



## **Agricultural growth and poverty reduction in Tanzania 2000-2010: where has agriculture worked for the poor and what can we learn from this?**

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### **What is Chronic Poverty?**

The distinguishing feature of chronic poverty is extended duration in absolute poverty.

Therefore, chronically poor people always, or usually, live below a poverty line, which is normally defined in terms of a money indicator (e.g. consumption, income, etc.), but could also be defined in terms of wider or subjective aspects of deprivation.

This is different from the transitorily poor, who move in and out of poverty, or only occasionally fall below the poverty line.

## Abstract

Agriculture is an economic activity important to achieving the poverty reduction strategy goals of Tanzania. Growth in agriculture has made contributions to GDP, foreign exchange earnings, and income poverty reduction. However, despite high growth, the growth pattern in agriculture (which employed about 70 percent of the population between 1998 and 2009) is not reflected in poverty reduction, particularly in rural areas. Using quantitative and qualitative data collected from rural farmers in Mwanza, Newala and Rukwa regions, this paper unpacks growth and poverty transmission routes, identifies growth barriers for agricultural incomes, and analyses where agricultural growth has occurred and if that growth has been transmitted into poverty reduction. Findings indicate that the pattern of economic growth in the past decade was largely influenced by the service and industry sectors; and less by agriculture where annual growth has been slow, following persistent low and declining productivity caused by low utilisation of fertiliser and improved seeds, and the low rate of mechanisation. Evidence gathered from our six research sites also noted barriers to production and markets. Trade and export of cashew nuts and non-traditional items like mango and cut flowers were important routes for income growth, but poor farmers had limited access compared to their richer counterparts. We conclude in this paper that further measures are needed to stimulate higher productivity and income growth associated with new technology, secure markets, mixed farming (diversification of crops and livestock) and efficient institutions (warehouse and credit schemes).

**Keywords:** Agricultural growth, poverty reduction and marketing institutions

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# 1 Introduction

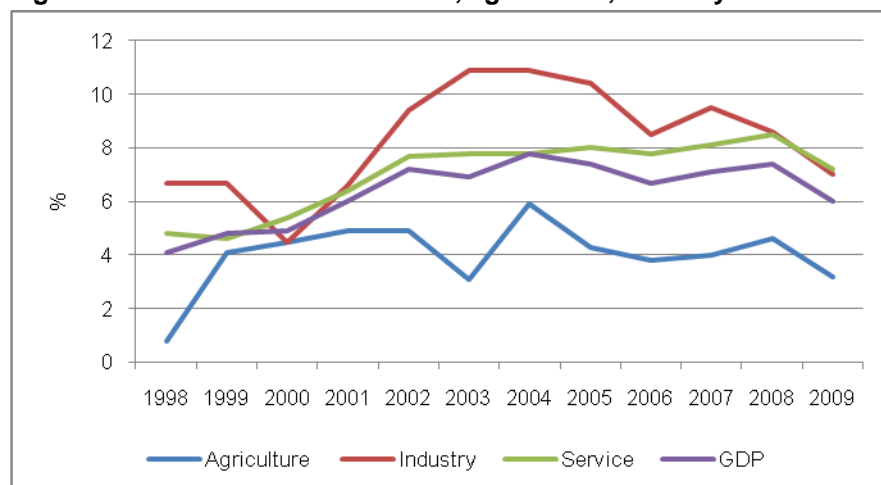
## 1.1 Agricultural growth and poverty

### 1.1.1 Agricultural growth path

The agriculture sector in Tanzania, which includes the subsectors of crops, livestock, hunting and gathering, fisheries and forestry, remains the largest sector in the economy. In 2010, the sector contributed nearly 28 percent to national gross domestic product (GDP) and approximately 24 percent of the country's export earnings (Msambichaka *et al.*, 2009). In this decade, the share of export crops in total foreign exchange earnings has declined substantially, from 34 percent in 2000 to slightly below 20 percent in 2007. Agriculture's absolute contribution to exports has increased, but its relative share of total exports has declined because other sectors of the economy, such as tourism and mining, have expanded their share more rapidly.

Over the period 1998-2009, the overall growth rate of the sector fluctuated, between 0.8 (1998) and 5.9 percent (2004) (Figure 1); the growth rate of GDP during the same period fluctuated between 4.1 (1998) and 7.8 percent (2004). Agriculture has persistently registered a lower growth rate compared with industry and services: while agriculture grew at an average of 4 percent between 1998 and 2009, industry and services grew at an average of 8.3 and 7 percent, respectively, during the same period. Average growth of GDP between 1998 and 2009 was 6.4 percent. This pattern of economic growth shows that one of the main reasons why economic growth in Tanzania over the past decade has not been associated with poverty reduction, especially in rural areas, is the fact that agriculture, which supports over 70 percent of the population, has been growing relatively slowly compared with other major sectors.

**Figure 1: Growth rates of total GDP, agriculture, industry and services, 1998-2009 (%)**



Note: Industry includes manufacturing.

Source: Computed using BoT (2010) data

A close inspection of the pattern of growth suggests that the growth rate of GDP has been influenced to a large extent by growth in services and industry. Agriculture's annual growth rate has been largely stagnant over the past 10 years, following persistent low and declining productivity. This owes to low utilisation of fertiliser and improved seeds; a shortage of mechanical inputs (farm machinery); limited water for irrigation; poor reach of extension, research, technology and agriculture-related education and training centres; a low government budget allocation to the sector; and poorly developed marketing infrastructure.

### 1.1.2 *Decomposition of the agriculture sector*

Agriculture remains the dominant sector in Tanzania in terms of its size, contribution to GDP, generation of employment and export earnings. As Table 1 shows, for more than 12 years crops have dominated, with an average contribution to the sector of about 70 percent, followed by livestock and forestry (and hunting), with an average share of 16 and 8 percent, respectively. Fishing has an average share of 5 percent.

**Table 1: Decomposition of the agriculture sector, 1998-2009 (% share)**

Subsector	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Crops	71	70	69	70	71	72	72	71	70	70	70	71
Livestock	14	15	16	16	16	15	15	17	18	17	18	15
Forestry and hunting	9	9	9	8	8	7	8	7	8	8	8	8
Fishing	6	6	6	6	5	5	5	5	5	5	4	5

Source: BoT (2010).

Despite crops being the dominant contributor to agriculture, with an overall GDP share of 21 percent, and despite a series of government initiatives to combat poverty in Tanzania (starting immediately after independence in 1961), rural poverty is still prevalent (NBS, 2007). Regulation of cross-border trade is thought to be inhibiting the development of markets which could otherwise encourage farmers to produce (Baregu and Hoogeveen, 2009). Since the inception of poverty reduction strategies (PRSs), GDP growth rate has shown an impressive trend, but such growth has not been pro-poor, especially in rural areas where most people are involved in agriculture. Household incomes have remained unchanged and rural income poverty reduction has been very low compared with that in urban areas.

## 1.2 Objectives, context and methodology

### Box 1. Approach and method used for the study

#### Research sites

Research was conducted in six sites in three districts across mainland Tanzania. These sites were drawn from the 447 clusters included in Tanzania's 2007 Household Budget Survey (HBS) (NBS, 2009). The clusters were selected to reflect different regions, agro-ecological zones and agricultural livelihoods in Tanzania. The clusters chosen also had reasonably high levels of poverty.

#### Research methods

This study built on the tradition of Q-Squared (quantitative and qualitative) research carried out by the CPRC (see most notably work in Bangladesh by Davis and Baulch, 2009). The starting point for the research was the HBS 2007 and the recently commenced NPS. With these surveys as the foundation, the research team designed a package of tools for the collection of qualitative data in the six research sites. These tools comprised focus group discussions, life history interviews and key informant interviews.

