification	2	50	40	11
How to organise cooperatives	1	51	36	15
Fertiliser for grain crops	0	52	21	30
Information on other crops (vegetables, fruits, nuts)	2	50	2	49
Other farm activities (beekeeping, poultry)	3	49	13	38

3 Coffee-growing Patterns in the Two Villages

3.1 Importance of coffee to the household economy

The results of this study indicate that coffee cultivation is more important to villagers in Mshiri than those in Mruwia (Figure 5). The average total landholding is 1.5 acres, and 2.5 acres for respondents in Mshiri and Mruwia, respectively (Table 11). This means that respondents in Mruwia village have more land than those in Mshiri. Average land under coffee in Mshiri is 1.14 acres, whereas in Mruwia it is 1.53 acres. Analysis of variance indicates that the difference between the two villages in terms of average land under coffee is not statistically significant ($p > 0.05$). However, average coffee production per acre in Mshiri village is higher (59.12 kg/acre) than the 41.7 kg/acre in Mruwia). A two-tailed test of significance indicates that the difference in productivity is highly significant ($p = 0.000$). Availability of extension services and support from the KNCU could be reasons for this greater production despite the smaller amount of land involved.

Table 11: Facts and figures on land and coffee in the two villages.

	Mshiri	Mruwia
Average total landholding (acres)	1.5 (SD:1.24)	2.5 (SD: 1.65)
Average land area under coffee (acres)	1.14 acre	1.53 acre
Average coffee production (kg per acre)	59.12	41.7

Most respondents in Mruwia (78.9%) and Mshiri (98.2%) do not use agricultural inputs on their coffee plots, especially industrial fertilisers and insecticides. Various reasons were given for this. Farmers have been discouraged from using inputs, as it is believed that they increase the incidence of plant pests and diseases. Farmers claim that from the time they stopped using inputs they noted a decrease in the frequency of the occurrence of pests and diseases. Respondents also reported that their parents who used inputs without protective gear died of cancer and other diseases and they are afraid of facing the same fate. In addition, farmers in Mshiri are encouraged by the KNCU to convert to organic farming and use animal manure, which explains why most of them do not use agricultural inputs.

Historically, farmers obtained agricultural inputs on the basis of loans from the KNCU. Payment was made by deducting a certain amount of money after coffee was sold. Under this arrangement, farmers did not feel that they were paying for inputs. Economic liberalisation was the turning point here. The government withdrew all subsidies, allowing market forces to determine prices. This resulted in price increases for inputs without a significant increase in coffee prices, leaving cooperative unions unable to

distribute free inputs. The only alternative for farmers was to turn to organic farming. With encouragement from the KNCU, farmers in Mshiri abandoned agricultural inputs, mostly fertilisers and chemicals, and used animal manure to supplement chemical fertilisers. This is evident in the data on the purchase of fertilisers by farmers from the two villages: 21% of households in Mruwia village, which does not produce organic/Fair Trade coffee, buy fertilisers, whereas less than 2% of households in Mshiri buy chemical inputs.

3.2 Services offered by cooperative unions to coffee farmers

Traditionally, primary societies under the umbrella of cooperative unions assisted farmers in coffee production and marketing. Cooperative unions distributed agricultural inputs based on loans and provided extension services free of charge (Maghimbi, 2000; Mhando, 2005). With regard to marketing, farmers were assured that primary societies and cooperative unions would collect their coffee and sell it on their behalf, and that they would be paid in instalments (Mhando, 2007). Under this arrangement, farmers continued with coffee production without worrying about production or marketing costs. However, with the liberalisation of coffee marketing in 1993, most of these services were abolished (Chachage, 2004; Cooksey, 2004). In addition, the government removed subsidies for agricultural inputs and reduced its workforce, including extension workers. In the end, coffee farmers were left to fend for themselves. This has been the case in most coffee production areas in Tanzania (Maghimbi, 2000; Mhando, 2005; Ponte, 2002; Temu, 1999).

3.2.1 Mruwia Primary Society

The Mruwia Primary Society does not assist farmers in any way apart from collecting and selling their coffee. Farmers are requested to make their own arrangements to purchase agricultural inputs from privately owned shops. Farmers depend on government-paid extension officers to provide them with agricultural information. However, the number of extension workers serving the village has decreased significantly, from three in 1985 to one for four villages (around 1200 households) in 2007. Thus, most farmers end up producing coffee without the required technical information.

3.2.2 Marangu East Primary Society (KNCU)

Currently, the KNCU does not assist farmers in obtaining agricultural inputs. The KNCU only encourages farmers to stop using chemicals and inorganic fertilisers and instead to practise organic farming. Informal interviews with KNCU officers revealed that more than 50% of all coffee farmers in Kilimanjaro do not use agricultural inputs in coffee production. The 1990 Cooperative Societies Act gave farmers the freedom to choose whether or not to join cooperatives, which has led to declining numbers of farmers joining the KNCU: without the distribution of agricultural inputs based on loans, farmers are not motivated to join. Coffee farmers, both members and non-members, do not have a contractual agreement to sell coffee to the KNCU.

By contrast with the Mruwia Primary Society, the KNCU employs extension workers who offer various services to farmers related to coffee production and marketing. The KNCU, through the Marangu East Primary Society, supports farmers who sell their coffee to KNCU with advice on the proper methods and practices in coffee cultivation. In addition, in 2007 the KNCU contributed 12,000 coffee seedlings of hybrid coffee clones to members of the Primary Society. Hybrid coffee clones have proved to be resistant to CBD and coffee leaf rust and also produce higher-quality coffee.

In 2006, the KNCU began to purchase coffee differently from members and non-members in order to encourage farmers to rejoin the KNCU and produce high-quality coffee. The KNCU pays 10% more to members than non-members when purchasing coffee. One KNCU officer claimed that this has motivated farmers to rejoin the KNCU, although he did not specify the exact number of farmers who have done this. In addition, the KNCU pays farmers who produce organically differently from those who produce non-organically as an incentive to farmers to produce high-quality coffee.

3.3 The dynamics of the coffee economy in the study villages

The period before liberalisation witnessed a monopoly of cooperative unions and their agents, the primary societies, in coffee marketing. Cooperative assistance in the production process through distribution of agricultural inputs and provision of extension services was the most important aspect for smallholder producers. Without alternative marketing channels, farmers were obliged to sell all their coffee to cooperative unions via primary societies in order to pay for their input loans. Liberalisation of domestic coffee marketing brought about a number of changes. Private coffee buyers (PCBs) were allowed to compete with cooperative unions on an equal footing in the domestic coffee market (Temu, 1999). As we have seen, the direct consequence of this was the collapse of input supply (Ponte, 2002). In order to survive, cooperatives had to adjust themselves by becoming commercially oriented, and thus could no longer support farmers in production. With limited sources of income, the Chagga, like other coffee producers in Tanzania, had to adjust by changing their production system, as discussed earlier.

The 2002 coffee season is recorded as the year with the lowest coffee prices. The price of 1kg of parchment coffee dropped to Tsh 350 (approximately \$0.29) (ICO, 2004). In addition, cultivation of Arabica coffee was an expensive venture, bearing in mind that quality determines the price. High-quality coffee can be obtained only if farmers use organic farming or agricultural inputs to control pests and diseases such as coffee leaf rust and CBD. Failure to control pests and diseases leads to infected, low-quality beans, which are smaller and fetch low prices. As farmers were being forced either to pay for expensive agricultural inputs or to cultivate coffee without inputs, coffee cultivation became an unprofitable venture: the production cost of 1kg of parchment coffee rose to Tsh 1200 (\$1) against a price of Tsh 350 (\$0.29). Farmers in different parts of the country reacted differently. Some farmers are reported to have shifted from coffee cultivation, uprooting coffee plants and establishing vegetable gardens to produce greens

and tomatoes, which were found to be relatively profitable (Ellis and Freedman, 2004; Larson, 2001). Others, for example in Mbinga district, expanded coffee cultivation (Mhando, 2005; Nindi, 2004).

Respondents indicated changes in the area under coffee cultivation. Fragmentation of land is inevitable among the Chagga. Respondents stated that at least 12 coffee trees must be uprooted to build a modern house in the village. In addition, some sons who are given land and reside outside the village are not interested in coffee cultivation and leave coffee growing to their parents, most of whom are too old pursue it. With limited utilisation of agricultural inputs and decreasing land size, yields are decreasing. With little income from coffee, farmers are now shifting progressively to alternative livelihood activities.

No respondents expanded the amount of land under coffee in the past 10 years. The situation in both villages shows that there is no room for expansion of coffee cultivation. However, some farmers have replaced old and infected coffee trees with new ones, mostly hybrid coffee clone seedlings, which are resistant to CBD and coffee leaf rust. The new varieties have been reported to increase production. Meanwhile, interviews show that farmers have found themselves in a trap: coffee prices recently increased to Tsh 1900 per kg (\$1.58) but they have no coffee to sell. It seems that farmers now need not to expand land under coffee, as this is not possible, but to adapt coffee production practices to a more intensive system by replacing old coffee trees with hybrid clones in order to increase production of high-quality coffee.

Table 12: Income from coffee and other household economic activities in the two villages.

Source of income	Mruwia (N=52)		Mshiri (N=51)	
	Mean (Tsh)	Standard deviation	Mean (Tsh)	Standard deviation
Coffee	92,409.6	12,1861.1	13,3925.5	167,081.6
Crops except coffee	576.9	4160.3	2509.8	8846.2
Large livestock	92,000.0	423,821.3	20,3647.1	836,278.5
Poultry	1742.3	8042.1	8568.6	28,462.0
Milk	10,711.5	50,762.9	26,862.7	122,350.0
Vegetables	3711.5	12,169.2	5627.4	13,911.0
Salary	19,153.8	77,596.6	621,372.5	2881,867.4
Trading small live-stock	16,750.0	65,219.4	24,019.6	72,869.9
Trading drink brewing	12,173.1	36,814.2	7058.8	50,410.1

Table 12 shows that coffee and large livestock are an important source of income in Mruwia, in contrast with Mshiri, where salaries and the sale of milk are most important. Coffee is less important in Mshiri, probably because of the proximity of the tourist centre, Marangu Mtoni, where respondents can obtain income from other sources apart from coffee, such as other employment, selling milk, and selling agricultural crops (in

Mruwia, respondents must walk to Uru Kishimundu or Kibololoni, close to Moshi municipality). Local brewing is a more important source of income in Mruwia than it is in Mshiri.

3.4 Reactions of villagers to changes in the coffee economy

Moshi Rural District Council bylaws prohibit the uprooting of coffee trees, as do the 2002 Tanzania Coffee Industry Rules and Regulations, unless it is certified that the trees are infected by disease and cannot be treated. If they fail to comply with these regulations, farmers are charged, fined or imprisoned. Aware of these bylaws and regulations, farmers are not ready to reveal the names of those who have uprooted their coffee trees, so it was difficult to get information on this subject.

It was possible to establish the following strategies used by farmers to address the dilemma of reduced coffee profitability:

- Farmers abandon coffee trees for a number of years to allow them to be attacked by pests, diseases and insects. As coffee trees weaken, farmers have the perfect excuse to uproot them, claiming that they are unable to purchase agricultural inputs to deal with the issue. After the coffee trees die, farmers increase banana cultivation. If they produce excess bananas, vegetables and tomatoes, they are assured of food and cash income.
- Farmers uproot coffee trees regardless of the bylaws. In most cases, these are said to be young people who do not value coffee and who have other income-generating activities – often people who live outside the village and who have inherited land in their village and would like to use it for other activities, mostly house construction or production of vegetables, such as tomatoes and green vegetables. The male Chagga have been forced to choose the best option for their livelihood in this way as a result of pressure on land (for house construction or burial of family members, for example) coupled with decreasing coffee productivity.
- To reduce overhead costs and taxes, farmers leave the KNCU and sell coffee via their own primary society.

Unlike in other parts of Tanzania, where cooperative unions have collapsed and farmers have had no choice but to sell coffee to PCBs, in Kilimanjaro the main and oldest cooperative union, the KNCU, has remained. However, it is highly indebted and cannot support farmers in the coffee production process. This has led 32 primary societies (G-32), including Mruwia, to obtain the support of the KCB and to start to sell coffee directly at auction. The following section explores how they have done this.

3.5 Shifting coffee marketing strategies in the study areas

A primary society can be registered by the Registrar of Cooperatives as long as it can collect a certain amount of crops. In the case of coffee, annual collection by the primary society must be more than 10 tons. If a village produces less than 10 tons of coffee, it cannot register a primary society and its farmers must sell coffee to a nearby

primary society. One primary society can thus cover more than one village. For example, Mruwia Primary Society serves both Mruwia and Materuni villages. Likewise, Marangu East Primary Society covers more than one village. Kilimanjaro region's 92 primary societies serve more than 92 villages, with KNCU initially serving all of these.¹ In 2001, 32 of these decided to pull out of the KNCU. The main factors in this decision were as follows:

- Corruption and low prices offered to farmers. The KNCU does not show primary societies accounts of sales of coffee auctioned by the TCB, and farmers had a feeling that they were not receiving a fair deal. In addition, the KNCU deducts Tsh100 (\$0.08) from each kg sold.
- High transportation costs charged by the KNCU to farmers when collecting coffee. In some cases, the KNCU charges farmers a uniform price for transportation regardless of the amount of coffee. Farmers thought that they could hire a lorry more cheaply.
- The KNCU operation costs are deducted from each kilogram of coffee sold by farmers, leading them to conclude that they were paying more than they were supposed to.
- Sale of some KNCU property, e.g. buildings, without the consent of members.

In the end, farmers asked themselves whether they really needed to be part of the KNCU in order to continue with coffee production and marketing, particularly if the KNCU did not assist them in obtaining agricultural inputs at a cheaper price. The 1990 Cooperative Societies Act states that membership in cooperatives is voluntary, so they questioned the use of having a union whose operational costs were high and a burden to them. A turning point was reached when they decided that they could operate directly through primary societies. With assistance from the KCB, G-32 withdrew from KNCU.

3.6 KCB support in coffee production

KCB was initiated in 1996 in order to help revamp the coffee economy and improve the livelihoods of coffee farmers in the region, after coffee farmers expressed dissatisfaction regarding the loans offered by other commercial banks, such as the National Bank of Commerce (NBC) and the Cooperative and Rural Development Bank (CRDB). Other grievances were the inability of the KNCU to offer an advance payment when purchasing coffee from farmers. Farmers also complained that PCBs purchased coffee without helping them to obtain agricultural inputs.

The KCB was initiated by all the primary societies and the KNCU in order to accumulate capital and reduce dependence on commercial banks with higher rates of interest. Over the years, the KCB has accumulated capital from coffee farmers and provided loans to the KNCU. However, in 2002 the KCB experienced liquidity problems when

¹ Same and Mwanga districts (also within Kilimanjaro region) have their own cooperative union.

the KNCU failed to pay its debts, meaning that the KCB could no longer afford to provide loans to the KNCU. This meant that farmers who were shareholders in the bank would not be able to sell their coffee via the KNCU. The bank then devised another way to assist coffee farmers without collaborating with the KNCU. Making use of the 2001 Coffee Industry Act, which allows primary societies to sell coffee at auction, the KCB decided to organise primary societies to carry out the activities by themselves that were formerly done by the KNCU.

The KCB operated as a registered firm (No. 5504) performing both as a commercial bank and as a primary society. It had a membership of 92 primary societies under the KNCU and 18 primary societies under another cooperative union serving Mwanga and Same districts of Kilimanjaro region. The basic idea was that the KCB supported primary societies by reducing the interest rate, assuming that primary societies would take and use loans when needed. The KCB was also a pioneer in the Warehouse Receipt System (WRS) in 2001.