#### *- Focus group discussions*

In each cluster, the team sought to conduct four focus group discussions. The first was with 'knowledgeable' people, to map a community timeline, identify key institutions in the community, identify and rank major sources of livelihoods and understand the value of key assets, wages and prices.

The second was with women, and the third with men (or vice versa), and were labelled 'well-being ranking focus group discussions'. Participants were chosen by community leaders, and a request was made by the research team that the participants represented a cross-section of the community. These had two parts. The first was to develop a well-being classification system for the research site. The starting point was a scheme that the research team had developed. The scheme included six well-being classifications, ranging from destitute (1) to rich (6). It sought to take into account assets, income, levels of consumption and vulnerability to risk; work across clusters in Tanzania while retaining local relevance; capture distinctions among the many poor people clustering around the poverty line; and capture the specific characteristics experienced by the destitute.

The second part of the well-being ranking focus group was to rank the well-being of each of the 24 HBS households in 1999 and 2009, and identify reasons for improved, declined or stable well-being. By doing this, we hoped to generate a birds-eye view of socioeconomic mobility in each of the research sites. In the six clusters, eight well-being rankings were conducted: four by women and four by men. In total, 144 households were ranked, though 192 rankings took place (in two clusters, both women and men ranked the households).

The fourth focus group discussion sought to confirm key findings, explore any outstanding issues and provide feedback to the community on our preliminary analysis.

#### *- Life history interviews*

106 life history interviews were conducted to acquire an in-depth understanding of respondent's lives, and reasons for upward, downward or stable well-being. Based on the findings from the well-being rankings, the research team selected approximately ten of the 24 HBS households from each cluster for life history interviews. Households were selected to reflect upward mobility, downward mobility and stability and to ensure a good distribution of age among the life history sample. Within each household, the male and female household head were targeted for interview. At the end of each interview, the life history trajectories of respondents were mapped graphically against the six well-being classifications (y-axis) to reflect changes in well-being over time (x-axis).

- *Key informant interviews*

Key informant interviews were conducted to examine particular research themes in more depth. Respondents were selected opportunistically, based on issues highlighted in focus group discussions and life history interviews. Those targeted for key informant interviews included government officials, community leaders, crop traders, creditors, agricultural extension agents, teachers and health workers.

Source: Higgins (2011)

Based on these criteria, the following six clusters in mainland Tanzania were selected: Nchinga (Mtwara region); Nkangala (Mtwara region); Ndite (Mwanza region); Wazabanga (Mwanza region); Kayumbe (Rukwa region); and Kalesa (Rukwa region). Table 2 outlines the rationale for this cluster selection.

**Table 2: Rationale for cluster selection**

Cluster/research site (village) <sup>1</sup>	District	Region	Rationale
Nchinga	Newala	Mtwara	Cashew nuts main cash crop; mix of fishing and farming; high levels of poverty; less researched area.
Nkangala	Newala	Mtwara	
Ndite	Magu	Mwanza	Affected by phase of liberalization; cotton growing area, with livestock and fishing; high levels of poverty; less researched area.
Wazabanga	Magu	Mwanza	
Kayumbe	Nkasi	Rukwa	Remote and marginalized area; maize as main cash crop; poor markets; market dynamics different from other regions as affected by grain reserve policies which prevent export to Democratic Republic of Congo; high levels of poverty; less researched area.
Kalesa	Nkasi	Rukwa	

Source: Kessy (2011)

### 1.3 Organisation of the paper

We begin in Chapter 2 by unpacking GDP and agricultural growth, investigating whether or not there has been growth in agriculture and what routes are used to translate growth into poverty reduction. Specifically, this chapter looks at whether there has been a less rapid rise in agricultural growth and a substantial decline in traditional export crops replaced by a minor growth in non-traditional crops. In Chapter 3, we turn to evidence gathered from our six research sites and discuss why this growth had not been more substantial, noting barriers to production and markets in these areas. Chapter 4 focuses on the impact of new institutions designed to transform agriculture, such as the warehouse and credit schemes. In addition, we highlight where agriculture is working in poor regions and the reasons contributing to this

<sup>1</sup> All village names are anonymised.



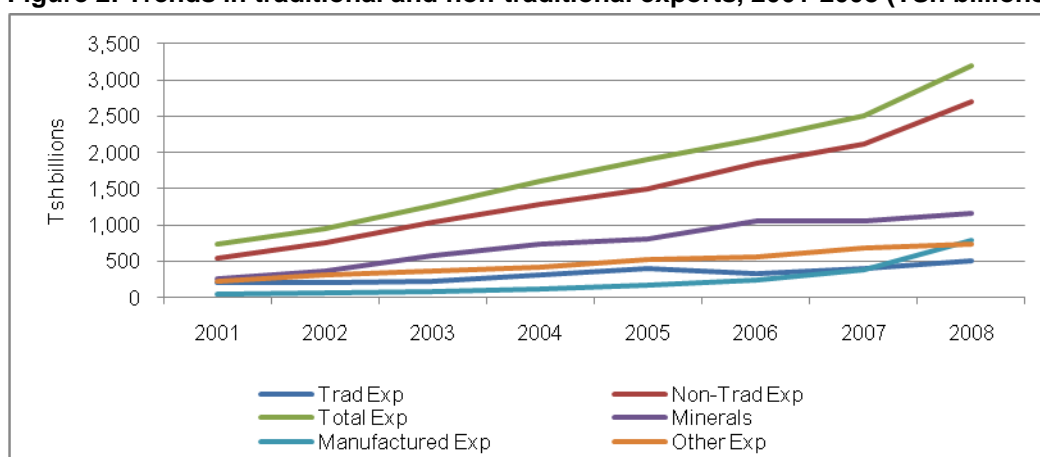
success. We find it is often when new technology, secure markets, mixed farming (diversification of crops and livestock) and stable institutions (warehouse and credit schemes) are working together efficiently that growth takes place in poor regions. We then discuss how we can reform institutions and policy to build further on such successes. Chapter 4 concludes and offers recommendations.

## 2 Unpacking growth and its transmission routes to poverty reduction

Approximately 74 percent of the Tanzanian population draws their income and therefore their livelihood from agriculture. However, growth in the sector has persistently been lower than the levels required to reduce poverty significantly and improve the livelihoods as well as living standards of the majority of the population. Moderate agricultural growth has been registered in certain areas, evident from a number of indicators, such as trade opportunities (e.g. cross-border trade outlets); livestock production; warehouse receipt schemes; performance of non-traditional exports; changes in agriculture-related technology; prices of certain cash crops; changes in volumes of outputs of certain crops; and acreage under crops over time, etc. Nevertheless, this growth has not been translated adequately into poverty reduction and changes in people's livelihoods. This chapter attempts to unpack growth in the sector and looks at the major agricultural growth transmission routes to establish their efficacy in terms of translating growth into improved livelihoods.

Figures 2 and 3 present trends of exports of both traditional and non-traditional products in Tanzania, focusing on two different timeframes: Figure 2 focuses on 2000-2008 and Figure 3 on 2007-2010. Exports have generally seen an increasing trend, with the fastest growth registered in manufacturing exports, which increased at an annual average rate of 38 percent between 2001 and 2008 (Figure 2).

**Figure 2: Trends in traditional and non-traditional exports, 2001-2008 (TSh billions)**



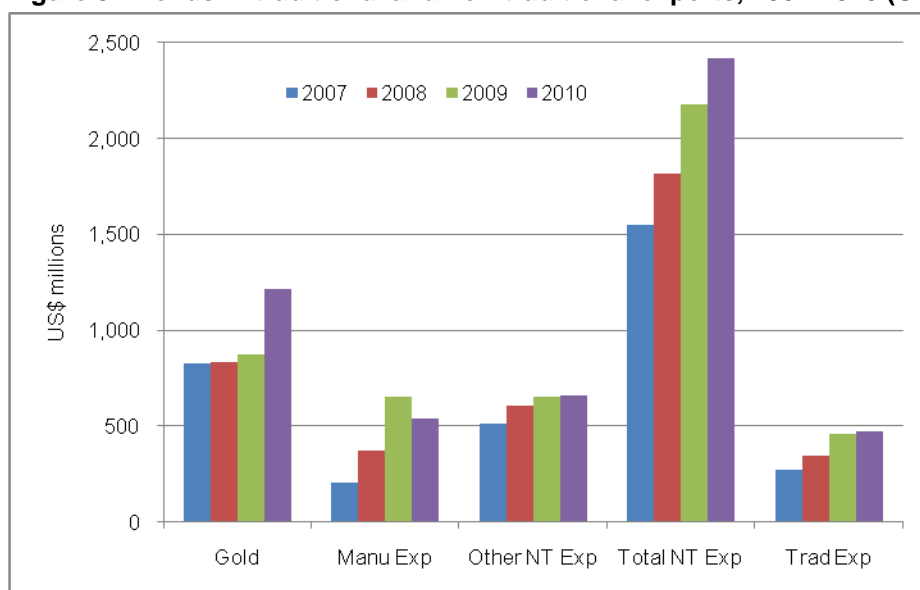
Source: BoT (2008).

Non-traditional exports as a whole grew at an average annual rate of 21.8 percent. Since this was the largest share (about 80 percent of total exports), they influenced the growth rate of total exports significantly, which increased at an average annual rate of 20.8 percent. The lowest growth rate, of about 13 percent, was registered in traditional exports.

Likewise, from 2007 to 2010, the contribution of non-traditional exports ranged from 83 to 85 percent of total exports, which is significantly higher than the share of traditional exports.

Non-traditional exports increased to \$2,419.1 million in the year ending March 2010, compared with \$2,181.2 million recorded during the preceding year. To a large extent, the relative poor performance of traditional exports is a result of sluggish growth in the export volume of major cash crops. Growth of almost all traditional crops has fluctuated widely, with a number of episodes of negative growth. For example, cotton and coffee have not yet recovered from the recent global shocks.

**Figure 3: Trends in traditional and non-traditional exports, 2007-2010 (US\$ millions)**



Source: Constructed using BoT (2010) data.

### 2.1.1 Cut flower industry

The cut flower industry and the Association of Mango Growers are among the non-traditional initiatives that are targeting the export market. Flower production for export is practised for the most part by large companies in the northern zone, in particular in Arusha and Kilimanjaro regions. It has also become important in the Southern Highlands (Njombe and Mufindi districts in Iringa region), where roses are produced for export, and even in the Dar es Salaam region (Kigamboni area) for a few investors. In 2005/06, the quantity of flowers exported to different destinations was estimated at 5,862 tons, which increased to 6,897 tons in 2006/07 from an estimated acreage of 137 ha. The cut flower industry offers employment for unskilled and skilled young men and women. In addition to a monthly salary, such work offers increased job security and increased fringe benefits to employees. The cut flower industry is therefore an example of a transmission route for growth to poverty reduction, particularly if its challenges are addressed.

For example, empirical evidence shows that rich farmers who are also connected to the export market benefit more from horticulture products than poor small-scale farmers. The nature and conditions of production chains are gendered, which impacts on the industry as well as on the livelihoods and well-being of men and women and their families (Kessy, 2004).

Kessy finds that labour within the industry is feminised, as there are more women employees than men. There is also a distinct social division of labour, with women's jobs being harvesting, grading and packing while men spray, irrigate and are engaged in manual tasks such as construction and repairing of greenhouses. This occupational segregation results in a wage differential: women are concentrated in the lower paid categories of workers. Other problems, which have welfare implications, include inadequate working tools, working for long hours without being paid overtime and heavy application of chemicals that may have detrimental effects on the health of employees and the reproductive health of women in particular.

### 2.1.2 *Association of Mango Growers*

The Association of Mango Growers (AMAGRO) in Tanzania was created in 2001 with the aim of collectively finding a way of obtaining sufficient knowledge and relevant expertise on how to grow fruit efficiently and profitably to be able to reap the opportunities of the export market. Specifically, this association has three main purposes: to train and educate members on best practices in mango production; to facilitate the availability of farm inputs and other services such as extension; and to consolidate joint marketing to increase the bargaining voices of farmers. Indeed, AMAGRO is a role model for improved farmers' productivity and poverty reduction. It directly helps 80 mango growers from various regions of Tanzania, as well as others who are not members but enjoy some positive externalities.

Members of the association now have better knowledge on how to grow mangoes that meet international standards; can access farm inputs that are too costly to be imported by an individual grower;<sup>2</sup> have better knowledge on how to preserve mangoes and produce related by-products; and have better negotiation power and hence experience improved productivity and incomes. Using modern techniques, a farmer can grow up to 64 mango trees on 1 acre, each producing a minimum of 300 matured mangoes. One mango fetches a market price of at least TSh 250, implying that a farmer obtains total revenue equal to TSh 4.8 million per acre (TSh 75,000 per tree) per year. It costs a maximum of TSh 300,000 to farm 1 acre of mango trees, covering all costs, labour and other inputs from the initial to the harvesting stage. An acre therefore yields a net profit of TSh 4.5 million at minimum (i.e. TSh 375,000 per month) – above the monthly salary of most government officials with a Masters degree. This number of mango plants per acre (and hence profit) is more than double compared with the number in the period prior to the acquisition of knowledge and of access to inputs through AMAGRO.

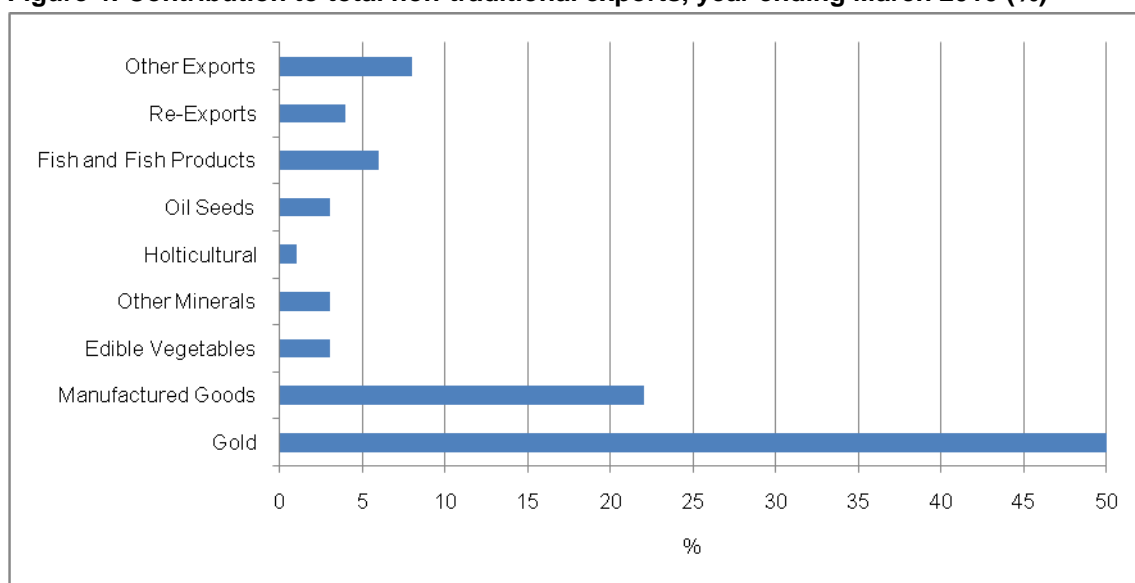
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<sup>2</sup> Most of the pesticides are sold in bulk (e.g. 50 litres) by the exporting countries, which are too expensive for individual farmers, who also cannot afford. Normally farmers require very little small fraction of the pesticide (say half a litre) for his/her farm. AMAGRO purchases at in bulk and sells to members at in smaller units without adding any mark-up to the cost.