The G-32, or Kilimanjaro New Cooperative Initiative Joint Venture Ltd, was formed at this time. This name not only refers to the number of primary societies that initiated this organisation but also acknowledges the history of the KNCU, which was registered in 1932 as the first cooperative union in Tanzania. The KCB finances the 32 primary societies while G-32 collects coffee and takes it directly to auction. The KCB uses coffee from farmers as collateral for loans and the WRS facilitates this process. The key features of the WRS are as follows:

- Designated warehouse operators are private coffee curing factories.
- Depositors are mainly primary societies that market coffee on behalf of their members, although some medium-scale traders and cooperative unions also participate.
- Financing is not speculative with regard to favourable price fluctuations, but intended mainly to enable access to working capital, e.g. for primary societies, allowing them to make initial payments to members while waiting for crops to be processed for the market.
- Cured coffee is sold predominantly through the Moshi coffee auction. Payment is channelled from the auction to the financing bank, allowing it to recover the loan provided and related charges.
- The system is primarily trust based and does not involve a collateral manager or a regulatory body to oversee the activities of the warehouse operators.

The 2005 Warehouse Receipt Act provides for the establishment of a regulatory framework and licensing procedures for warehouse receipts and related matters, applying to all agricultural commodities. In addition, the act provides for the establishment of a regulatory board to license and inspect participating warehouse operators.

The KCB started using the WRS in 2002/03 when the price of 1kg of parchment coffee was between Tsh 250 and Tsh 450 (approximately \$0.21-0.38). It was during this season that the price of coffee declined on the world market. The livelihoods of coffee

farmers who depended on a coffee income were at stake, as coffee cultivation was unprofitable. Coffee farmers were at a crossroads: should they continue with coffee production or diversify to other income-generating sources? At this time, the KCB intervened to assist farmers to continue with coffee production. The price increased to Tsh 900 (\$0.75) in 2003/04, but the price obtained by farmers in G-32 increased to Tsh 1200 (\$1).

The KCB assists farmers to obtain credit and thus encourages them to improve both the quality and quantity of coffee, taking into consideration the fact that high-quality coffee can be sold at higher prices more easily. The KCB does not believe in distributing agricultural inputs based on loans, but gives good prices to farmers and leaves decisions related to coffee production to farmers themselves. In 2006/07, some primary societies sponsored by the KCB paid their members up to Tsh 1900 (\$1.58) per kg of parchment coffee. This was possible because the KCB, in collaboration with the Tanganyika Coffee Association, assisted primary societies to export coffee directly to Japan.

G-32 has the following advantages over primary societies under the KNCU:

- The price of 1kg of parchment coffee increased from Tsh 400 (\$0.33) to Tsh 1900 (\$1.58) between 2002/03 and 2006/07, compared with Tsh 1600 (\$1.33) for those under KNCU.
- Primary societies understand coffee marketing, which is different from the time when their coffee was collected and sold by the KNCU.

In summary, after realising that they were getting less income selling their coffee through the KNCU, which also could not assist farmers in the production of coffee, a number of farmers opted to join G-32, under the financial arrangements discussed above. Liberalisation of coffee marketing has also made farmers realise that they can operate freely without being members of any cooperative union.

4 The Coffee Value Chain

4.1 A value chain approach

Kaplinsky (2000) and Kaplinsky and Morris (2001) define a value chain as a supply chain that consists of inputs, suppliers, producers, processors and buyers, bringing a product from its conception to its end use. The value of a product increases at each stage of the chain. The value chain also identifies key actors who play a critical role in coordinating production in the chain and deciding who is to perform what role and what standards are to be met.

Schmitz (2005) argues that the usefulness of the value chain for analysis and policy is based on three features. First, activities (e.g. production and roasting of coffee) are carried out in different parts of the world (the global value chain). Second, some activities (roasting) add more value and are more lucrative than others. Third, some actors (exporters and roasters) have power over others (smallholder coffee farmers). Thus, the global coffee value chain is characterised by greater concentration in the roasting and retailing link of the chain. Daviron and Ponte (2005) argue that the top five importers account for over 40% of the total global coffee trade, while 70% of global coffee is produced by smallholder farmers who own less than 5 hectares. Thus, development practitioners use a value chain approach to address the major constraints at each level of the supply chain, which goes beyond one group and/or one geographical location (Dempsey and Campbell, 2006).

Smallholder farmers in Kilimanjaro produce coffee on tiny plots and harvest it as red cherries (Figure 16). They undertake primary processing using a hand pulping machine (Figure 17) to remove the beans from the cherries and dry them for about 11 days. Farmers sell the dried beans (parchment coffee) to the KNCU, primary societies, or PCBs. Processing companies, e.g. the Moshi Coffee Curing Company, cure the coffee, which involves removing the coffee bean skin (parchment) and sorting and grading according to bean condition and size. Green unroasted coffee is bagged for export or local sale. Samples are sent to the TCB for mandatory auctioning. Licensed exporters, such as Tchibo, Sherif Dewji and KNCU, purchase coffee from the TCB auction and sell it to roasters, who roast and blend the coffee to achieve the consistency and flavour profile determined for the brand. Most brands belong to roasters, who sell the consumer products to retailers.



Figure 16: Coffee cherries in Mruwia. (Photo by Eva Ludi)



Figure 17: Primary coffee processing using a hand pulper at Mruwia village. (Photo by Eva Ludi)

Note the mix of ripe and unripe cherries because of a lack of quality control (blanket prices)

In Tanzania in general, most farmers who produce coffee are smallholders, far away and detached from major final product markets, both geographically and in terms of links in the value chain.

4.2 Stakeholders in the value chain

Actors in the coffee value chain in Kilimanjaro are small-scale farmers, estates, TaCRI, primary societies, cooperative unions, curing companies, PCBs (parchment buyers), TCB and PCBs (exporters). The actors and their roles are shown in Table 13.

Table 13: Stakeholder analysis of the coffee industry in Tanzania.

	Role/function	Stakeholders
1	Policy, regulation and licensing	Government/TCB: Rules and regulations (concerning conduct, quality, type, taxes) guiding the coffee industry
2	Research	TaCRI: Research on coffee diseases and new varieties
3	Production	Smallholder farmers: Produce coffee Estates: Produce and process coffee Government: Regulation Input stockists: Supply agricultural inputs Farmer cooperatives: Some extension support to farmers TaCRI: Research, advice to farmers and extension services
4	Loans to farmers	KCB, CRDB and Exim: Loans to help farmers sell directly at auction
5	Processing (primary and secondary)	Primary: Farmers/estates and central pulpers (primary): Process to parchment Secondary: Curing plants (government and private) – processing coffee from parchment to green beans (ready for export)
6	Marketing	Farmers/groups: Sell coffee from their gates to primary societies, cooperative unions or PCBs Primary societies and cooperative unions: Purchase coffee from farmers and sell at the auction PCBs: Purchase coffee from farmers and market at the auction
7	Tax collection	Government and district councils
8	Transport	Cooperative and private sector
9	Auction	Government/TCB: Issue licences to exporters Licensed exporters: Purchase coffee from auction for export Farmers' groups/primary societies: Sell coffee at auction Cooperative unions: Sell coffee, purchase from farmers at auction
10	Export	TCB: Issue licences and regulate export PCBs (as indicated above), unions: export coffee

4.3 Description of the value chain in Tanzania

Farmers sell their coffee in the form of parchment coffee to the primary society, which collects it and pays farmers on behalf of the KNCU. The procedures are as follows: Farmers bring their coffee to the primary society office and receive their payment after a few days. After collecting a certain amount of coffee, the primary society informs the KNCU of the consignment it has collected. The KNCU collects coffee from primary societies located in the same zone and sends it for curing from parchment coffee into green beans. After curing, samples of graded green coffee are taken to the TCB for liquoring and re-grading into classes 1-13, (in which 1 is the best and 13 is the poorest). Thereafter, the TCB sends samples to all companies with export licences. The KNCU also has an export licence and has been exporting part of its coffee to Fair Trade markets since 2000. After three weeks, coffee is auctioned by the TCB in Moshi and the highest bidder purchases a specific consignment of coffee.

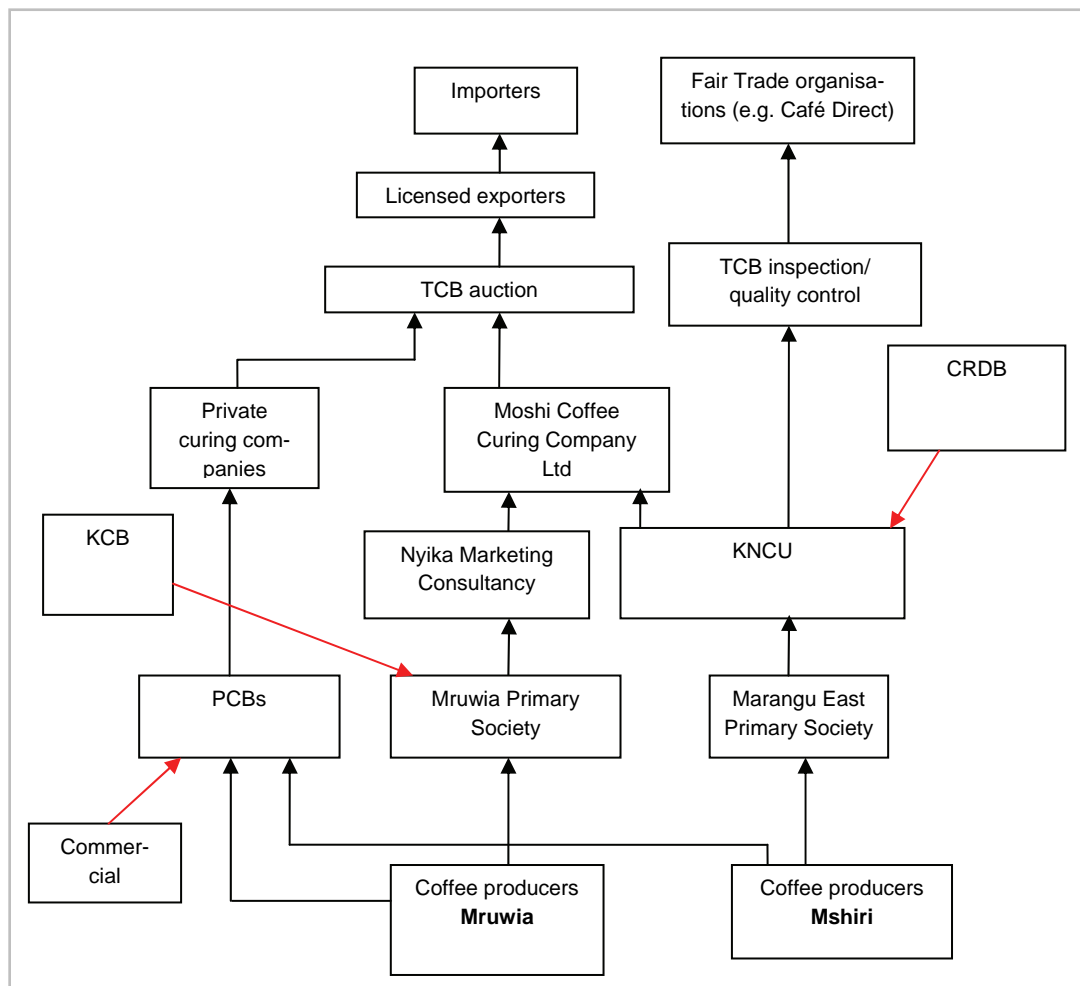


Figure 18: Coffee production and market chain in Kilimanjaro.

After auction, the TCB issues a receipt (account sale) to show the owners of the coffee, the grade and bags auctioned, and prices and taxes and levies, as indicated in Figure 19. From this members know the amount of coffee auctioned and the income obtained and can thus divide the benefits (after deduction of expenses) in a fair way. Without the receipt, farmers will not be informed and may end up losing their rights. As pointed out earlier, the KNCU mixes coffee from various primary societies and then does not show receipts to farmers.

C/MAN-KARIBU
MRUWIA
MOSHU

TANZANIA COFFEE BOARD
P. O. BOX 732 MOSHI, TANZANIA
Tel: (027)27 52324
Fax: (027)27 52026
e-mail: coffee@kilnet.co.tz
e-mail: tcbeta@kilnet.co.tz

ACCOUNT SALE
ACCOUNT SALE OF 200 BAGS AND 200 POKETS OF COFFEE
for account of MRUWIA R.C.S.LTD. ACCOUNT SALE NO. TCB/ M/ B94
MOSHI
AUCTION SALE NO. TCB.M.28 ON 01/03/2007

L/NO	Description	Grade	Bags	Pkts	N/Kes	W/H	Sold	Amount
282	141931988MRUWIA R.C.S.LTD.	F	5	44	524	TCDD	54.50	574.30
318	141931988MRUWIA R.C.S.LTD.	T1	2	30	140	TCDD	84.40	180.20
337	141931988MRUWIA R.C.S.LTD.	AF	3	2	182	TCDD	66.40	252.62
387	141931988MRUWIA R.C.S.LTD.	C	15	27	927	TCDD	91.00	1,667.14
399	141401988MRUWIA R.C.S.LTD.	B	67	59	4,975	TCDD	101.00	8,299.50
442	141101988MRUWIA R.C.S.LTD.	A	46	51	2,811	TCDD	102.00	5,776.42
488	141931988MRUWIA R.C.S.LTD.	AA	55	25	3,325	TCDD	102.00	6,780.64
537	141701988MRUWIA R.C.S.LTD.	FB	10	55	609	TCDD	99.00	1,304.32
TOTALS			206	208	12,648			24,893.24

ERATE: 1235.84

(TIN) 100-167-174	RESEARCH CESS AT 0.75%	185.02
(VRN) 16-007036-G	NET PROCEEDS DUE FOR PAYMENT USD	24,617.21

Prepared By: *[Signature]*
Coffee Liquorer/Data Analyst

Checked By: *[Signature]*
MOR

Approved By: *[Signature]*
C.L.A. D.F.

TS 30 640 836 X
TS 30 022 930 80

02 March 2007

Figure 19: Account sale of coffee from Mruwia Primary Society.

Under the 2001 Coffee Industry Act, only the TCB is mandated to auction any type of coffee produced in Tanzania. Besides, the TCB issues annual licences to cooperative unions, farmers' groups and PCBs who intend to trade in coffee. There are three types of licences: purchasing parchment coffee, curing, and exporting. Before 2001, the TCB allowed multiple licences in the coffee industry, which resulted in repositioning of coffee (that is, traders purchased parchment coffee from farmers and repurchased it as green coffee at auction), which discouraged competition at the auction (Mhando, 2005). To revive competition and improve prices, the government banned multiple licensing. Although multiple licensing is prohibited by law, PCBs have established a system of operating at all levels by registering more than one company, one with a licence for purchasing parchment coffee from farmers, one with a licence for curing, and a third with a licence for exporting, for example.

After the liberalisation of coffee marketing, which eroded the monopoly of cooperative unions, farmers were able to sell coffee through the following market channels:

- Cooperative unions that use primary societies as their agents for coffee collection from farmers;
- Primary societies that have terminated their membership from cooperative unions and now sell coffee directly at auction;
- Farmers' groups authorised by the TCB to sell coffee directly at auction; and
- PCBs that have been licensed to purchase coffee from farmers.

4.4 Analysis of the value chain

Coffee roasters, who are based in the North, control the chain and receive the lion's share of the profit (Ransom, 2001). Within Tanzania, it is the exporters who obtain the lion's share. This group is well informed about the price of coffee, unlike farmers, who depend on auction prices. Small-scale farmers are at the end of the chain and thus are the most disadvantaged because price fluctuations affect them directly.

It is difficult to establish the profit margin of each player in the chain. Most (not including farmers) are not prepared to reveal their profit, fearing that their business practices might be subjected to further taxation, even though the government share is based on a percentage of the price obtained at auction: even if the price falls, the government will take the same percentage.

Discussions with different actors showed that no actor is directly committed to improving the fate of small-scale farmers. For example, the government does not have a clear policy on input availability, which would help farmers to increase productivity and improve their livelihoods. In addition, high bank interest rates affect farmers, whose income per kilogram is reduced by interest rate payments. Farmers are directly affected by price fluctuations and lack a cushion against such fluctuations. The government neither assures quality control on the production side nor supports farmers in issues relating to irrigation, which would assist them in coffee production during the dry season.