### 2.1.3 Non-traditional exports

Non-traditional exports comprise nine major products: gold; manufactured goods; fish and fish products; vegetables; oil seeds; horticultural; re-exports; other minerals; and other exports (Figure 4). In the three study areas of Magu, Nkasi and Newala districts, crop farming, fishing and livestock keeping are among the major income-generating activities, along with trade and petty business. Traditional exports include cashew nuts and sesame from Newala (Mtwara) and cotton from Magu (Mwanza); non-traditional exports include paddy (Magu and Nkasi) and fishing, vegetables and other horticultural products (all three). Cross-border trade takes place in all three districts, to external markets in Mozambique (Newala), Zambia, Democratic Republic of Congo (DRC), Burundi, Rwanda and Sudan (Nkasi) and Kenya (Magu). About 90 percent of the traders in Kalesa village (Nkasi, Rukwa) work across Lake Tanganyika, most of them from the neighbouring countries of DRC, Burundi and Zambia. The remaining 10 percent comprise those who work between the wards of Mwandima and Makazi (the district capital) and Sumbawanga (the capital of Rukwa region).

**Figure 4: Contribution to total non-traditional exports, year ending March 2010 (%)**



Source: Constructed using BoT (2010) data.

As noted earlier, there has been some growth in non-traditional crops over the past 10 years, despite the fall in some export crops, notably traditional crops. Well-performing non-traditional export crops are paddy, tomatoes, maize, cassava and oilseeds (groundnut and sesame). Others are spices (such as vanilla, cardamom, paprika, pepper and ginger). There are also horticulture and floriculture products. Most of non-traditional crops are grown by the poor. However, some, such as flowers, fruits, spices and peas, are grown by rich farmers, mainly for export markets.

It is clear, therefore, that in Rukwa and Mwanza regions, non-traditional exports play a significant role in terms of the transmission of export proceeds to producers. Trade is a

dependable route for transmitting growth to poverty reduction in both districts, according to FGDs. However, a number of demotivating factors are affecting the process:

- Prices offered by private traders in Kalesa are not realistic because they do not reflect market prices. Private traders suppress prices in their own interests, and are thus able to dictate prices and leave consumers with no option.
- Fishing is the second largest economic undertaking in Kalesa, and trading of fish, especially fresh fish, is lucrative. Unlike crops, fish are taken to Kayumbe and the regional capital, Sumbawanga. However, appropriate technology for preservation is absent. Traders use primitive preservation technologies or facilities which are not efficient and sometimes do not work, especially when the temperature is high.
- Government policy has not been supportive. Farmers are discouraged from selling agricultural products across the border, thus denying them better prices offered by external markets. The market in Burundi, for example, offers better prices than the local market, reportedly because it is linked to other markets in Uganda, Sudan, Ethiopia and Somalia.
- There is some risk involved in accessing Burundi and Zambia's markets across the lake using small, rudimentary and inferior vessels, especially when the lake gets rough.
- As pointed out earlier, most traders between the Nkasi district of Rukwa, and the neighbouring countries of Burundi, Rwanda, Zambia and DRC are foreigners. The local traders are not enterprising enough to take up this challenge and make use of the opportunities available to them.
- Agricultural performance has generally declined in the Magu district of Mwanza, according to focus groups. This is mainly because of bad weather, but also owes to limited access to farm inputs and a lack of market outlets: they are banned from selling outside Magu district and across the border with Kenya. Thus, to a certain extent, agricultural performance is affected by artificial barriers and controls. In the past (before the controls), livestock keepers from Magu could access the Kenyan market easily, as the Magu district is in a strategic location in terms of trade and marketing.
- The government response to the overall underperformance of the export sector has been to advocate diversification of agriculture through the inclusion of non-farm activities and to promote the production of non-traditional crops for export markets. However, although the expansion of non-traditional crops has led to rising incomes for some farmers, diversification of agriculture into non-farm activities has not had success in addressing problems in the agriculture sector, as it requires efforts to impart organisational and entrepreneurial skills to rural people so as to make non-farm activities viable sources of livelihoods.

### 3 Barriers to growth in agricultural incomes

Agricultural growth in the three districts surveyed has been persistently lower than the levels necessary to reduce poverty significantly and improve livelihoods and living standards. A number of factors are associated with the stagnation of agricultural growth. This section reviews the barriers that emerge from analysis of data from our sites, which are also obstacles to growth in agricultural incomes and performance of institutions designed to transform the sector.

#### 3.1 Agricultural market structure and pricing

Market access and attractive prices for producers transmit growth to poverty reduction in a number of ways. AMAGRO, the cut flower industry and the Warehouse Receipt System (WRS) are examples of agricultural models that have promoted an improved marketing and pricing system, thus improving the incomes of farmers. Changes in volumes of outputs and acreage under crops over time in the study, show that modest growth has been taking place in the sector in all three districts. However, this has not been associated with poverty reduction and changes in livelihoods (Boxes 2 and 3).

##### **Box 2: Lower economic performance and living standards than in the past**

'In the past, our paddy fields were relatively small. By then, we had not experienced land pressure the way we do today. The output per acre was between 400kg and 800kg. A few farmers were producing a surplus for the market. Our incomes were therefore moderate. Today, most of us have expanded the land under cultivation and we are therefore harvesting more. However, the cost of living is higher and sources of livelihoods are limited. With the exception of a few people, the standard of living for most of us in Kalesa has deteriorated.'

*Alexander, Kalesa, Rukwa.*

According to FGDs and KIIs in all of the research regions, this mismatch is caused by a range of factors: these markets and therefore local farmers are delinked from external (regional export) markets which offer attractive producer prices; real producer prices are persistently very low owing to inflation; and wealth created in these localities does not benefit local producers but rather a few traders who deliberately suppress local prices and subsequently pay farmers marginally. The same traders make substantial profits from other markets outside the local farming communities, where they sell products bought from local farmers at profitable prices.

In addition, when farmers have a bumper harvest, their huge stocks cannot find market outlets; where there are crop failures, hunger occurs. Farmers complain of traders who turn up one season but not the next, who fiddle or temper with weights and measures, who artificially suppress prices and who charge usurious interest rates for inputs. Cash-strapped farmers are impelled to sell off their produce at harvest without storing, foregoing profits from

selling when prices rise later in the year. These are typical barriers in most farming communities in Tanzania; the Rukwa, Mwanza and Mtwara regions are no exception.

Box 3 summarises responses from a focus group in Newala district, Mtwara, related to economic performance and living standards in 2009 compared with 1999. Community members experience more economic hardship today than they did 10 years ago. They repeatedly mentioned two factors: inflation, which was at 12.1 percent in 2009 and is currently standing at 8 percent; and the fact that producer prices are suppressed by existing market structures.

**Box 3: Rising cost of living**

'Before 2005, money was not so available and our incomes (especially after 1999) were low, but the cost of living was not that high. But since 2005 money is not available, our incomes are low *and* prices for goods and services have risen steeply. When you earn TSh 10,000 it is finished quickly and you can't even earn it back! This is why poverty is so visible, especially during the past five years. We can't afford fish or meat because the prices are too high – even businessmen find it hard and government employees too. Soap has doubled in price. The fish business has almost collapsed now because no one can afford to buy fish!'

*Focus group discussion, Newala, Mtwara*

Poverty among farming communities would likely fall significantly if barriers to agricultural growth and (and therefore to improved livelihoods for the people) were addressed. This is particularly true because the income (i.e. average income growth) elasticity of poverty among farming communities is relatively higher (-2.13) compared with other categories of occupation, such as government employees (-0.90), self-employees with employees (-1.16) and self-employees without employees (-1.37) (Table 3).