Unlike the KNCU and primary societies, PCBs do not indicate the initial price they will pay to farmers but, based on market trends, may have two different prices on the same day: they may purchase a kilogram at Tsh 1000 (\$0.83) in the morning and by late afternoon the price may have fallen or increased, depending on the market. PCBs set their prices just above those offered by the KNCU and G-32. Since their motives are to maximise profit by collecting as much coffee as possible as quickly as possible, they normally offer a higher farm gate price than G-32 or the KNCU. Those who sell to the KNCU and G-32 receive additional instalment payments from their buyers, as a second and third payment. At the end of the day, farmers end up getting less when selling to PCBs compared with what they get when selling to the KNCU or G-32.

The 2001 Coffee Industry Act requires PCBs to obtain a licence from the district authority, which authorises purchases of parchment coffee in a particular season within the district. PCBs can seek a licence to purchase coffee from any region, if this is a cheaper and more profitable option. However, the KNCU and G-32 have no choice but to purchase coffee from the Kilimanjaro region.

G-32 is a member of the KCB and can thus negotiate the interest rate charged on its loans. The KCB does not have any risk when issuing loans to primary societies, because the same societies are its shareholders. It charges a rate of interest of 15% per year (commercial banks charge up to 20%). In addition, G-32 members receive more benefit by sharing the profits earned by the KCB.

4.5 The coffee marketing chain in the study area

As discussed earlier, the farmers in the two villages sell their coffee differently. However, farmers are not aware of the coffee marketing chain, apart from primary societies, which collect the coffee from them. Surprisingly, even some farmers who are supposed to sell their coffee on Fair Trade markets are not aware of this. Most of them know that they sell their coffee through the KNCU and they do not know what happens thereafter.

Most of the respondents sell most of their coffee to the Mruwia Primary Society or the KNCU because of the benefits obtained thereafter. For example, in Mruwia, the initial payment for the 2006/07 coffee season was Tsh 1500 per kg of parchment coffee (\$1.25) and farmers knew that they would obtain a second and a final payment. Payment in instalments is the most important factor in farmers' selection of a certain buyer (in this case a cooperative). During FGDs with farmers, most admitted their unwillingness to sell coffee to PCBs, which do not support farmers in coffee production or provide assistance when needs arise, and which also pay only once when they collect the coffee. The second and third instalment payments assist farmers when they are in need, especially when schools open. Coffee is still a major contributor to the household economy. Although in absolute terms it is not very important as a source of income, the different instalments paid to farmers over the year mean that coffee is vital in terms of the security of households.

Coffee from smallholder farmers is collected at the offices of the primary societies or at established PCB purchasing points located in the villages. Other coffee outlets require special permission from the TCB, because all coffee produced must pass through the TCB auction in Moshi. A glimpse of different coffee marketing chains in the study area is given below.

4.5.1 The coffee marketing chain in Mruwia

Most villagers work with the Mruwia Primary Society, which serves both Mruwia and Materuni and registered as a branch of KNCU in 1995. Prior to registration, villagers sold their coffee to Uru East Primary Society. Members of the Mruwia Primary Society

terminated their KNCU membership in the 2004/05 coffee season because of bureaucracy and financial mismanagement, which affected the price of coffee.



Figure 20: The secretary of the Mruwia Primary Society in his office. (Photo courtesy of authors)

After primary processing, most respondents in Mruwia and Materuni villages sell their coffee at the office of the Mruwia Primary Society. After collecting enough, the Mruwia Primary Society hires a lorry from Mruwia SACCO and transports coffee directly to the coffee curing factory in Moshi. After the curing process, samples are sent to TCB for cupping and then to auction. At the TCB auction, run electronically since 2003, coffee is sold to the highest bidder.

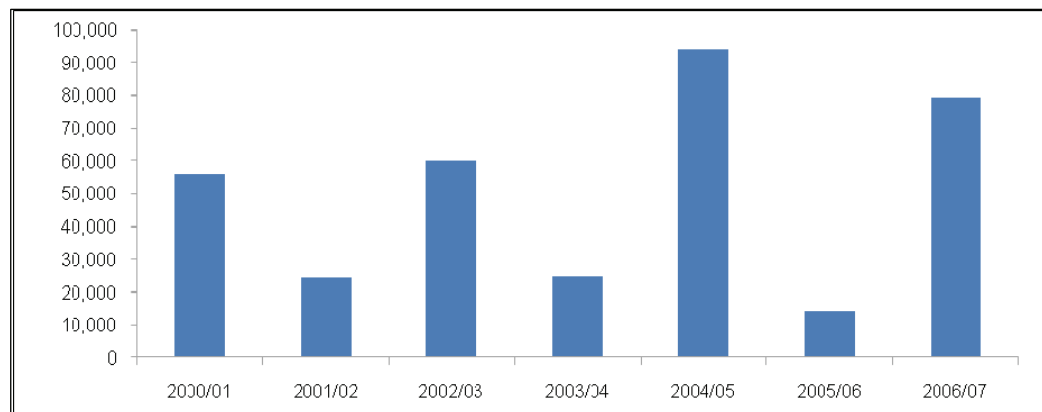


Figure 21: Coffee collected at the Mruwia Primary Society, 2000/01–2005/06 (in kg).

Source: Mruwia Primary Society records.

Farmers in Mruwia and Materuni villages reported that CBD, stem borers (pests) and coffee leaf rust are detrimental to the production of Arabica coffee. Farmers claimed that pests and diseases have contributed to the decline in production and thus lowered their motivation to increase the quality of the coffee they produce. Failure by the ma-

jority to procure agricultural inputs was mentioned as one reason behind increased incidence of coffee diseases.

Another reason for fluctuating coffee production is its two-year cycle. If coffee trees produce more in one season, farmers expect less in the following season. This is a normal pattern of coffee productivity, partly because of the pruning of coffee branches, which reduces the capacity of the trees to produce in that particular season but leads to increased branch growth and hence increased production in the following season.

Thus, coffee farmers in Mruwia and Materuni villages have organised themselves under their primary society and sell coffee directly at auction in order to increase the income obtained from each kilogram of coffee sold. This has been made possible through collaboration with Nyika Marketing Consultancy under Mr. Godfrey Olomi, who acts as a link between the primary society and the market. Mr. Olomi, who used to be a KNCU employee, has vast experience in coffee marketing and he is the one behind the formation of G-32. In cooperation with the KCB, he mobilised the primary societies to detach from the KNCU and to sell coffee directly at auction, in order to cut out bureaucracy and hence operational costs. Mr. Olomi supervises coffee curing at the curing plant and auctioning at the TCB. His marketing agency charges Tsh 5 per kg of coffee (about \$0.004).

4.5.2 The Fair Trade coffee marketing chain in Mshiri via KNCU

Fair Trade, a niche market for coffee managed under certain conditions to meet certain requirements, has been defined as an equitable and fair partnership between coffee producers in Africa, Asia and the Caribbean and consumers in the North. The proponents of Fair Trade argue that coffee sold under the Fair Trade brand has the following guarantees:

- A minimum price will be received – one that covers the costs of sustainable production and living. The price received should sustain farmers so that they can continue to produce coffee and afford a decent living standard.
- Payment of a price premium will be made so that certified producers can invest in strengthening their organisation (cooperative union or primary society) and implement programmes that benefit members and local communities. In the case of the KNCU, this takes the form of community projects, such as rehabilitating buildings and school fee payments.
- Buyers must provide a partial advance payment if cooperatives request it.
- Buyers must sign long-term contracts that extend beyond one harvest cycle directly with cooperatives.

Liberalisation of coffee marketing has exposed farmers to market forces, which has entailed a great deal of risk and uncertainty. To help farmers cope, the KNCU adopted the idea of Fair Trade back in 1993, under which regime farmers are paid more than the market price thanks to the price premium. The KNCU sells Fair Trade coffee to Royal

Coffee and OPTCO (Organic Products Trading Company), domiciled in the US, and Sevenoaks of South Africa (Table 14).

Table 14: KNCU Fair Trade export status.

	Country	Buyer	Quantity (kg)	US\$
2004/05	US	Royal Coffee	9750	37,440
		Royal Coffee	3000	11,520
		Royal Coffee	3000	11,520
		Total	15,750	60,480
2005/06	US	OPTCO	18,000	65,520
		Total	18,000	65,520
2006/07	US	OPTCO	5820	20,719.2
	South Africa	Sevenoaks	18,000	53,400
	South Africa	Sevenoaks	300	890
	US	OPTCO	7080	24,780
	South Africa	Sevenoaks	18,000	53,400
	US	OPTCO	3180	11,575.2
	Total		52,380	164,764.4
2007/08	South Africa	Sevenoaks	18,000	93,240
Total	South Africa	Sevenoaks	14,760	63,714
			32,760	156,954

Source: KNCU Export Division 2008.

Table 14 shows that the amount of coffee exported to Fair Trade markets doubled from 18,000 kg in 2005/06 to 52,380 kg in 2006/07 and dropped to 32,760 kg in 2007/08. The reasons given for this include increasing demand for organic coffee in the 2006/07 season and falling production in 2007/08 as a result of bad weather. What was not very clear to researchers was what direct benefits farmers received: both the KNCU and Marangu East Primary Society hesitated to give a precise answer as to the benefits accrued directly by farmers.

Currently, there are no representatives of Fair Trade buyers in Moshi. Informal interviews, household questionnaires and FGDs in Mshiri indicated that farmers are not aware that their coffee is being sold on Fair Trade markets. There are no legal documents or bylaws governing how farmers should produce coffee, apart from the organic methods followed by selected farmers in Mshiri. Only the secretary of the Marangu East Primary Society knew about Fair Trade but he could not tell us the amount of coffee from Mshiri sold on Fair Trade markets.

Data from the KNCU indicate that only 20% of all coffee produced by farmers from 60 primary societies with the KNCU membership is sold to Fair Trade organisations. Selling coffee to Fair Trade buyers means a premium price, that is, an amount above auc-

tion price paid by the Fair Trade organisation (in the end the consumer) to assist producers with continued production. In addition, Fair Trade organisations aim to enable farmers to produce better quality coffee, to make trade fairer by giving a higher share of the retail price to farmers, and to pay a price that allows farmers to have a decent life. As such, the premium paid through cooperatives is supposed to be distributed to members as an incentive to continue production. The KNCU, after consulting with its members, decided to utilise the income obtained for development activities and not to distribute it to individual primary societies or even individual coffee producers. According to Mr. Gabriel Lyatuu, Manager of KNCU, such decisions are taken during annual general meetings.

Farmers who benefit from Fair Trade must be registered members of the primary societies that sell their coffee to KNCU, because the survival of the primary society hinges on the contributions of its members from each kilogram of coffee collected and sold. The Marangu East Primary Society has used the benefits from Fair Trade to support the renovation of various buildings, as well as paying a premium to members. However, data from household interviews revealed a lack of awareness of the importance of selling coffee using this chain. Furthermore, the primary society could not provide data on its annual income or estimate how much had been spent on building and renovating various buildings in the village. Furthermore, researchers could not establish the actual amount of Fair Trade premium the primary society had received from the KNCU. Table 15 shows the KNCU contribution to the primary society in the past four years for the renovation of buildings.

Table 15: Contribution of the KNCU to Marangu East Primary Society for renovation of buildings.

Year	Amount (Tsh)
2003	150,000
2004	320,000
2005	250,000
2006	100,000

Source: Marangu East Primary Society 2007.

Since 2005, apart from renovating buildings, the KNCU has been supporting children whose parents have not been able to pay for their education. For example, the KNCU contributed Tsh 70,000 (\$58.33) in school fees to four children in various secondary schools. Considering the amounts in Table 15, and also the fact that only 20% of coffee is sold in Fair Trade markets, it seems that the KNCU uses only a small portion for social services.

Only high-grade coffee such as AA and AB collected from farmers who are members of the KNCU can be used in Fair Trade. Since the purpose of Fair Trade is to increase incomes and ultimately improve the livelihoods of farmers who are members of cooperatives, Fair Trade organisations do not sell coffee from non-members. As such, since not all farmers are members of primary societies, and not all the coffee collected from farmers is sold to Fair Trade markets, the price offered varies. Since 2005/06, the

KNCU has offered preferential prices to members and those who sell their coffee through Fair Trade, i.e. those who supply coffee of a certain quality (see Table 16). It is assumed that preferential prices will attract more farmers to the KNCU.

Table 16: Differential prices offered to farmers at the Marangu East Primary Society (Tsh).

Year	Members	Non-members
2005/06	1 814.60	1 715.83
2005/06 (organic members)	2 284.72	1 715.83
2006/07	1 800	1 700

Source: Marangu East Primary Society 2007.

4.5.3 Conventional coffee marketing chain in Mshiri and Mruwia villages

Respondents in Mruwia produced more coffee than those in Mshiri (Figure 22), partly because they had more land under coffee than those in Mshiri village. The two factors, i.e. high production over the years and more land for cultivating coffee, are related to Mruwia’s relatively higher bargaining power in the industry as a result of being independent of the KNCU.

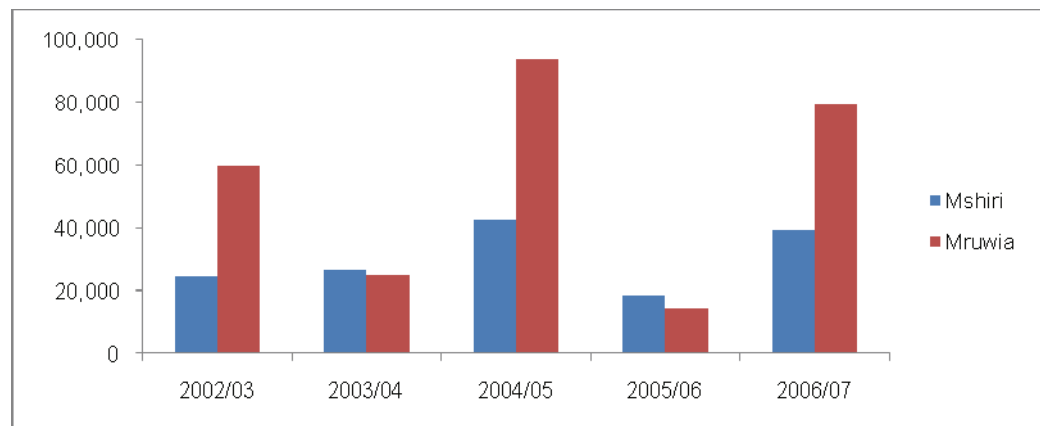


Figure 22: Coffee collection in two villages (in kg).

Source: Marangu East and Mruwia Primary Societies, 2007.

After a number of primary societies became independent from the KNCU, there was a possibility that the KNCU might lose the remaining villages too. Therefore, the KNCU decided to invest in extension services and provision of agricultural inputs to its remaining villages. Mruwia continued to struggle using poor government agricultural extension services. Despite this, as a result of increasing coffee prices and increased productivity, the importance attached to coffee in Mruwia has grown over time. Mshiri, meanwhile, has continued to capitalise on its comparative advantage as a good market for animals and animal products such as beef, milk, eggs and chicken for tourists to KINAPA. In addition, Mshiri has higher coffee productivity per acre than Mshiri (see Table 11), although this can also result from normal variability in coffee production, with different conditions in different years.

4.6 Evaluation of actors in the marketing chain

Traditionally, primary societies survive by deducting a certain percentage from each kilogram of coffee sold by farmers. The more coffee they collect and sell via cooperatives, the more income they receive. According to most society members, the amount of money deducted is controversial. For example, KNCU deducts Tsh 50 (\$0.04) from each kilogram of coffee as a union fee. This has been used for several years to meet overhead and other costs. Primary societies (which act as agents of KNCU) also deduct Tsh 50 from the same kilogram of coffee. Farmers and primary societies complained about the KNCU deduction, feeling that they were being exploited.

Farmers evaluated the marketing chain differently, based on the profit accrued. Respondents from the Mruwia Primary Society, who are independent of the KNCU, were of the opinion that selling coffee directly at auction is much better than selling via the KNCU. They claimed that the KNCU has high overhead costs, which results in reduced income and profit. They went further to claim that even transport costs have been minimised since they started selling coffee directly. They cited as an example the fact that farmers from Misereni in Rombo District (92 km from Moshi) and those from Mshiri (20 km from Moshi) pay an equal amount of money for transportation.

Table 17 indicates farmer's preferences in the two villages with regard to selling coffee. As expected, 84% of respondents in Mruwia sell coffee to the primary society and 15.4% to PCBs. Also as expected, in Mshiri 94.1% of respondents sell their coffee to KNCU and only 5.9% sell to private buyers, because of KNCU's strong hold in the area and its provision of extension services.

Table 17: Farmer preferences in selling coffee (in percent).

	Sell to cooperative union	Sell to farmers' group/primary society	Sell to PCBs
Mruwia	0	84.6	15.4
Mshiri	94.1	0	5.9

Table 18 shows that all respondents in both villages were happy to be paid in instalments. They said that they could sell coffee to the free market but preferred the three instalments that cooperatives use (September/October, December/January and February/March). This is a major reason why farmers sell their coffee to cooperatives. Table 18 also shows that respondents sell coffee to cooperatives because they pay a premium on top of the best price offered.

Only a few farmers sell coffee to PCBs. Despite the fact that PCBs purchase coffee in cash, sometimes at a higher initial price than that of primary societies, they do not offer payments in instalments. Coffee farmers in the two villages have experienced difficulties accessing loans from banks and have ended up using all their money when they are paid. Spreading income over the year through instalments is valued more highly by farmers, even if the price offered is not the highest.

Table 18: Reasons for selling to cooperative union or society (in percent).

	Reason(s)	%
Mruwia	Pay best price	63.5
	Pay premium	84.6
	Pay part of the money as advance	73.1
Mshiri	Pay best price	29.4
	Pay premium	98.1
	Pay part of the money as advance	88.2

Notes: Percentages do not add up to 100 because of multiple responses. Reasons for selling to PCBs were not given, probably because this does not happen very frequently.

4.7 Institutional relations between actors in the chain

Liberalisation of agricultural marketing led to coffee marketing taking place without proper policy and institutional frameworks to control actors and their behaviour. The result was what Chachage (2004) called an uncontrolled market (*soko holela*) rather than a free market (*soko huria*). The 2001 Coffee Industry Act was meant to harmonise the activities of the actors involved. Prior to this, PCBs were allowed to operate freely in the chain, i.e. purchasing parchment coffee from farmers, curing and even exporting. The act made it mandatory for PCBs to choose one licence only, as we have seen. PCBs went on to design a mechanism whereby they could operate along the whole chain (use of sister companies).

At local level, farmers' groups and primary societies are licensed to sell coffee directly at auction. Prior to this, primary societies were agents of cooperative unions, which had a monopoly over domestic marketing of agricultural products. Meanwhile, the relationship between primary societies/cooperative unions and PCBs has become competitive, because they are competing to convince farmers to sell coffee to them. To some extent, farmers have retained the upper hand, and are able to sell their products to the actor who pays more.

4.8 Changing institutional arrangements

4.8.1 Coffee production

Although the government collects taxes from farmers, it gives them very little support and has recently almost withdrawn its extension services and agricultural inputs. Farmers have been left to continue with coffee production by their own means, with most other actors, such as PCBs, TCB, and even primary societies, interested only in the output. Limited support from the government has left farmers producing coffee in traditional ways. Loans to farmers are still limited and, when obtained, interest rates charged by commercial banks are too high for farmers.

4.8.2 Marketing

Before liberalisation, all coffee was sold at the TCB auction through cooperatives. Since 1993, producers have been able to sell coffee to cooperatives or PCBs and also directly at auction. In 2003/04, the TCB introduced direct sales of coffee, aiming to bridge the gap between coffee producers and buyers by eliminating the agents (cooperative unions and PCBs) that exploit farmers without necessarily adding value. Direct sale of coffee in most cases involves premium and speciality coffee, which has in some cases motivated farmers to produce high-quality coffee that can fetch higher prices at auction. Through direct sales, farmers are permitted to sell coffee directly to customers overseas as a parallel mechanism to the Moshi coffee auction.

However, farmers can sell coffee directly only if they can meet the initial costs involved, such as collection, curing, transportation and purchase of export bags. Noting these challenges, the government introduced the WRS to assist farmers in obtaining capital and selling coffee directly at the TCB auction in Moshi, because farmers do not have the necessary initial capital to sell abroad.

Liberalisation of the coffee market assumed fair play for all actors. However, most farmers are not informed of what is happening on the world market and therefore cannot project future prices. Limited knowledge of market trends leaves farmers in a disadvantaged position compared with other actors in the chain, who can foresee market trends and adjust accordingly. Liberalisation exposed farmers to the market without educating them about how to survive, although Fair Trade came to the rescue of some farmers with its premium prices.

There is no follow-up to see if the rules and regulations of the coffee industry are adhered to. For example, PCBs purchase coffee from the farm gate differently from what is provided in the regulations, which require them to establish buying points in villages, to which farmers bring coffee. In addition, the PCBs start to purchase coffee from farmers even before the coffee buying season begins. Furthermore, PCBs do not purchase coffee according to its quality. The TCB is a toothless dog: stationed in Moshi town, it barely monitors the activities of the coffee industry in the production areas. Representatives in the production zones are not financially empowered to perform their duties as required.

4.8.3 Levies and taxes on the coffee industry

Initially, 14 levies and taxes were deducted from 1kg of coffee sold through cooperative unions. These are the TCB levy, VAT, research cess, insurance, bank charges and interests, transportation cost, society levy, district council cess, export bag levy, curing levy and union levy, which covers administration costs. Cooperatives depend on the coffee cess for their survival: if they collect less coffee, they collapse. Thus the amount to be deducted is decided by the members at the KNCU annual general meeting, which is made up of representatives of primary societies.

Table 19 shows the deduction per kilogram of coffee collected and marketed by the KNCU and the Mruwia Primary Society. Owing to inflation, the KNCU union levy increased from Tsh 25 in 2003/04 to Tsh 60 in 2006/07 (\$0.02-0.05). A transport fee is charged for each kilogram of parchment coffee collected through the KNCU, regardless of the distance from Moshi to the primary society: farmers located close to Moshi pay the same amount as those located far away (this was mentioned by some respondents as a major reason for lack of confidence in the KNCU, which led to them resigning their membership). Primary societies that would like to increase the amount paid to coffee farmers have to become independent of the KNCU, which reduces the costs deducted from coffee sold.

Table 19: Cost estimate for 1kg of coffee in the KNCU and Mruwia Primary Society (Tsh).

	Mshiri 2006/07	Mruwia 2006/07
Agent fee, 1.5% (auction price)	0	15
Research fee (0.75% of auction price without VAT)	20.73	20.75
Primary society levy (operating costs of primary society)	100	50
KNCU levy (operating costs)	60	0
Transporting coffee	18	10
Transporting money	8	8
Insurance for coffee	1.25	1.25
Insurance for money	1.25	1.25
Loan interest rate	58.45	15
Contribution for education (union)	3	0
Education for members	5	0
Tax/levy to local government	20	20
Curing without VAT	54	54
Export bags without VAT	31.05	30
Price insurance	0	0
VAT	20.02	20.02
Input voucher	100	50
Total deduction from 1kg	500.75	295.27
Price per kilogram	*	*
Actual income to farmers (per kg)	1700	1900

Note: * = It is difficult to establish a price per kg as this changes from one auction to another.

Source: Records from KNCU and Mruwia Primary Society 2007.

The KNCU identifies individual farmers to produce coffee and sell their produce in Fair Trade markets. Selection is based on the sales record of the farmer and participation in matters relating to the union. The KNCU uses extension officers, who visit farms and advise farmers about the best way to produce organic coffee. However, in-

interviews with farmers revealed that most farmers whose coffee is sold through Fair Trade are not aware of this. Neither respondents nor the KNCU spoke of an organisation visiting farmers to certify that they were producing organic coffee. The KNCU defines organic farming as production of coffee without using chemicals and inorganic fertilisers.

4.8.4 Membership in primary societies

In Tanzania, farmers have historically experienced delayed payment from primary societies/unions for their crops. In some cases, they have not been paid at all. As a result, farmers may not trust cooperatives. In addition, most cooperatives do not assist farmers to obtain agricultural inputs. Consequently, farmers produce coffee without the assistance of the cooperative or union.

Informal interviews with KNCU officials revealed that more than 50% of farmers in Kilimanjaro are not members of primary societies and so have no obligation to meet with societies or unions. This explains why some farmers sell their coffee to PCBs. Non-members are not allowed to vote in cooperatives and do not contribute to their operation, meaning that cooperatives lose income. Primary societies with few members have limited income and thus cannot provide services to their members meaning that members also quit, further reducing the primary society's income.

4.9 Legal regulations governing actors' interactions

The legal regulations governing interactions in the coffee value chain are stipulated in the 2001 Tanzania Coffee Industry Act and the subsequent 2003 Coffee Industry Regulations. The act empowers the Ministry of Agriculture and Food Security and TCB as overall supervisors of the coffee industry. Both the act and the regulations specify the roles and functions of each player in the chain. For example, the Ministry of Agriculture and Food Security, through the TCB, is responsible for registration of farmers, supervision of all practices relating to cultivation and husbandry, grading, registration and licensing of traders, issuing of licences, auctions and export and quality control.

4.10 Institutional relations between actors

This section explores the relationship among actors in the coffee industry. The analysis ranges from smallholder farmers to exporters.

4.10.1 Farmers

Farmers feel that they are disadvantaged, exploited and powerless to influence prices. Policies are also not made in their favour and they lack a voice in the chain. They continue to cultivate coffee because they have no alternative sustainable sources of income. Furthermore, they are prohibited from uprooting coffee trees, even if they want to utilise their meagre land for other profitable ventures. Therefore, farmers are trapped in coffee cultivation, with little or no way out.

Farmers and government

The government wants farmers to continue with coffee production regardless of their situation. The government depends on coffee as an important source of revenue and foreign currency. Farmers feel that the government has abandoned them, i.e. does not support them with inputs or extension services, and has failed to protect them from the PCBs. Farmers think that the government has not done enough to assist them to sustain coffee production and improve their livelihoods. Farmers want the reintroduction of extension services and distribution of agricultural inputs on a loan basis.

Farmers and primary societies

The relationship is based on marketing of coffee. Farmers depend on primary societies as their initial marketing point. Primary societies collect coffee from farmers and either sell it at auction or pass it through the KNCU. Farmers expect to be paid in instalments. Primary societies do not assist farmers in the purchase and distribution of agricultural inputs.

Farmers and the KNCU

Farmers depend on the KNCU for marketing and extension services (for those who produce organic coffee). The KNCU expects farmers to produce good-quality coffee, which they sell either at auction or directly abroad. Farmers expect to be paid in instalments. The KNCU collects the union levy, which is used for management issues. The KNCU does not help farmers to get agricultural inputs.

Farmers and G-32

G-32 assists farmers in marketing coffee directly at auction, thus reducing the role of middlemen and removing the union levy and other costs deducted by the KNCU. Farmers, through their primary society, depend on G-32 to obtain credits from the KCB.

Farmers and PCBs

This relationship exists only during harvesting and marketing, and there is no legal obligation between the actors. Farmers sell coffee to the PCBs in times of hardship and are paid only once. The PCBs purchase coffee from farmers and do not assist them in

the production process. However, PCBs expect farmers to use the income accrued to purchase agricultural inputs and continue coffee production. The PCBs do not issue receipts.

Farmers and the TCB

The TCB markets farmers' coffee but farmers are poorly informed about the activities of the TCB. Although the TCB is empowered by the 2001 Coffee Industry Act to oversee the activities of the coffee industry, little is done in the production zones to monitor the activities of PCBs, who exploit this weakness to purchase coffee from farmers at cheaper prices.

Farmers and the KCB

Farmers, through primary societies, are shareholders in the KCB. Farmers access loans from the KCB through their primary societies. The loans assist farmers in the initial process of coffee collection and marketing. The KCB uses coffee as collateral for the loans issued. Payment for coffee is made through the bank, which ensures that the bank loan is recovered. Thus, as a bank, the KCB benefits from the interest paid by farmers.

4.10.2 Primary societies

The relationships among primary societies are apparent at four levels: KNCU, G-32, TCB and PCBs.

Primary societies and the KNCU

The KNCU depends on primary societies to collect coffee from farmers; otherwise, it will cease to exist. Primary societies under the KNCU collect coffee and deliver it to the KNCU for marketing. The KNCU offers extension services to its members (farmers), while encouraging them to produce organic coffee. Primary societies are members of the KNCU and participate in annual general meetings, among other events, to plan for the initial payment to farmers.

Primary societies and G-32

The 32 primary societies under G-32 depend on it for coffee marketing. Primary societies collect coffee from farmers and deliver it to the curing factory, which is under G-32 management. Primary societies pay G-32 Tsh 15 (\$0.01) per kg of coffee sold. G-32 arranges loans for primary societies.

Primary societies and PCBs

Primary societies and PCBs compete to purchase parchment coffee from farmers.

Primary societies and TCB

The TCB and primary societies are business partners. The TCB allows primary societies to sell directly at auction and thus increase income for farmers. Members of primary societies feel that the TCB should do more to encourage farmers to sell coffee directly at auction.

4.10.3 The KNCU

In 2006/07, the KNCU began to purchase coffee differently from members and non-members. KNCU members receive higher prices for their coffee compared with non-members. This strategy aims to motivate farmers to rejoin the KNCU, although no figures are available to show the exact number of new members joining the KNCU as a result. The KNCU invests part of the premium received from selling coffee to the Fair Trade market as a social premium to fund education in a particular area.

The KNCU and PCBs

These are business rivals. The emergence of PCBs has challenged the KNCU to improve its services to farmers through extension services and payment to farmers in instalments. PCBs are the antithesis of the KNCU, challenging it to improve its services to farmers by paying them on time.

The KNCU and the KCB

The KNCU is among the initiators of the KCB and still holds shares in it. However, in 2001, the KNCU took loans on behalf of all coffee farmers and could not pay back the instalments as agreed. The KNCU became the biggest defaulter and its buildings and estates were confiscated by the bank. Failure to pay its debts on time made the KNCU a burden to the KCB, and the KCB no longer considers the KNCU creditworthy. KCB motivated primary societies (G-32) to be independent, take loans and sell coffee directly at auction, avoiding the bureaucracy of the KNCU. The KNCU takes loans in January, although the coffee season starts in July, meaning that the interest accumulates for six months. Primary societies take loans when they need the money and thus reduce the burden of paying high interest.

The KNCU and G-32

These are competitors. G-32 does not sell coffee to the KNCU but its primary societies are still members, maintain shares in it, and attend annual general meetings. Representatives of G-32 are not entitled to any allowance or benefits from KNCU annual general meetings. The union's income depends on fees and cess deducted from coffee collected from farmers. If less is collected, the union will suffer financially. Thus, G-32 poses a threat, one which might lead to the collapse of the KNCU if more primary societies resign their membership and join G-32.

4.10.4 PCBs

PCBs and farmers

PCBs associate with farmers only after the harvest period, but do not extend assistance in any issue relating to production. PCBs purchase coffee and pay only once, without giving a receipt to farmers. Even when PCBs pay a high price at auction, they do not pay farmers a second instalment, as they do not have records that show where, from whom, when and at what price the coffee was purchased. Farmers take advantage of this by selling low-quality coffee to PCBs, which buy coffee regardless of its quality, and selling better-quality coffee to primary societies.

PCBs feel that farmers are not trustworthy. They do not help farmers to obtain agricultural inputs on a loan basis, because farmers may not then sell coffee to them, leading to a risk of loan default. PCBs also complain of too many taxes (to both local and central government). Sometimes, bribes are used to obtain licences, which are given annually. In order to survive in the chain, PCBs have to read market trends and act accordingly in order to maximise profit and remain in business.

PCBs and government

PCBs feel that the government has introduced too much control and imposes too many taxes on the coffee industry, which results in a reduction in their profits. They pass on costs to farmers by offering them low prices. Farmers are therefore at a disadvantage in their dealings with PCBs because any extra taxes imposed will be passed back to farmers, which affects their net income.

4.10.5 Government

The government makes policy, controls the coffee industry through issuance of licences to all actors in the chain, and collects revenue and foreign exchange. However, actors complained that the government offers very little in return, especially to coffee farmers.