**Table 3: Elasticity of total poverty with respect to average income growth by occupation**

Occupation	Estimate	StD
Farming/fishing	-2.13	0.103
Govt employee	-0.90	0.391
Parastatal employee	-1.50	0.441
Employee other	-1.73	0.271
Self-employee with employees	-1.16	0.373
Self-employee without employees	-1.37	0.162
Population	-1.99	0.082

Source: Constructed from NBS (2007).

Likewise, the income (average income growth) elasticity for rural people is comparatively higher than that in urban areas (Table 4).



**Table 4: Elasticity of total poverty with respect to average income growth by geographical location**

Area	Estimate	StD
Urban	-1.292	0.046
Rural	-2.373	0.085
Population	-2.042	0.061

Source: Constructed from NBS (2007).

The WRS (see Section 4.1) must be reformed where possible and extended to other crops and to remote farming communities where producer prices are persistently low and farmers (or local markets) are generally delinked or disconnected from external markets. Cartels of private traders are acting as barriers to small farmers' access to external markets by limiting farmers' access to market information. The WRS could help address such problems and enable farmers to sell directly to external markets, eliminating the isolation of farmers from external markets.

Poverty resulting from inflation in terms of costs of basic needs is felt more acutely in urban areas, where people are more reliant on the market for employment and where price levels are higher than in rural areas. One respondent in Newala district (Mtwara) said a cow in a nearby village cost roughly TSh 100,000 but in Nchinga village it cost TSh 500,000. Moreover, people in peri-urban districts like Newala often have to pay rent, which also reduces the amount available for purchasing foodstuffs.

### **3.2 Access to productive assets: land, livestock and fishing equipment**

Ownership of productive assets is skewed towards a few people, which has accelerated poverty in rural areas where most agriculture takes place. Unequal distribution and ownership of productive assets is therefore one obstacle to growth in agricultural incomes and improved livelihoods for people in agricultural communities.

**Table 5: Poverty indices by type of occupation**

	2000/2001	2007
Occupation.	Estimate	Estimate
<b>P0 (head count index)</b>		
Farming/fishing	40	39
Other employee	20	21
Self employed without employees	22	22
Unpaid family helper	59	33
<b>P1 (poverty gap index)</b>		
Farming/fishing	12	12
Other employee	06	06
Self employed without employees	06	06
Unpaid family helper	15	10
<b>P2 (poverty severity index)</b>		
Farming/fishing	05	05
Other employee	02	02
Self employed without employees	02	03
Unpaid family helper	05	04

Source: Fieldwork.

In the study area, this problem is particularly evident in relation to land, livestock and fishing equipment (boats, nets and landing sites). The poverty indices presented in Table 5 show that poverty is more severe among farming and fishing communities (most of which are in rural areas) compared with for other occupations, which calls for the prioritisation of interventions.

Land scarcity and land conflicts have also contributed towards slow growth in agriculture and therefore disrupted poverty reduction initiatives. This is particularly true in Kalesa, Rukwa and also in the Mwanza region. In Kalesa, conflict started when the Sukuma people (pastoralists) migrated to the area from northern Tanzania with a large number of cattle. They occupied land and started buying more from the native Fipa people. It is reported that some of them hoarded land because they had oxen to use in tilling and could use the remaining land for grazing. Land is now scarce and expensive: it costs TSh 100,000 to hire 1 acre of land for one season. Hoarding is rife and landowners are doing big business. The situation is becoming worse, and hatred and tension are building up between the indigenous people and the newcomers (Box 4).

**Box 4: Land scarcity and conflicts**

Jospehat, aged 62 from Kalesa, said 'Mr. Bigabo has grabbed an excessively big amount of land and tricked many smallholder farmers to sell land to him at prices which are too low in comparison with the land size and value. We need legal assistance to get land redistributed so that most of us can own and access it for rice production to improve our income earnings and livelihood sources.'

*Josephat, Kalesa, Rukwa*

Land is artificially scarce, as owners are sometimes reluctant to rent it out for fear of losing it to those who might rent or borrow for it one season and sell it to unknown buyers before the end of the lending period without their knowledge.

Livestock is concentrated among pastoralists from the northern part of Tanzania, where livestock keeping is more of a cultural than an economic aspect. In the past, most families owned large stocks of cattle (also goats and sheep) despite living in poverty, ranged between 20 and 200 heads. Over time, many families have lost their stock. Reasons for this include the vagaries of climate and cattle rustling and smuggling. Life histories from Mwanza, for example, show that many families used to own huge stocks of cattle. However, the literacy rate was very low and people's lives were generally very poor. They had many cows, but did not use them to earn money: they did not sell milk because they believed that once they did so they would lose some of their cattle. No animal was slaughtered for consumption. When elders died, remaining cows were distributed to all the family's children, thus stocks fragmented.

Fishing is an important livelihood source in the village of Kalesa, Rukwa and also throughout the Mwanza region, where most people earn their living through the industry, either as traders or as fishermen. However, the industry is controlled by a few relatively rich people who own large-scale businesses and expensive modern fishing gear. Most others work as petty businessmen and labourers. It costs an average of TSh 1 million to establish a complete set of fishing gear (nets, canoes, machines, etc.) in Kalesa.

Scarcity of, and inability to afford fertile land; land rental barriers; declining numbers of livestock; and lack of fishing equipment as well as business capital affect the welfare and livelihoods of the people in the study area. Distribution and ownership of productive assets is skewed towards a few rich people who exploit the rest of the population as their labour force and market.

**Table 6: Access to productive assets (land and livestock)**

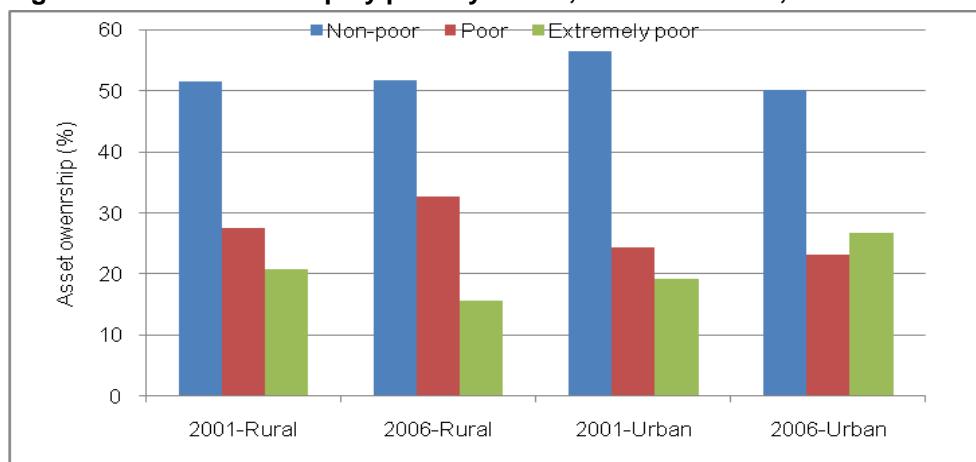
	Total no. of individuals/life histories	No. of cattle	% of total	Land size (acres)	% of total
	39	9	18		
	2	40	82		
<b>Total</b>	41	49	100		
	40			21	17
	1			100	83
<b>Total</b>	41			121	100

Source: Fieldwork.

Responses from 41 LHIs in the six research villages show that distribution of productive assets in most of the study areas is skewed in favour of the minority, most of whom are immigrants. For example, out of 49 heads of cattle reported in 41 LHIs, 40 are owned by 2 individuals only (82 percent), while 9 heads are owned by 39 individuals (18 percent) (Table 6). Likewise, out of 121 acres of land reported in the same 41 LHIs, 100 are owned by 1 individual (83 percent), while the remaining 40 individuals own 21 acres (17 percent). The 2 owners of 40 heads of cattle and the 1 owner of 100 acres of land are not indigenous. This is obviously a disproportional distribution of productive assets and/or resources which, apart from revealing significant inequality, is a potential source of conflict.