The role and functions of the Ministry of Agriculture and Food Security are stipulated in Section 4.9. The Ministry of Finance, through the Bank of Tanzania (BOT), handles and controls all foreign currency transactions carried out within the coffee industry. In addition, the Ministry of Finance through the BOT supervises and monitors the activities of all commercial banks involved in the coffee industry, such as Exim, CRDB and KCB.

4.11 Agreements between farmers, primary societies and cooperative unions

Coffee farmers do not have any written or formalised agreement with the KNCU or any primary society. The 1990 Cooperative Societies Act states that it is up to farmers to decide on their own whether to join a primary society or not. The Mruwia Primary Society does not market its coffee through the KNCU, although it is still a member with the right to participate in annual meetings. The Marangu East Primary Society is a member of the KNCU, so farmers who sell their coffee to the Marangu East Primary Society are members of the KNCU.

Farmers who are members of primary societies or unions are eligible to participate in annual meetings, where important decisions regarding coffee production and marketing are made. This is the only venue in which farmers can voice their views on the management of their primary society or union. Unfortunately for them, the price of coffee fluctuates from one season to another and is determined by the international coffee market, which is mainly determined by coffee auctions in New York (for Arabica coffee) and London (for Robusta coffee).

Even before liberalisation of coffee marketing, primary societies and cooperatives paid farmers in two or three instalments, depending on the auction price. Temu (1999) and Mhando (2005; 2007) assert that payment in instalments is very important to farmers because primary societies and unions bank on behalf of the farmers in rural areas, who lack banking facilities and hence fail to budget their income (also because they are not sure what price to expect from the sale of their coffee).

5 Challenges in the Fluctuations in Coffee Prices

5.1 Change in household strategies as a result of price fluctuations

Most of the farmers interviewed have not abandoned coffee production but are instead returning to coffee. Recent price increases and limited alternative income sources are some of the reasons leading farmers to replace old trees with new ones and/or with hybrid coffee clones that are resistant to CBD and coffee leaf rust. Looking at this trend critically, one could argue that respondents have diversified within coffee, from production of conventional coffee, which is expensive, to hybrid clones, which are less expensive.

In both villages, there is no room for expansion of coffee. This means that there is no possibility of obtaining land for coffee cultivation or other agricultural activities. Most villagers will not sell land that they have inherited from their parents, as custom dictates that they should use it for family activities such as burying the dead or for residential purposes. Most of them will pass the land on to their children. This is why farmers have decided to continue coffee production by replacing old and dead coffee trees with new ones.

Intensification is also carried out by utilising all available coffee land to produce high-quality coffee instead of increasing the number of coffee trees. Reducing spacing between trees is another method advocated by the KNCU. Other measures include improvement of coffee husbandry, such as multiple stem instead of single stem production. In future, the KNCU aims to educate and motivate farmers to replace old and unproductive trees with young and productive ones, but the success of this campaign will depend on prevailing prices at the time.

In the past three seasons, the price of coffee has risen from Tsh 1500 to Tsh 1800 per kg (\$1.25-1.50) and the costs of production, for example chemical fertilisers (urea), have also increased (from Tsh 19,000 to Tsh 30,000 per 50 kg (\$15.80-25)). Farmers have decided to go organic and to cultivate coffee without agricultural inputs, using manure as a supplement. Farmers have continued to produce coffee by conventional means, but have made adaptations to production practices by reducing costly inputs to reap a greater share of the sale price as profit.

Although selected farmers in Mshiri have started to sell coffee on the Fair Trade market, this is not the case in Mruwia, where most respondents (98%) continue to produce and sell coffee for the conventional market. These farmers may change over to Fair Trade in the future but this depends on whether they can make an agreement with Fair Trade buyers

Because of a lack of extension services, young farmers depend on adults to learn how to manage coffee. There is a fear that the younger generation may not learn the new techniques of coffee production, which correspond to market changes and demand. Lack of experience and limited information on market trends may affect the future of Tanzanian coffee on the world market.

In addition, respondents complained that aged farmers do not give up coffee plots in favour of their sons until they die, and consequently most youth do not have adequate skills in coffee production. Practices such as pruning of coffee tree branches are learned from parents over the years.

Most coffee farmers are above the age of 50. As a result, activities related to coffee cultivation are not carried out as required. If the price of coffee falls, aged farmers will not be able to afford hired labour to assist in the production process. Able youth, as reported in Mshiri villages, are engaged in other well-paid activities, e.g. as tour guides on Mount Kilimanjaro.

Data indicate that there is very limited room for diversification in both villages. Most depend on bananas to supplement coffee. However, of late there has been an oversupply of bananas in local markets and the price has decreased. The price of bananas is very prone to fluctuation: in January-March a bunch cost around Tsh 300-1000 (\$0.25-0.83), but this can go up to Tsh 4000 (\$43.33) later in the year. On the other hand, increasing demand for bananas in major cities like Dar es Salaam has triggered prices of Tsh 6000 per bunch in Moshi town (\$5). In addition, limited land for grazing and growing fodder means limited possibilities to expand livestock keeping.

5.2 Change in the marketing chain

Prior to liberalisation, the KNCU had a monopoly on coffee marketing in the Kilimanjaro region. After this time, the monopoly was eroded. As we have observed, farmers now have different channels through which to sell their coffee. The marketing chain has changed accordingly, and farmers have adjusted to sustain cultivation by selling coffee in outlets that are profitable. In addition, farmers have initiated coffee growers' groups and produce high-quality coffee in order to fetch higher prices. Despite price fluctuations, it has been possible for those who produce high-quality coffee to obtain a high price for their product.

5.2.1 Lack of commitment in assisting small-scale farmers

Small-scale producers are at more of a disadvantage because nobody is directly committed to helping them. They continue to suffer from unclear policies on how to obtain agricultural inputs at a reasonable cost. Additionally, extension services have almost collapsed. Farmers have therefore continued to use traditional methods of producing coffee in a context where market trends and demand have changed. Another consequence has been that land once used for coffee has been converted to use for production of bananas and other crops.

5.2.2 Repositioning of coffee

Repositioning of coffee, which was once prevented by the prohibition of multiple licences, has returned. Although the 2001 Coffee Industry Act prohibits possession of multiple licences in order to increase competition at auction, PCBs have designed a way of possessing multiple licences, through establishment of sister companies, which operate on the same premises but perform different functions (one purchasing parchment coffee from farmers, another purchasing coffee from auction and another exporting). The effect in the coffee chain has been a reduction in competition among buyers, leading to decreasing income for producers. Figure 23 shows the relationship between sister companies, from buying parchment coffee from farmers to green coffee at auction.

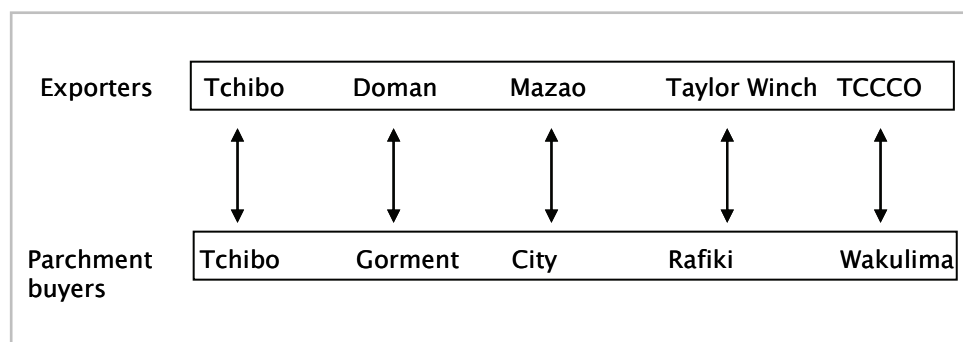


Figure 23: Examples of vertical integration of sister companies on the coffee chain.

For example, at auction, the company with the exporter licence purchases coffee, which is sold to it by its sister company, leading to what is called the repositioning of coffee. It was reported that the relationship between sister companies was initially a secret, but eventually the information became public.

5.2.3 Management of TCB

For many years, stakeholders in the coffee industry have complained about taxes charged on coffee. The government has responded by removing the 1% that is deducted by the TCB from each kilogram of coffee auctioned. Currently, the government pays all costs related to daily management of the TCB. It is reported that weaknesses arise as a result of decreased remuneration of TCB workers: unfaithful workers collude with exporters to sabotage auctions in favour of PCBs.

5.2.4 Organic coffee

The emergence of organic coffee in Moshi was more accidental than planned. Farmers cultivated coffee for more than three years without inputs and then asked themselves why they should continue to apply increasingly expensive agricultural inputs when the price of coffee was fluctuating. Capitalising on this, and based on demand for organic coffee in the world market, the KNCU encouraged and supported coffee farmers to go

organic and even paid more to those who engaged in organic production in areas such as Marangu East and Kiluo Vunjo East.

5.2.5 Quality improvement

In order to be competitive and cope with the market, the KNCU started a quality control improvement programme through its extension staff. The presence of extension workers is evident in Mshiri village. In addition, to improve the quality of coffee and fetch higher prices, the KNCU built central pulper units in the Isuki and Modio Primary Societies, where farmers will be able to sell coffee in the form of cherries. This will reduce the farmers' workload and improve the quality of the coffee. However, selling coffee as cherries does not help farmers fetch higher incomes, since the KNCU pays a uniform price regardless of quality.

5.2.6 Emergence of G-32

The emergency of G-32 was a reaction to the liberalisation policy that ended the monopoly of cooperatives and opened the door to PCBs in domestic marketing. Farmers were free to sell to anyone. It was during this time that Moshi Cooperative College introduced farmers' education programmes, aimed at raising farmers' awareness on the effects of liberalisation. The cooperative unions could not change fast enough and were too weak to compete with PCBs, which had international capital and were backed up by multinational companies such as Tchibo. In addition, unions could no longer access loans from the bank, leading to a gap in coffee marketing: before the initiation of G-32, the KNCU was not paying farmers in instalments but rather payment followed the PCBs' practices. The emergence of G-32 was a big challenge to the KNCU, and hence it had to adapt to new ways of operation in order to continue to survive in the market.

G-32 currently has 24 members. Eight primary societies have recently rejoined the KNCU because of the benefits accruing during KNCU annual meetings (G-32 is still a member of KNCU and participates in its meetings but cannot vote and is not entitled to allowances, because it does not sell coffee to the KNCU). For example, during annual general meetings, representatives from primary societies under the KNCU receive an allowance of Tsh 50,000 (\$41.67) per seat whereas those from G-32 receive only Tsh 5000 (\$4.17). Primary societies that have rejoined the KNCU are Mae, Mashati, Membe, Masama, and Mwika South East. At the time of the study, three primary societies declared that they would rejoin G-32.

During discussions with G-32 leaders, it became evident that the decision of the primary society to remain with the KNCU or to join G-32 lies with its leaders and not the majority of its members. Most primary society members do not even know where their coffee goes after delivering it to the primary society and cannot differentiate between selling to KNCU and direct selling.

G-32 started when the price of coffee was Tsh 250-400 (\$0.21-0.33) per kg, in 2002/03, which rose to Tsh 900 (\$0.75) in 2003/04 and Tsh 1200 (\$1) in 2004/05. In 2006/07,

some societies under G-32, which had lower operating costs than KNCU, paid farmers more than Tsh 1900 (\$1.58) per 1kg of parchment coffee. Over the years, G-32 has been able to do the following:

- Understand coffee marketing, collect coffee and sell it directly at auction;
- Facilitate a price increase from Tsh 400-1900 per kilogram of coffee (\$0.21-1.58); and
- Develop the ability to pay 99% of its debts to the KCB and thus be assured of obtaining loans when needed and of paying farmers on time.

5.3 Benefits accrued by actors at each node in the coffee chain

5.3.1 Farmers

Farmers are the producers and located at the end of the chain. When price increase and are paid reasonably, farmers benefit and are motivated to increase/improve coffee production. As noted before, farmers are disadvantaged, since they have no say and can scarcely influence the price. Their income depends on deductions made at various stages in the chain.

5.3.2 Primary societies

Primary societies deduct Tsh 50 (\$0.04) from each kilogram of coffee sold to them by farmers, which is used for the management of primary societies.

5.3.3 Cooperative unions

Cooperative unions deduct Tsh 50 (\$0.04) from each kilogram sold to be used for its management. This is agreed by all members during the annual general meeting. In the case of the KNCU and Fair Trade, the deduction can be higher, although the actual amount may not be revealed.

5.3.4 PCBs/exporters

It is impossible to know the benefits accrued here because most exporters are not ready to reveal their business practices for fear of further taxes.

5.4 Impacts of changing household strategies

5.4.1 Environment

There is no evidence of any impact of these changes on the environment. The changes are not associated with the expansion of cultivation to marginal areas. In addition, the selected villages are not at the margins of the forest.

5.4.2 Social relations

Traditionally, coffee is a man's crop, while women take control of income from food crops (maize, bananas and local brewing). Income from coffee is decreasing and so is men's power. There is a danger of men demanding control of food crops and thus a decreased income for women, which may mean less expenditure on health and education and more on alcohol for men. The study did not find any effort being made by women to prevent men from taking control of food crops.

5.4.3 Local economy

The recent fluctuation in coffee prices has brought confusion to farmers. Fortunately, this situation has increased the motivation to continue with coffee production. Previously, for most Chagga, coffee cultivation was an unprofitable venture and people were searching for alternative sources of income. However, data from the household survey reveal that most households have very little coffee to sell, despite increasing coffee prices. Thus, most of them have turned to intensification of coffee cultivation, although respondents reported continuing coffee cultivation while searching for other sources to supplement income from coffee sales.

Examination of the income and expenditure of respondents does not explain how they sustain their livelihoods. It is obvious that expenditure is greater than income. Most respondents did not purposely mention remittance from relatives and children as another important source of income. This is probably owing to the fact that remittances both in cash and in kind are received throughout the year, and people cannot remember how much they received each time. In addition, it is common for children from Chagga families to give to each of their parents separately, with the mother getting more than the father without the father's knowledge. If the parents are given money together at the same time, men will take all the money, use it to buy local brew and leave the household without food and other basic necessities.

5.5 Self-assessment of the household

Respondents were asked to evaluate their household and assess whether there had been positive or negative significant changes over the years. The following figures show the trend over the years.

5.5.1 Mruwia village

Figure 24 shows the income of respondents in 1984 (in percentages), whereby the majority of respondents (36.5%) were 'doing just okay', with 21.2% of households struggling to meet their daily needs. Only 19.2% of respondents were doing well, while 17.3% were unable to meet household needs.

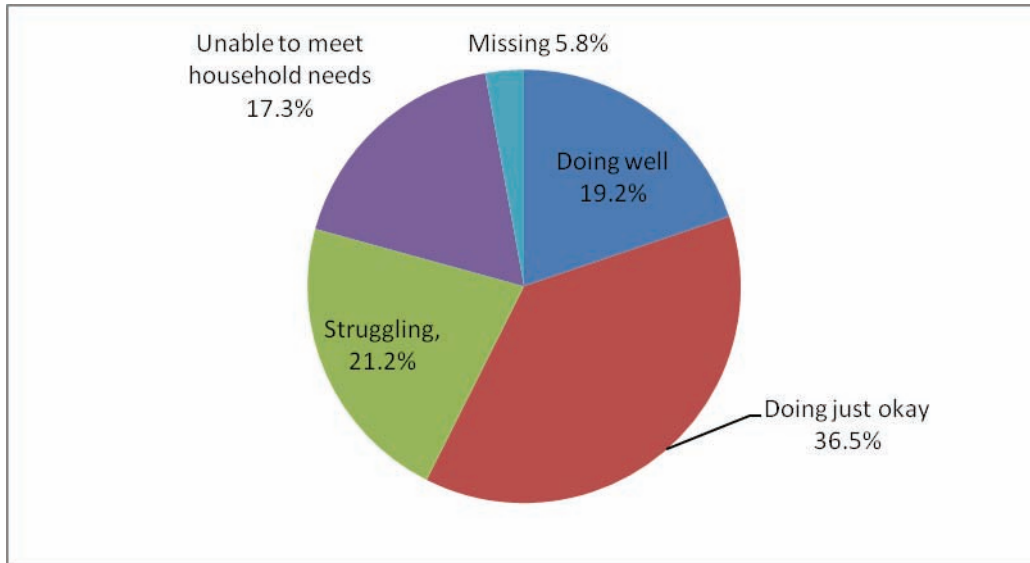


Figure 24: Self-assessment of households in Mruwia village for 1984.