Likewise, the findings show that extremely poor people own only a small proportion of assets (Figure 5). In 2001, only 21 and 19 percent of total assets were owned by the extremely poor in rural and urban area, respectively, which is disquieting. Corresponding figures for 2006 were 16 and 27 percent, respectively.

**Figure 5: Asset ownership by poverty status, rural and urban, 2001 and 2006 (%)**



### 3.3 Infrastructure

Infrastructure plays a significant role in improving agricultural productivity and food security, particularly in terms of transporting food from surplus to deficit areas in the country. Data from the field show that the transportation network in the sampled districts is poorly developed. Apart from waterways (Lake Victoria in Mwanza and Lake Tanganyika in Rukwa) and very limited all-weather road networks, the districts have only seasonal roads, if any.

Production areas are therefore poorly connected with markets, despite some notable developments in terms of the construction of new roads. Road networks are important to link the rural and urban economies and to promote cross border trade. In Mwanza, urban respondents reported that, before 1982, when the main Mwanza-Tarime trunk road was constructed, markets for their farm produce were extremely limited. When construction was completed, they had access to Kenyan markets through the border at Silali. Cross-border

trade has stimulated agribusiness and moved people out of poverty, according to some KIIs. It has also stimulated significant growth in paddy production given the price incentive, with many farmers reallocating their resources from cotton to paddy. The switch to paddy production was further amplified by the global economic crisis, when cotton prices declined. However in times of food shortages, trade flow is affected by short term export ban of food crops. The main road to the Rukwa region capital (Sumbawanga) from Kayumbe is another important link between producers in villages and traders in other commercial towns. Farmers are able to send their maize to strategic grain-buying points and middlemen are able to buy crops from farmers who cannot afford the cost of transportation to the markets.

Trade between the Newala district of Mtwara and its neighbours is more in non-agricultural products. Commodities traded include fabrics (*batiki* and *vitenge*), electronic appliances, iron sheets for roofing houses, petroleum oil, gin and sugar (from Mozambique to Newala); and cashew nuts, maize, second-hand clothes, mattresses, sardines and cashew apples locally known as *kochoka*, which are used to make local alcoholic spirit (from Newala to Mozambique). However, LHIs revealed that not many urban farmers export to Mozambique: transport infrastructure, especially across the Ruvuma River, seems to be underdeveloped (Box 5). It was estimated that only about 10% of traders from the villages in Newala were involved in trade across the border.

**Box 5: Cross-border trade between Nchinga, Mtwara and Mozambique (Ruvuma River)**

‘Trade between Nchinga and Mozambique is poor because there is no reliable bridge to cross. We normally cross the river using small canoes which are operated manually since they don’t have engines. We have very limited products to trade and the Tanzania Revenue Authority is not there to streamline it between the two destinations.’

*Key informant, Nchinga, Mtwara*

Market structures are therefore underdeveloped and poorly managed. *Ad hoc* relocations have also been a major factor in downward mobility for agribusiness dealers in urban areas. In Ndite village, Mwanza, respondents complained about the district municipality’s frequent relocation of their central market, which disrupts their business performance.

### 3.4 Gender inequality

Gender analysis is important in understanding agricultural growth and poverty reduction in Tanzania.<sup>3</sup> With the rise in male migration, divorce, abandonment and female full time caring and widowhood through chronic illness and deaths related to the HIV/AIDS pandemic, as well as the increase in male effective absence through alcohol abuse, women in rural

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<sup>3</sup> See for example Boserup (1970); Sender and Smith (1990); Kessy (2004); Kessy (2007)

Tanzania are assuming more and more of men's responsibilities in a number of positions. Agricultural work (farming and labouring) and management of household poverty and intergenerational poverty via education and human capital investments in children are examples of the responsibilities women are assuming.

Meanwhile, as women have taken on more and more of men's share of the responsibility for family maintenance, the cash costs they face in sustaining their families have risen sharply since 2000. This includes inflation in the price of food (required nutrition and/or higher quality food) and of other basic essentials such as hygiene, education, health and water. This is of particular concern because it has profound implications for intergenerational poverty (loss of physical, cognitive and educational capabilities of children).

**Table 7: Poverty indices by marital status**

Marital status	2001		2006	
	Estimate	StD error	Estimate	StD error
<b>P0</b>				
Never married	0.21	0.023	0.20	0.031
Married	0.37	0.018	0.34	0.021
Divorced	0.29	0.036	0.32	0.032
Widowed	0.40	0.043	0.36	0.030
<b>P1</b>				
Never married	0.06	0.008	0.06	0.013
Married	0.11	0.008	0.10	0.009
Divorced	0.09	0.013	0.10	0.012
Widowed	0.12	0.014	0.12	0.012
<b>P2</b>				
Never married	0.02	0.004	0.03	0.007
Married	0.05	0.004	0.04	0.005
Divorced	0.04	0.007	0.04	0.007
Widowed	0.05	0.006	0.05	0.007

Source: Fieldwork.

At the same time, women's ability to meet these costs through farming has fallen as fertile land is in short supply and as they shoulder the burden of undertaking income-generating activities alone. Land inheritances shrink with each generation and costs of maintaining fertile land have risen sharply. This shortage is most prevalent among women who lose their rights to marital assets on the death of their husband. Divorced and abandoned women lose their rights to farm land, the home and other assets, despite their legal rights under statutory law, yet often retain the full responsibility for feeding the children and elders.

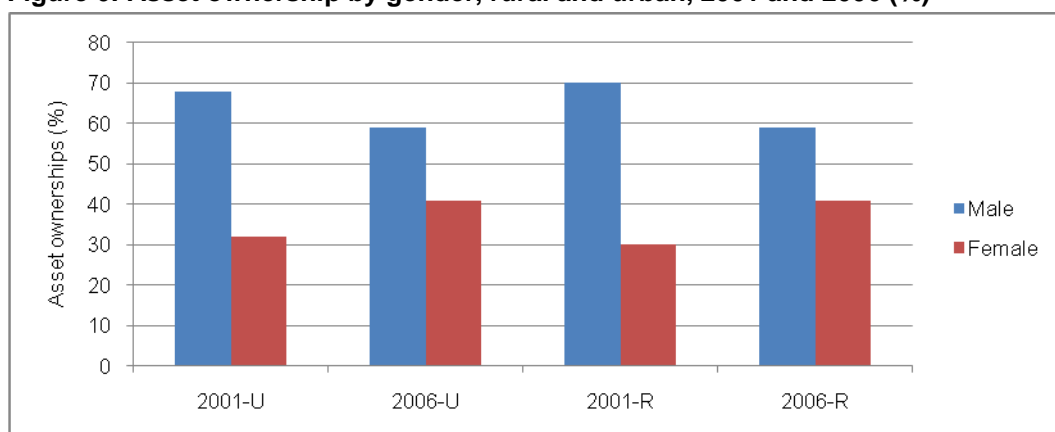
**Table 8: Trends in land ownership by sex for poor households, 2001 and 2006 (%)**

	2001	2006	Change
<b>Rural</b>			
Men	6.5	5.9	-9.2
Women	3.1	3.2	3.3
<b>Urban</b>			
Men	6.8	5.5	-1.9
Women	3.9	3.2	-1.8

Source: Fieldwork.

Table 8 shows men's and women's share of land ownership. Women own about half the amount of land owned by men, which is low given women's role in agriculture and therefore closeness to land resources (see also Figure 6). Poverty has therefore been relatively high among abandoned families and divorced women (see Table 7).