Comparing this trend with results for 2007, as indicated in Figure 25, an increasing number of respondents are doing just okay (38.5%). At the same time, respondents who are struggling have also increased, to 32.7%, while respondents doing well have decreased to 3.8%. This means that the income of most respondents has decreased, indicating that the situation in most households has deteriorated.

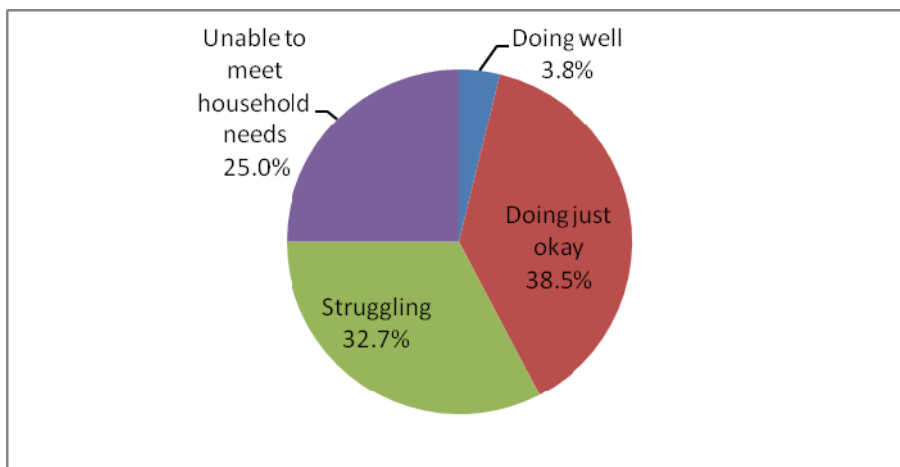


Figure 25: Self-assessment of households in Mruwia village for 2007.

5.5.2 Mshiri village

In Mshiri, 25.5% of respondents indicated that their household was doing well in 1984 compared with 7.8% in 2007. In addition, 49% were doing just okay in 1984 compared with 68.6% in 2007, which is a slight increase. In both cases, the same percentage of respondents – 23.5% - was seen to be struggling in both 1984 and 2007.



Figure 26: Self-assessment of households in Mshiri village for 1984.

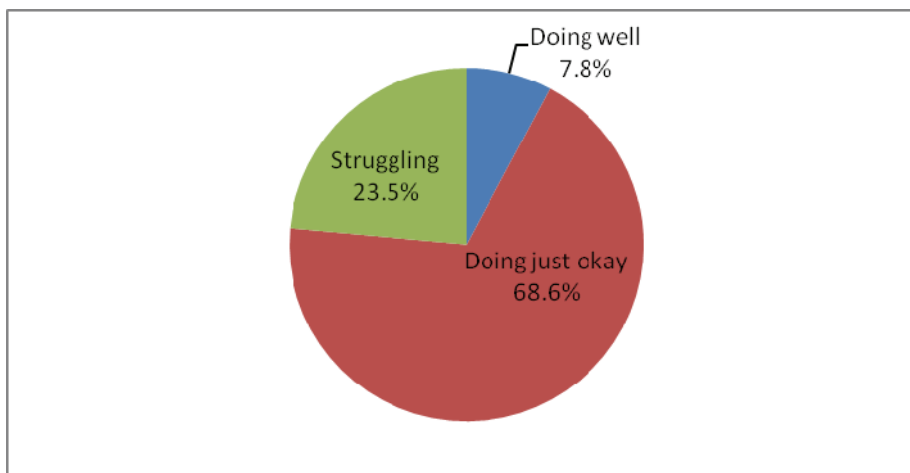


Figure 27: Self-assessment of households in Mshiri village (now).

Assessment of the household economy of the respondents in the two villages does not indicate a significant improvement over the years. Although the price of coffee has increased over the years, the real income of farmers has not, based on the fact that all commodity prices have also increased, thus reducing the purchasing power of respondents. Moreover, land owned has not increased over the years, and Chagga customs have forced respondents to subdivide their land in favour of their sons, which means less land is under coffee cultivation. The case of Mr. Materu of Mruwia village can be taken as a case in point. Mr. Materu commented that 20 years ago he could harvest 30 bags of coffee but since dividing the land for his sons he can harvest only three to four bags. Consequently, while coffee prices have increased, shortage of land and limited use of agricultural inputs have prevented the Chagga from exploiting this situation and improving their livelihoods. However, it is not too late: with good transport and marketing arrangements, the Chagga could shift to organic coffee production and/or be able to improve intensive cultivation.

6 Conclusion

The Kilimanjaro region is well known historically in Tanzania for coffee production. This culminated in the formation of the KNCU, the oldest cooperative, which has survived the odds of the fluctuating coffee economy. However, coffee production in Kilimanjaro, which is based on smallholder production, has declined over the years as a result of low prices for coffee compared with high production costs and inadequate land for coffee cultivation.

Moreover, socioeconomic changes at the international and national levels and sectoral policy changes have meant that the KNCU has lost its monopoly in coffee marketing, giving PCBs the opportunity to compete with cooperatives in the market chain. Despite the liberalisation of coffee marketing, no direct benefits have accrued to farmers to enable sustained coffee production. This has led farmers to stop taking care of their crops, giving way to crop diseases. When coffee plants die, farmers invest their energy in production ventures such as cultivation of bananas, tomatoes and green vegetables, which can easily be sold in markets. Many have also tried to diversify their activities by keeping livestock, especially cattle, goats, pigs and chickens.

Farmers also started to observe the institutional setup and felt that the costs involved in sustaining the market chain were a bottleneck to profitability in coffee production and marketing. The result was G-32. The fact remains that farmers need a form of organisation with low transaction costs, such as the Mruwia Primary Society. However, farmers also need government backing to help them with technical issues such as extension services, provision of agricultural inputs and credit facilities.

In general, over the past 15 years, no household has expanded the area under coffee production. Rather, there has been a reduction in the area planted with coffee as a result of land fragmentation through the customary land tenure system. Although coffee does not constitute the main source of income for many households, it remains important in the household economy, since households depend on the instalments they receive from their coffee to meet key livelihood needs, such as paying school fees or purchasing other goods that require a lump sum payment.

In general, there is no notable difference between households that sell to the Fair Trade market and those selling to other markets. This is because the KNCU is the only cooperative in the region registered to buy and sell coffee to Fair Trade markets and even with the KNCU only 20% of the coffee is sold to Fair Trade markets. The money obtained cannot be transferred into the household economy because most of it is used for community projects. Therefore, Fair Trade has not made any visible impact on individual coffee farmers and most of them are not even aware of it. They are aware only of organic farming, which is commonly referred to as 'Fair Trade business'.

7 References

- Chachage S. 2004. Globalisation and Citizenship. *Africa Development* 28(1&2): 1-16.
- Cooksey B. 2003. Marketing Reform? The Rise and fall of Agricultural Liberalisation in Tanzania. *Development Policy Review* 21(1): 67-91.
- Daviron B. and Ponte S. 2005. *The Coffee Paradox: Global Markets, Commodity Trade and the Elusive Matter of Development*. London: Zed Books.
- Dempsey J. and Campbell R. 2006. A Value Chain Approach to Coffee Production: Linking Ethiopian Coffee Producers to International Markets. In: *ACDI/VOCA World Report: Spring 2006*. Washington, DC: ACIDI/VOCA.
- Dundas C. 1932. *Asili na Habari za Wachaga*. London: The Shell Press.
- Ellis F. and Freedman H. 2004. Rural Livelihood and Poverty Reduction Strategies in Four African Countries. *Journal of Development Studies* 40(4): 1-30.
- International Coffee Organisation. 2004. *Crisis in the Coffee Industry*. London: ICO.
- Hill S. 2001. The Death of Mganda? Continuity and Transformation in Matengo Music. *African Today* 48(4): 27-41.
- International Coffee Organisation. 2005. *ICO Price Indicator Price Monthly and Annual Average in 2005*. www.ico.org (accessed 22 November 2008).
- International Coffee Organisation. 2007. *ICO Price Indicator Price Monthly and Annual Average in 2004-2007*. www.ico.org (accessed September 2007).
- Kaplinsky R. 2000. Spreading the Gains from Globalisation: What Can be Learned from Value Chain Analysis. Working Paper. Brighton: IDS.
- Kaplinsky R. 2004. *Competition Policy and the Global Coffee and Cocoa Value Chains*. Prepared for UNCTAD.
- Kaplinsky R. and Morris M. 2001. *A Handbook for Value Chain Analysis*. Prepared for IDRC.
- Kimario A.M. 1992. *Marketing Cooperatives in Tanzania: Problems and Prospects*. Dar es Salaam: Dar es Salaam University Press.
- Larson R. 2001. *Between Crisis and Opportunities: Livelihoods, Diversifications and Inequality among the Meru of Tanzania*. Dissertation in Sociology 41. Lund: Lund University.
- Maghimbi S. 2000. Social Policy and Research Practice in Tanzania. *Journal of Social Development in Africa* 14: 123-138.
- Maghimbi S. 2002. The Abolition of Peasant Cooperatives and Crisis in the Rural Economy in Tanzania. In: Foster P.G. and Maghimbi S. (eds.). *The Tanzanian Peasantry: Economy in Crisis*. Aldershot: Grower.
- Maghimbi S. 2007. Recent Changes in Crop Patterns in the Kilimanjaro Region in Tanzania: The Decline of Coffee and the Rise of Maize and Rice. *African Study Monographs* 2007 Suppl. 35: 73-83.
- Mhando D.G. 2005. *Farmers' Coping Strategies with the Changes of Coffee Marketing System after Economic Liberalisation*. PhD Thesis, Kyoto University.
- Mhando D.G. 2007. Farmers' Coping Strategies to a Changed Coffee Market after Economic Liberalisation: The Case of Mbinga District, Tanzania. *African Study Monograph* 36: 39-58.
- Mhando D.G. and Itani J. 2008. Post Economic Liberalisation Coping Strategies after Introduction of One Licence System in Tanzania. A Case of Matengo Coffee Growers in Mbinga District. *Tanzanian Journal of Population Studies* 7(1&2): 41-58.
- Mhando D.G. Nindi S.J. and Temu A.A. 2008. Obstacles and Opportunities of Livelihood Diversification among Smallholders Coffee Farmers in Mbinga District, Tanzania. *Rural Planning Journal* 10(2): 28-52.
- Millard E. 2005. *Sustainable Coffee: Increasing the Income of Small-Scale Farmers in Mexico through Upgrading and Improved Transparency in the Value Chain*. Micro Report 45. Washington, DC: USAID.
- Mpangala G. 2000. *Major Issues in Tanzania's Economic History II: State Policies and the Questions of Transformation of Peasants Agriculture through a Hundred Years, 1891-1990*. Dar es Salaam: Institute of Kiswahili Research.

- Nindi S.J. 2004. *Dynamics of Land Use Systems and Environmental Management in the Matengo Highlands, Tanzania*. PhD Thesis, Kyoto University.
- Ponte S. 2002. *Growers and Markets in Tanzania*. Dar es Salaam: Mkuki na Nyota Publishers.
- Ransom D. 2001. *The No-Nonsense Guide to Fair Trade*. Oxford: New Internationalist Publications.
- Schmitz H. 2005. *Value Chain Analysis for Policymakers and Practitioners*. Geneva: ILO.
- Soini E. 2006. *Livelihood, Land Use and Environment Interactions in the Highlands of East Africa*. PhD Thesis, University of Helsinki.
- Tanzania Coffee Board. 2002. *Coffee Sector Strategy 2001/2006*. Dar es Salaam: Business Care Limited.
- Tanzania Coffee Board. 2007. *Annual Report*. Moshi: TCB.
- Temu A. 1999. *Empirical Evidence of Changes in the Coffee Market after Liberalisation: A Case of Northern Tanzania*. PhD Thesis, Urbana University.
- United Republic of Tanzania. 2007. *Tanzania Economic Review*. Dar es Salaam: Ministry of Planning, Economy and Empowerment.
- United States Agency for International Development. 2003. *Sustainable Coffee Increase Incomes*. Washington, DC: USAID.
- Wrigley G. 1988. *Coffee*. New York: John Wiley & Sons, Inc.

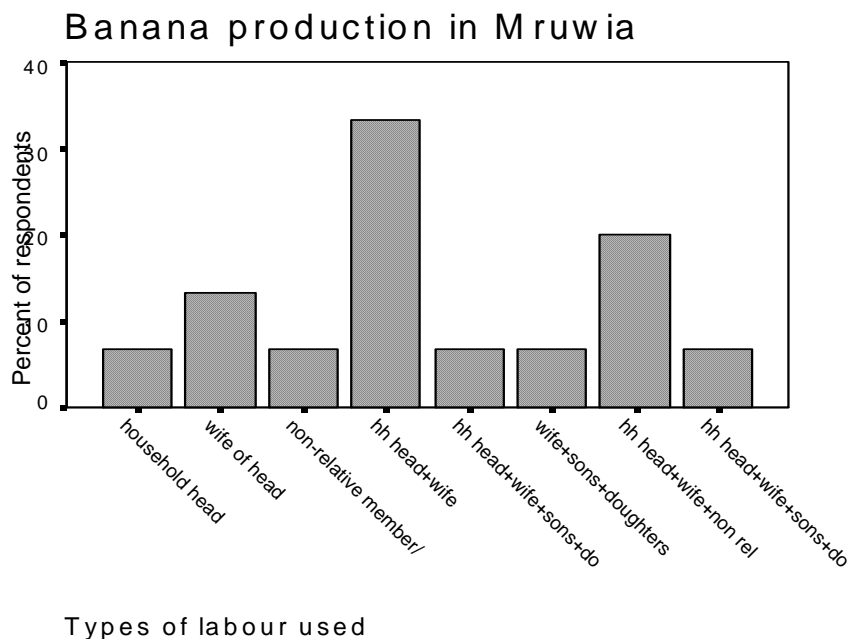
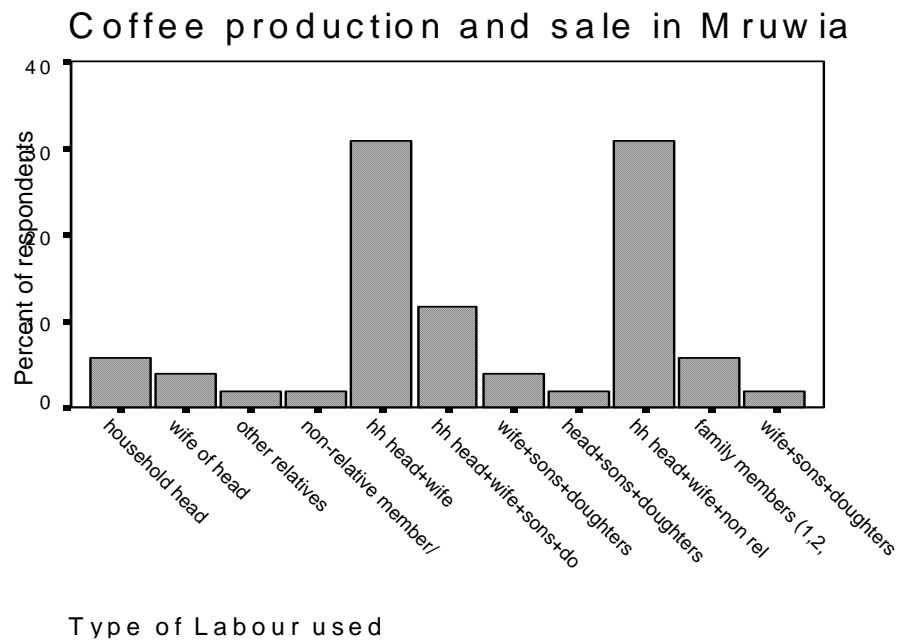
Appendix