**Figure 6: Asset ownership by gender, rural and urban, 2001 and 2006 (%)**



The official response to these problems has been to stimulate women's involvement in business (trade and petty manufacturing) and to promote cheaper credit for women. However, women in all the regions studied had confronted difficulties obtaining the capital to start businesses. Even when they did succeed, they found that markets were flooded with other women doing the same (for instance tomato and fish sellers in Rukwa region; doughnut and other cooked food, tomato and clothing sellers in Mtwara region). Moreover, these businesses depend on the purchasing power of farmers. When farmers' incomes fail (owing to poor prices or production failures) – whether over a number of years or just for one bad season – so do the markets for these businesses. In Nkangala, Mtwara, for instance, fish, clothes and bite sellers faced a collapse in their businesses with the collapse in global prices for cashews in 1999-2006.

Note also that single women have more freedom to participate in trade and/or business than married women in Kalesa, Rukwa. Husbands do not trust their wives when they travel and do business outside the home. There is evidence of women meeting other men under the cover of doing business. As a result, most men would not allow their wives to engage in business. This rule or principle applies to women only: it is not normal for women to be alarmed when their husbands travel for business. Husbands are therefore very free, and their degree of participation in business is therefore far much higher than that of women. In any case, compared with 10 years ago, women are generally freer and more powerful. Their degree of involvement in trade and business is higher and they are more visible today than 10 years back.

### 3.5 Technology, support services and institutions

According to the national sample census of agriculture (2002/03), carried out two years after Tanzania's first PRS (MKUKUTA I) was put in place, 18 percent of smallholder farmers use improved seeds, 17 percent use fungicide, 12 percent use in organic fertilisers and 6 percent use compost. Surprisingly, 74 percent of farmers do not have access to farmyard manure while 66.7 percent of it is produced locally. About 61 percent of livestock keepers are located more than 15km from veterinary services.



Life history interviews found little knowledge among farmers about usage of farm inputs. Many responses related to the use of inputs for cash crops; other responses were limited to issues surrounding fertilisers. Interviews revealed many factors in the low application of inputs: high prices of fertilisers; lack of awareness; distant location of input shops; and belief in the fertility of the land, despite the fact that there was overwhelming evidence from respondents in all sites on declining farm yields, pointing to dwindling soil fertility.

Success stories were found among cashew nut producers who had used sulphur and then harvested about 8kg of cashews per tree (other farmers get below 5kg per tree). It is estimated that spraying sulphur on a cashew nut tree at the recommended rate can generate up to 10kg of cashews per tree.

Farmers barely mentioned input vouchers in response to questions related to farm inputs, which was contrary to our expectations. Within the same villages, some farmers had received input vouchers but the majority had not. This indicates that farmers are not adequately informed about the Input Voucher Programme and distribution may entail discrimination. Input vouchers are seen as inadequate and distribution as inefficient.

All respondents were found to be using hand hoes for farming 0.5-5 ha plots. These tools not only use up time and energy but also lead to inadequate harvests, meaning production can be used only for subsistence, with no surplus for selling. Extension services to improve farm and livestock production are inadequate and are not satisfying growing demand. About 15 percent of households receive livestock extension services and 34 percent receive services for crop production. Meanwhile, one ward agricultural officers blamed farmers for associating such services with politics, leading to low farmer response to extension services.

**Box 6: Political interests overriding economic interests**

'Most farmers have an attitude of poor attention to agricultural messages. I invited 70 farmers to attend demonstrations on farmer field schools but only five farmers attended. The poor attendance was because of a bad notion people in this area had that agriculture is politics and that the ruling party had sent the experts to mislead them. Almost all of them were opposition members.'

*Ward Agricultural Officer, Nchinga, Mtwara*

Farming is therefore a low capital-intensity activity in all the study areas, largely because hand hoes are the dominant tool and the limited amount of improved seeds and fertilisers applied.

## 4 Where has growth occurred in agriculture?

As noted earlier, modest growth has occurred in a few pockets of Tanzania. This can be gauged through indicators such as changes in technology, prices of certain cash crops, changes in volumes of outputs of certain crops and livestock and acreage under crops over time, despite the fact that it has not been translated into poverty reduction and changes in livelihoods.

### 4.1 Warehouse receipt system

Since its inception in 2007, the WRS, under the Agricultural Marketing Systems Development Programme (AMSDP), has played a catalytic role in terms of not only improved marketing of agricultural products but also improved agricultural production and productivity, farmers' confidence, stability of producer prices and technological uptake in Tanzania, despite indications of dissatisfaction among some farmers. The WRS was the government's effort to ensure a fair and stable market, and specifically to enable farmers to store their outputs at a warehouse and sell them at a later date when prices were more attractive. This system operates through primary societies, farmers' groups (organisations) and savings and credit cooperatives (SACCOs). The primary society pays farmers 70 percent of the price (less the price of next season's subsidised inputs and community charges). The produce is weighed and graded carefully and a farmer is issued a receipt in triplicate. Farmers retain the receipt and, after storage and sale at auction by the warehouse management several months later, the farmer is given the remaining 30 percent plus any bonus (less costs of storage, interest, transport and administration). The system also aims to stabilise producer prices, improve technological uptake through provision of subsidised inputs and/or link to farmer credit (SACCOs).

The WRS also stimulates competition by introducing liquidity which reduces the anti-competitive behaviour of large buyers. Prior to the introduction of the WRS, large anti-competitive exporters and processors, with access to bank finance, were the main sources of cash in the cashew marketing system in Mtwara, Lindi and Coast regions. They provided local private traders (agents or middlemen) with money, which they used to purchase cashew from primary societies and cooperative unions. Since there were relatively few large exporters and processors with the ability to pre-finance cashew purchases, there were opportunities for monopsonistic behaviour. Local traders did not compete with each other: they were agents of large players and agents tended to extract a substantial commission. Thus, introduction of WRS has:

- Brought additional bank financing (liquidity) into the sector, as primary societies and cooperative unions have access to independent bank financing; and

- Reduced the anti-competitive behaviour of large exporters and processors by forcing them to purchase cashews through auction instead of directly from primary societies and cooperative unions.

Is the system working for farmers? Evidence from the operations of WRS in cashew nut districts via agricultural marketing cooperative societies and paddy districts via SACCOs reveals that WRS has been a useful marketing tool that has benefited members in terms of market outlets, price stability, better prices, etc. Farm-gate prices have risen in line with export prices, but not fully. For example, in Nchinga and Nkangala, Mtwara, farm-gate prices rose from TSh 250 per kg in 2000 to TSh 800 per kg with the introduction of the WRS in 2007/08. In Tandahimba district, WRS producer prices for cashew nuts have improved from a range of TSh 150-410 to a range of TSh 710-850 per kg (almost double), which indicates improved producer prices but also a drastic reduction in price fluctuations between the two periods.

In Iringa and Mbeya regions, the WRS works through SACCOs. The warehouse buys paddy from farmers and pays them 50 percent of the prevailing market price as initial payment. The average price during harvesting is TSh 50,000 per 100kg bag of paddy. Thus, farmers are paid the initial amount of TSh 25,000 per 100 kg bag through their respective SACCO. Thereafter, the stocked paddy is sold by the warehouse management at an average price of TSh 75,000 (off-season price). The second instalment is normally paid after deducting the loan, input costs and interest. The total price paid to farmers has on average been TSh 60,000 per 100kg bag of paddy which translates to TSh 600 per kg. Farmers are therefore assured of a market, farm inputs and stable and relatively high price.

The WRS has not been without problems. Among the complaints from respondents, some farmers do not want to receive their payment in two instalments, and would prefer 100 percent at harvest in order to pay off pressing labour costs, school fees and other essentials. This may not be possible for all farmers, but could be an option for some farmers. Others demanded much greater farmer representation at price-setting forums and auctions; clearer audits and increased internal controls and transparency (to minimise opportunities for corruption); and more information on when the second payment will be made and when a bonus will be paid. Most interviews with farmers began with such complaints, but they always finish with a positive appeal, that they would like to see the scheme reformed and extended to other crops such as cassava, maize and pulses as soon as possible because private traders are not reliable.