Appendix 1: Income from different sources

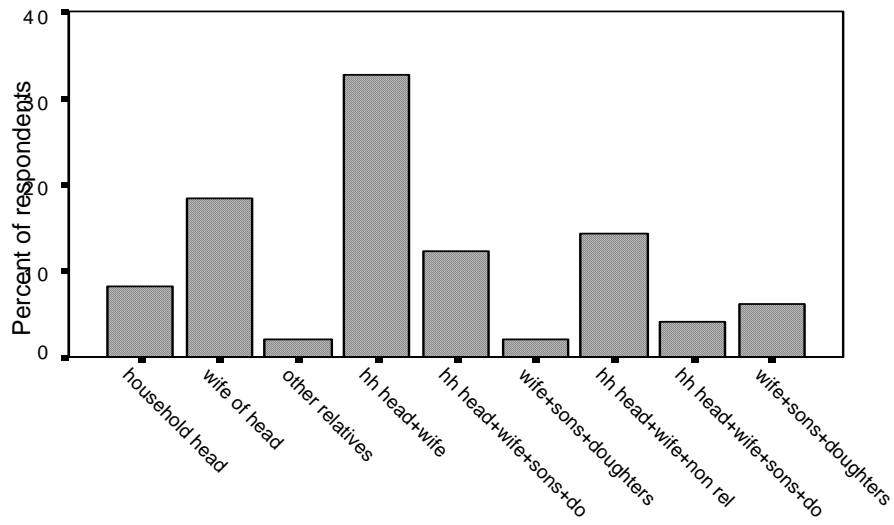
	Mruwia (N)	Mean (in TSh)		Standard deviation	Mshiri (N)	Mean (in TSh)		Standard deviation
		Statistic	Standard error	Statistic		Statistic	Standard error	Statistic
Coffee	52	92,409.6	16,899.1	121,861.1	51	133,925.5	23,396.1	167,081.6
Large live-stock	50	92,000.0	59,937.4	423,821.3	51	203,647.1	117,102.4	836,278.5
Poultry	52	1742.3	1115.2	8042.2	51	8568.6	3985.5	28,462.1
Milk	52	107,11.5	7039.6	50,762.9	51	126,862.8	17,132.4	122,350.0
Vegetables	52	3711.5	1687.6	12,169.3	51	5627.5	1947.9	13,911.1
Fruits	52	3111.5	1763.3	12,715.3				
Honey	52	2215.4	1193.2	8604.4				
Salary	52	19,153.9	10,760.7	77,596.6	51	621,372.6	403,542.2	2,881,867.5
Trading coffee	52	1096.2	1096.2	7904.5		Nil	Nil	Nil
Trading grains	52	576.9	576.9	4160.2				
Trading livestock	52	16,750.0	9044.3	65,219.3	51	24,019.6	10,203.8	72,869.9
Trading other commodities	52	2500.0	1996.9	14,399.8				
Trading drink brewing	52	12,173.1	5105.2	36,814.2	51	7058.8	7058.8	50,410.1
Sources remittances	52	13,942.3	3381.1	24,381.3	51	29,215.7	9367.6	66,898.2
Wages from hired/casual labour	52	17,884.6	11,796.3	85,064.6	51	41,176.5	21,176.5	151,230.2

Note: No statistics are computed for one or more split files because there are no valid cases.

Appendix 2: Type of labour used in different economic activities in Mruwia and Mshiri

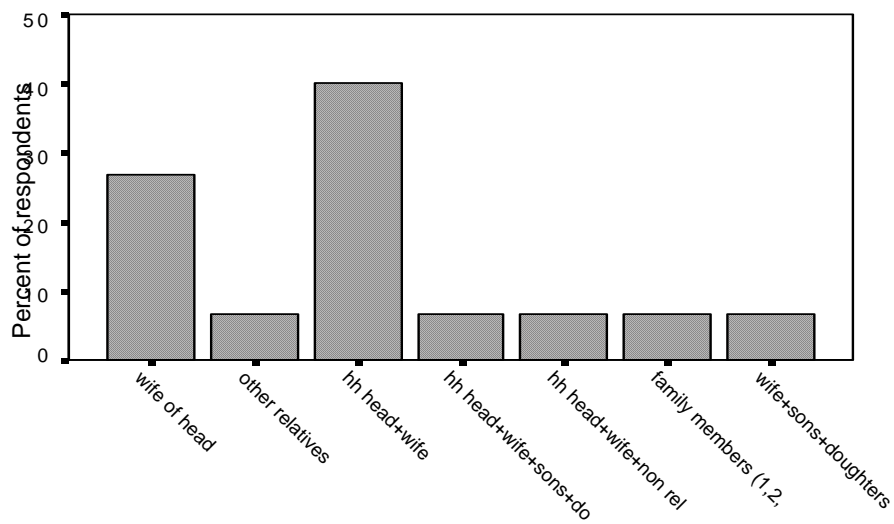


Tuber Production in Mruw ia



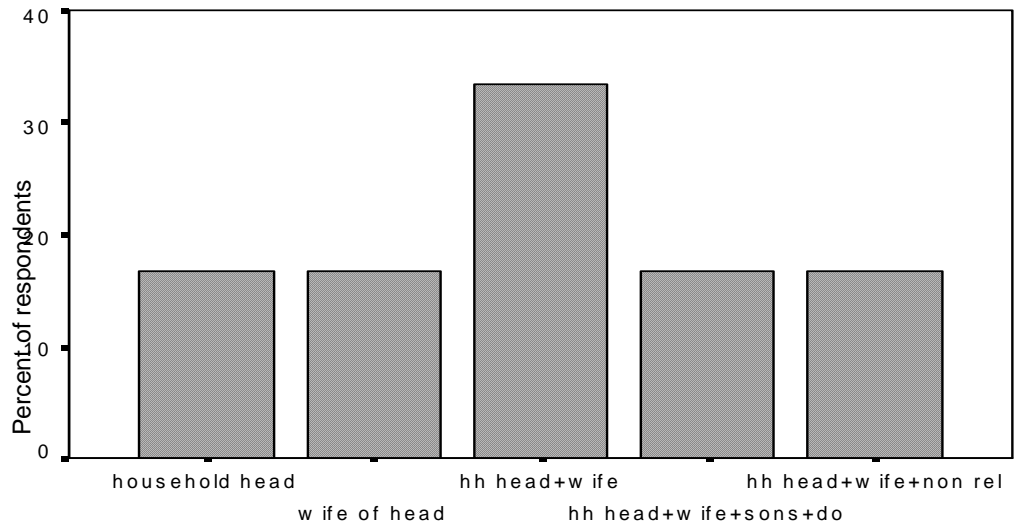
Type of labour used

Pulse Production in Mruw ia



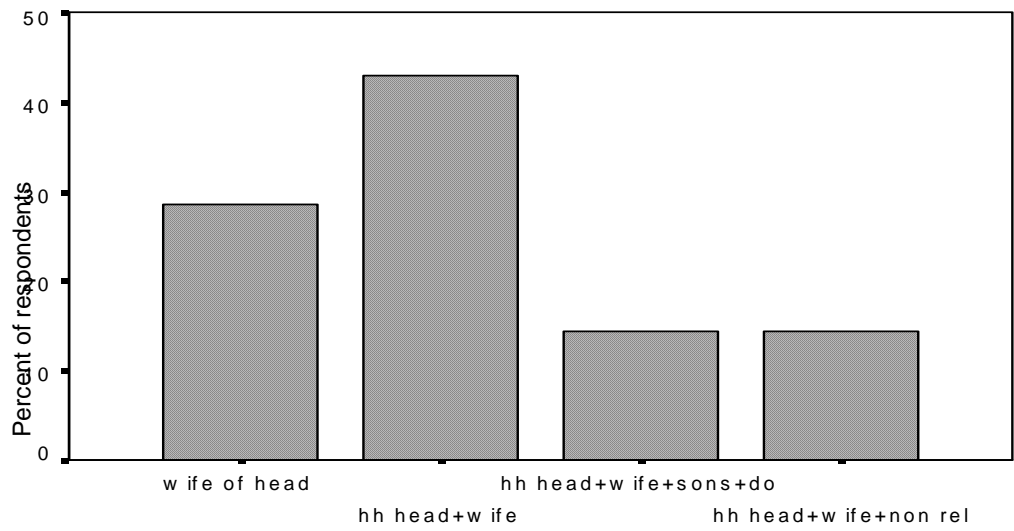
Type of labour used

Oil seeds production in Mruwia



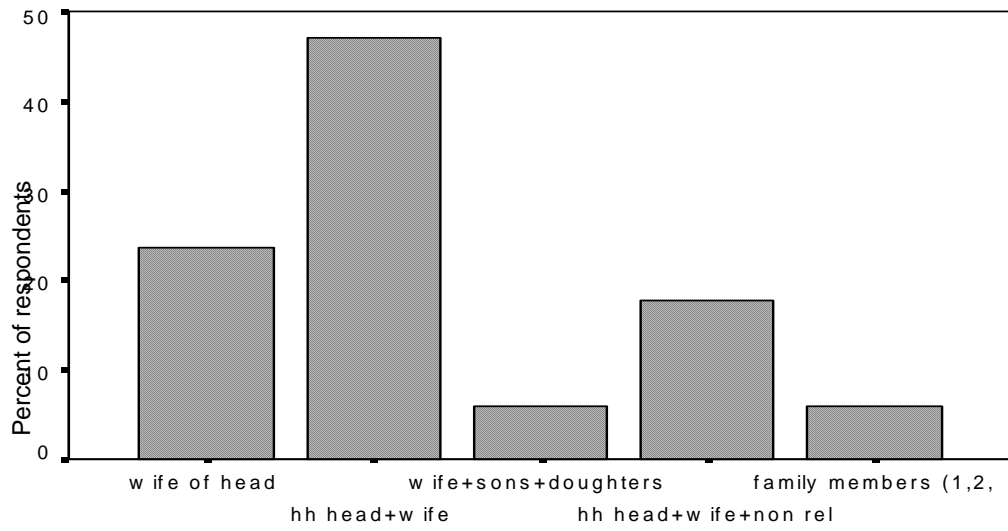
Type of labour used

Livestock production in Mruwia



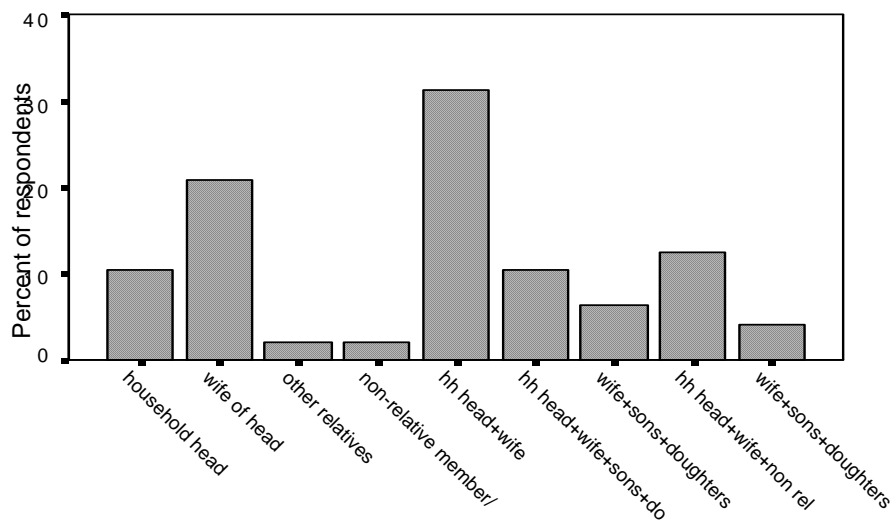
Type of labour in use

Fruit production in Mruw ia



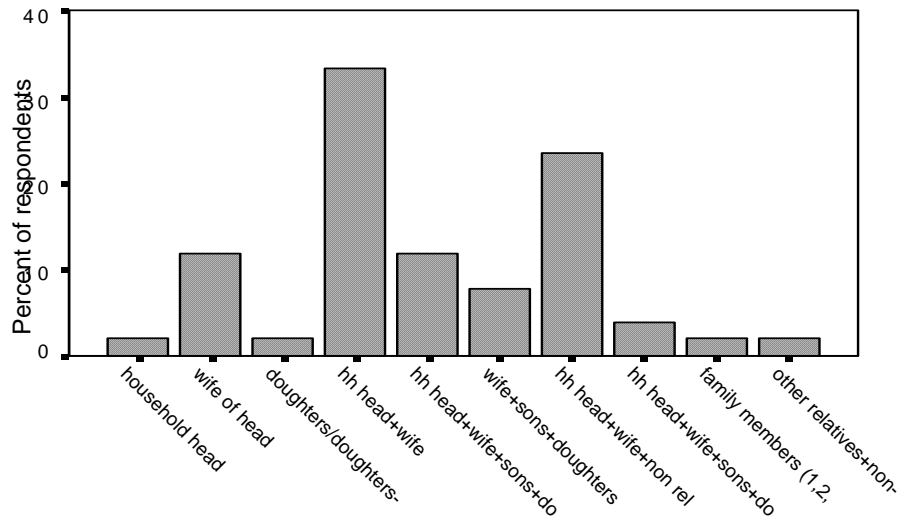
Type of labour in use

Poultry production in Mruw ia



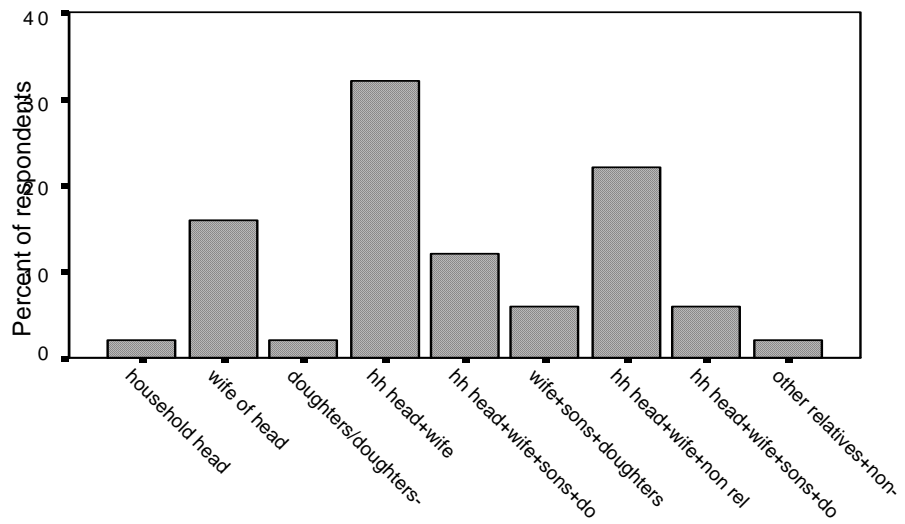
Type of labour used

Coffee production and sale in M shiri



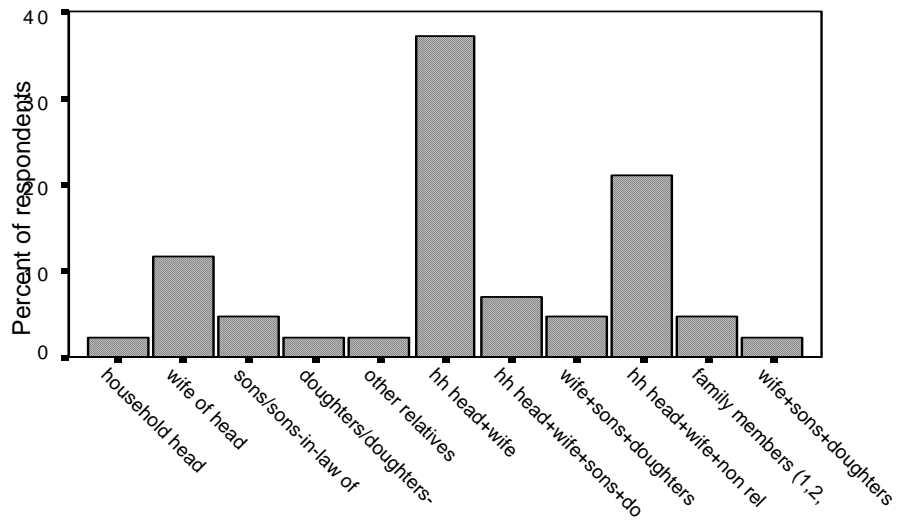
Type of labour used

Tuber Production in M shiri



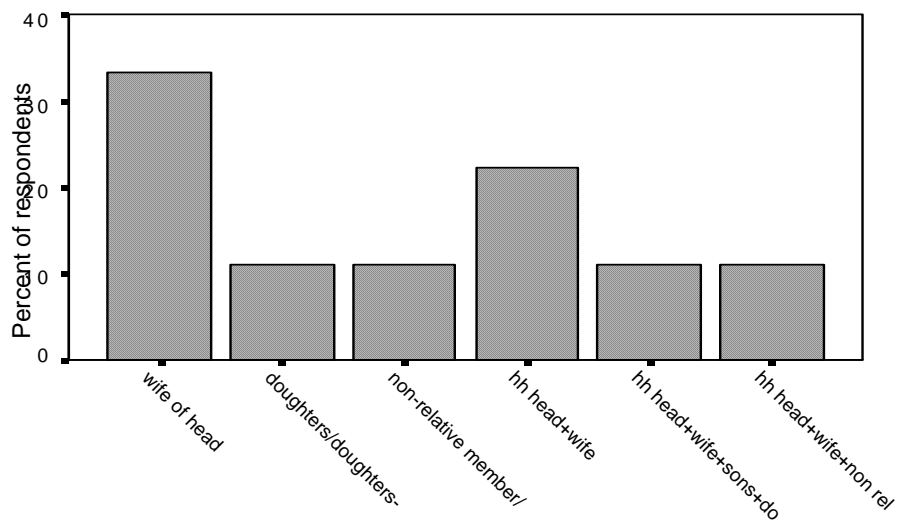
Type of labour used

Banana production in M shiri



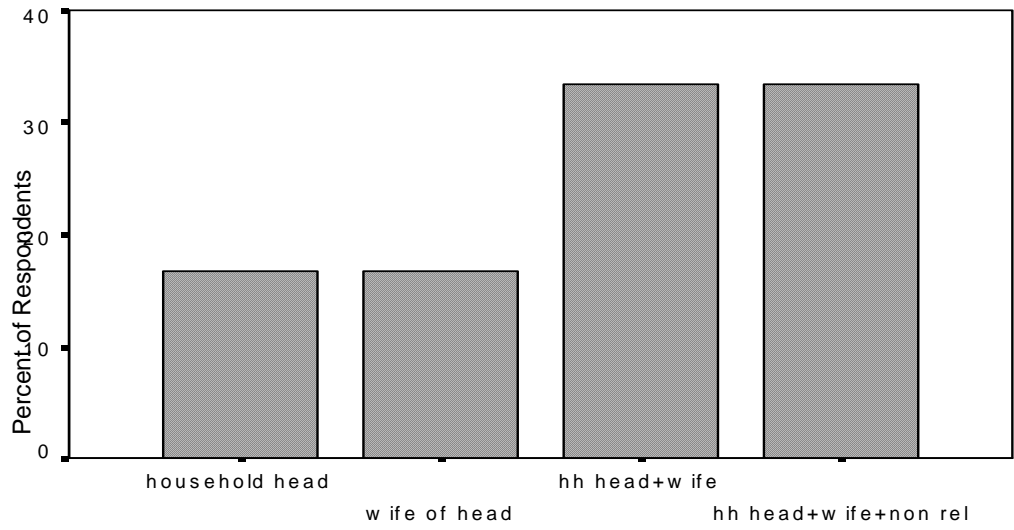
Type of labour used

Pulse Production in M shiri



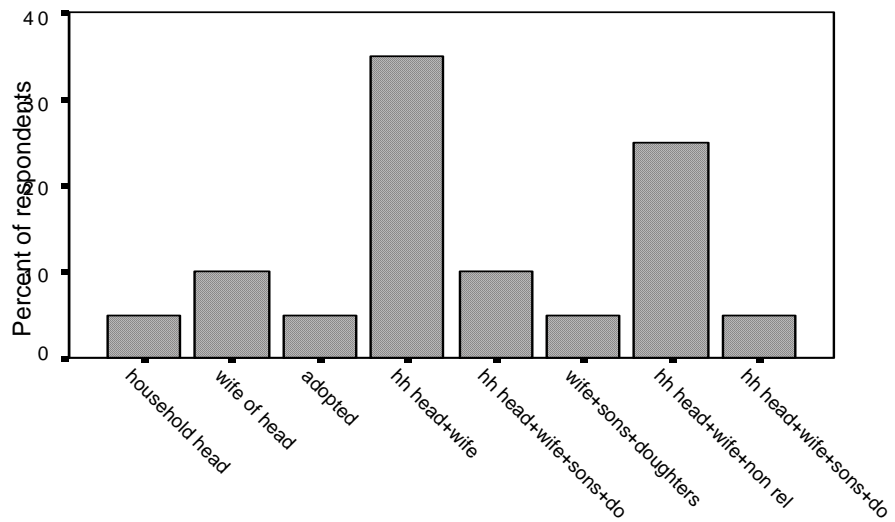
Type of labour used

Oil seeds production in M shiri



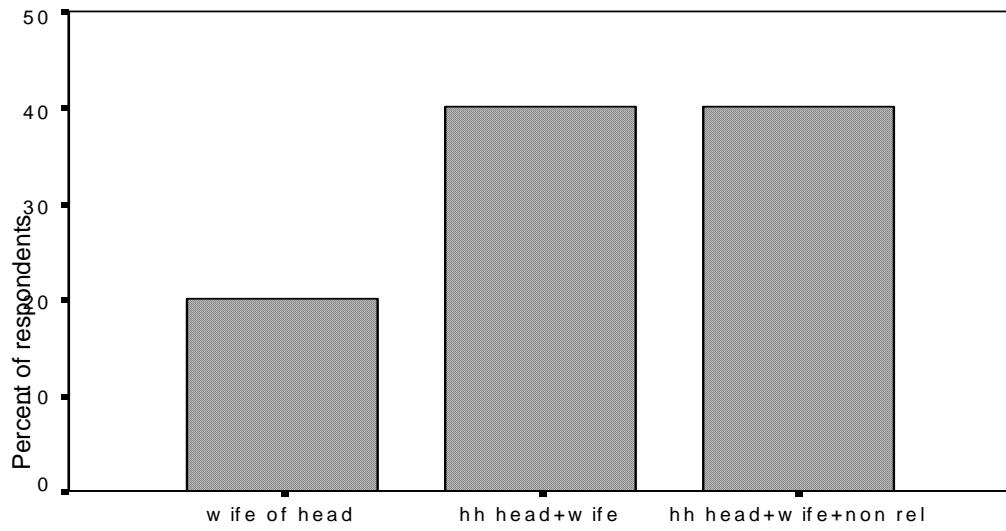
Type of labour used

Fruit production in M shiri



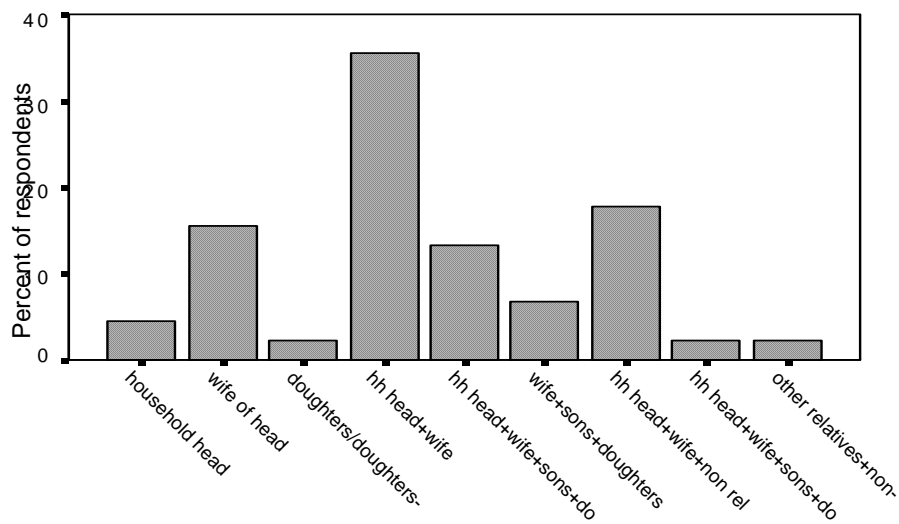
Type of labour used

Livestock production in M shiri



Type of labour used

Poultry production in M shiri



Type of labour used

Acknowledgements

This study was carried out within the framework of the Transversal Package Project (TPP) “Coffee Value Chains - The Political Economy of Coffee: Global Markets, Local Production: Options for Sustainable Development”, led by Dr. Eva Ludi (Overseas Development Institute, London, UK), as part of the NCCR North-South programme. We are grateful for her support in carrying out this research, especially with regard to developing the research framework and providing valuable and constructive comments throughout the research. We are also grateful for and acknowledge the financial support provided by the National Centre of Competence in Research (NCCR) North-South, Research Partnerships for Mitigating Syndromes of Global Change, co-funded by the Swiss National Science Foundation (SNSF), the Swiss Agency for Development and Cooperation (SDC), and the participating institutions. Dr. Tobias Haller from the Institute of Social and Cultural Anthropology, University of Zurich, Switzerland, was a good friend and scientific mentor and provided constructive inputs and comments during the whole research period.

We are also grateful for the following individuals’ and organisations’ contributions and willingness to provide information and insights into coffee production, processing, and marketing: staff of the Kilimanjaro Native Cooperative Union (KNCU), particularly its commercial manager, Mr. Attanasio; the extension officer in Mshiri village; Chairperson of G-32, Mr Godfrey Olomi; the chairperson of Mruwia Primary Society, Mr Mathius Akaro; staff of the Tanzania Coffee Board (TCB); and officials of Moshi rural district council.

Finally, without the willingness of the coffee producers in Mshiri and Mruwia, this study would not have been possible: we would like to express our sincere thanks to them.

About the Authors

David Gongwe Mhando (PhD, Area Studies, Kyoto University, Japan) is a senior research fellow at Sokoine University of Agriculture, Morogoro, Tanzania. Dr. Mhando has ten years of research experience with rural livelihoods, particularly smallholder coffee farmers and livestock keepers in Tanzania.

Gimbage Ernest Mbeyale (PhD, Natural Resources Management and Governance, Dar es Salaam, Tanzania) is a Senior Lecturer at the Department of Forest Mensuration and Management, Faculty of Forest and Nature Conservation, Sokoine University of Agriculture. He teaches governance and conflict resolution in Natural Resource Management and has been involved in research in areas such as forest products consumption surveys, resource use conflicts, natural resource governance, and assessment of the performances of community based forest management (CBFM).

NCCR North–South Dialogue Series

- 1 *Human and Animal Health in Nomadic Pastoralist Communities of Chad: Zoonoses, Morbidity and Health Services.* Esther Schelling. 2002¹, rev. 2007²
- 2 *Understanding Institutions and Their Links to Resource Management from a New Institutionalism Perspective.* Tobias Haller. 2002¹, rev. 2007²
- 3 *Dialogue Workshop Methodology: Adapting the Interactive Problem–Solving Method to an Environmental Conflict.* Simon A. Mason. 2003¹, rev. 2007²
- 4 *The Globalisation Discourse.* Norman Backhaus. 2003¹, rev. 2007²
- 5 *Reforming Agriculture in a Globalising World – The Road Ahead for Kerala.* K.N. Nair, Vineetha Menon. 2004¹, rev. 2007²
- 6 *Simen Mountains Study 2004.* Eva Ludi. 2005¹, rev. 2007²
- 7 *“Should I Buy a Cow or a TV?” Reflections on the Conceptual Framework of the NCCR North–South.* Christine Bichsel, Silvia Hostettler, Balz Strasser. 2005¹, rev. 2007²
- 8 *An Overview of Different Vulnerability Approaches and Definitions.* Martin Cassel–Gintz. 2006¹, rev. 2007²
- 9 *Forestry in the Princely State of Swat and Kalam (North–West Pakistan).* Sultan–i–Rome. 2005¹, rev. 2007²
- 10 *Livelihood Strategies in North–West Pakistan.* Bernd Steimann. 2005¹, rev. 2007²
- 11 *The Critical Issue of Land Ownership: Violent Conflict, Somali Region of Ethiopia.* Ayele Gebre–Mariam. 2005¹, rev. 2007²
- 12 *Marginality: Concepts and Their Limitations.* Ghana S. Gurung, Michael Kollmair. 2005¹, rev. 2007²
- 13 *Political Ecology in Development Research.* Jon Schubert. 2005¹, rev. 2007²
- 14 *Ethiopia and the Nile: The Dilemma of National and Regional Hydro–politics.* Yacob Arsano. 2005¹, rev. 2007²
- 15 *Social Networks and Migration: Far West Nepalese Labour Migrants in Delhi.* Susan Thieme. 2006¹, rev. 2007²
- 16 *Conducting Field Research in Contexts of Violent Conflict.* Nathalie Gasser. 2006¹, rev. 2007²
- 17 *Bridging Research and Development: Capitalisation on Experience with Partnership Actions for Mitigating Syndromes.* Peter Messerli, Annika Salmi, Karl Herweg, Franziska Pfister, Thomas Breu. 2007
- 18 *Governmental Complexity in the Swiss Alps: Planning Structures Relevant to a World Natural Heritage Site.* Jöri Hoppler, Astrid Wallner, Urs Wiesmann. 2008
- 19 *PhD Reader: PhD Theses within the Framework of the Swiss National Centre of Competence in Research (NCCR) North–South.* NCCR North–South. 2008
- 20 *People and “Territories”: Urban Sociology Meets the Livelihood Approach in the South.* Luca Pattaroni, Vincent Kaufmann, Yves Pedrazzini, Jean–Claude Bolay, Adriana Rabinovich. 2008
- 21 *International Conference on Research for Development (ICRD 2008): Pre–conference Proceedings.* University of Bern, Switzerland, 2–4 July 2008. NCCR North–South. 2008
- 22 *People’s Choice First: A 4–Country Comparative Validation of the HCES Planning Approach for Environmental Sanitation.* Christoph Lüthi, Antoine Morel, Petra Kohler, Elizabeth Tilley. 2009
- 23 *Making Research Relevant to Policy–makers, Development Actors, and Local Communities: NCCR North–South Report on Effectiveness of Research for Development.* Claudia Michel, Eva Maria Heim, Karl Herweg, Anne B. Zimmermann, Thomas Breu. 2010
- 24 *State of Statistical Data on Migration and Selected Development Indicators.* Nadia Schoch. 2010
- 25 *Changing Development Discourses over 40 Years of Swiss–Bolivian Development Cooperation.* Andrea Weder, Claudia Zingerli. 2010
- 26 *The Effect of Global Coffee Price Changes on Rural Livelihoods and Natural Resource Management in Ethiopia: A Case Study from Jimma Area.* Aklilu Amsalu, Eva Ludi. 2010
- 27 *An Analysis of the Coffee Value Chain in the Kilimanjaro Region, Tanzania.* David Gongwe Mhando, Gimbage Mbeyale. 2010

This report focuses on coffee producers in two villages in the Kilimanjaro area, Tanzania. The Kilimanjaro region is well known historically in Tanzania for coffee production. However, coffee production in Kilimanjaro, which is based on smallholder production, has declined over the years as a result of low prices for coffee, high production costs, inadequate landholdings, and insufficient agricultural support and extension.

As part of a transversal project exploring coffee value chains in Tanzania and Ethiopia, this report looked into two different ways of producing and selling coffee in Tanzania: either for the mainstream (commodity) market or for the Fair Trade market. One of the key underlying research questions the report seeks to answer is whether people who produce for the Fair Trade market are better off – both financially and in non-financial terms – than their fellow coffee producers who produce for the commodity market.

The NCCR North–South Dialogue Series presents reflections on research topics of concern to programme members throughout the world

dialogue

NCCR
north
south