## 4.2 Productivity-enhancing factors

In the 1990s, paddy and maize yields in Nkasi, Rukwa, were generally higher than today. The highest rice yields were realised for the first time in 1992 (30 bags per acre, higher than 5 bags per acre previously). Yields increased to about 35 bags per acre in the late 1990s.

However, during the late 2000s, yields declined to about 25 bags per acre, owing to a decline in soil fertility and rice being grown on land that does not receive adequate amounts of water, as well as disruption of water flows (e.g. floods).

Increased livestock production, which is a result largely of the presence of the Sukuma people (pastoralists from Sukumaland in the north), is an opportunity a few people have started to make use of. Sukuma people own many cattle, which naturally promotes agricultural technologies such as the use of organic fertiliser, oxen ploughs and oxen carts. The culture of keeping cattle is spreading gradually, meaning individual capital stocks and assets are increasing. With appropriate support in terms of governance, infrastructure and basic education, livestock production could be an important upward mobility factor in the future.

Dairy farming, supported by the World Food Programme (WFP) from 1995 to 1999, Heifer Project International from 1999 to 2003 and Caritas from 2004 to 2005, has also generated a stream of income for some farmers, particularly those who have taken such projects seriously and adhered to the given principles. For example, one beneficiary from Kalesa in Rukwa, who obtained a dairy cow in 1996 used the income from selling milk to buy 5 acres of land for rice production, built a 4-bedroom house with a tin roof, took her only child to a private secondary school and brought 8 of her relatives' children to live with her, whom she feeds well and sends to school. Although this constrains her mobility out of poverty, the view of the community is that helping relatives like this is an indicator of well-being.

### 4.3 Credit schemes

Small loans have increasingly been made available to farmers, thus relieving them of one of the major obstacles to agricultural development. Mwandima SACCO, for example, caters to the whole of the Mwandima ward, Rukwa, which has a total of four villages (including Kalesa). This credit scheme was created in 2006 and has attracted a total of 417 members to date. It has a Board of Directors with six directors and a Supervisory Committee with three members. The SACCO requires members to save and subsequently borrow, and has also been encouraging members to buy shares. A single share has a value of TSh 5,000 and the entry fee is TSh 2,000. One needs to have shares amounting to at least TSh 50,000 per year and minimum savings of TSh 50,000 to be able to borrow.

From LHIs in Rukwa, Mwanza and Mtwara, it is clear that becoming an active member of a credit scheme is a hassle for an ordinary person. However, once one has fulfilled the initial requirements and become a member, the benefits are significant, particularly in terms of access to capital for agriculture. Indeed, access to credit is a significant determinant of agricultural productivity and subsequently of poverty reduction. Findings from regression analysis show that monetisation (of economic activities); membership of a savings and credit

society; and access to bank loans are significant determinants of poverty reduction and improved livelihoods, with 5 percent significance levels.

One of the major challenges facing credit schemes is the low literacy rate among members and the public in general. Members do not know and acknowledge their obligations and rights in the scheme, and do not have the tradition of saving and buying shares: they just want to borrow. Whenever loan applications are not accepted, they complain they are being discriminated against, and that the SACCO is for the rich only. Mobilisation of resources through membership has therefore been difficult owing to the prevailing negative attitudes of the people.

In terms of networks, about 20 percent of the people per village are members of rotating savings and credit associations (ROSCAs), where members put their individual savings together and hand it over to one member, before doing the same for another member after an agreed period. Some FGD respondents noted that SACCOs take more time than ROSCAs, in other words ROSCAs mature earlier than SACCOs. Burial societies are also common in the Nkasi district of Rukwa: members contribute their resources in the form of cash as well as labour, which they use to meet the costs of the burial ceremony when one of the members has passed away or when a close relative of one of the members has died. The same association or society can be used to finance investments related to agriculture and other agreed economic and social activities.

In addition to ROSCAs, the research identified one more important informal credit scheme: financial arrangements among relatives, neighbours, friends, commercial interests or moneylenders. Credit forms the principle source of credit for most of the rural population. Such informal funds are used partly for production activities but mostly for consumption, including education of children, medical expenses and weddings. Most of these loans are small, ranging from TSh 5,000 to 100,000. Some of these loans do not require interest or collateral, and repayment arrangements tend to be open-ended based on reciprocity. Thus, in Kalesa, Rukwa, farmers borrow TSh 10,000 and pay back one bag of paddy which has a market value of between TSh 20,000 and TSh 30,000. Moneylenders are accused of exploiting farmers by imposing exorbitant in-kind interest rates. However, informal lending does enable farmers to borrow without collateral, which is highly risky on the part of moneylenders, and such loans enable farmers to increase the area under crop. People cultivate 2 to 3 acres instead of 1 acre, which increases the volume of farm outputs and productivity. Informal moneylenders around Kalesa village are faced with a lack of capital and therefore fail to meet the prevailing demand for loans.

## 5 Is this new growth transmitted to poverty reduction?

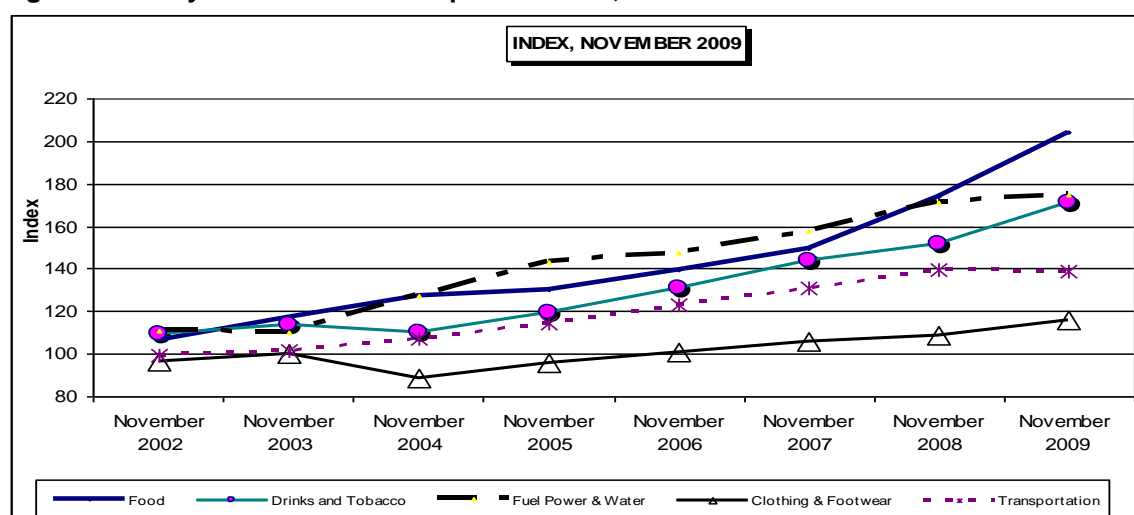
The modest growth detailed in Section 4 has not been translated into increased well-being for the people, which is disquieting. The general upward trend of prices and the effect of distorted markets for agricultural products are the major factors responsible for this mismatch.

### 5.1 Rapidly rising costs of basic needs

#### 5.1.1 Rise in costs 2005-2009

Respondents reported that from 2000 to 2005 the cost of living rose slowly, but between 2005 and 2009 it began to rise very rapidly, outweighing any gains made as a result of the WRS. Thus people have felt poorer in the MKUKUTA I period. Although the price of cashews rose from a low of TSh 250 up to TSh 500 then to TSh 800 under the WRS, this has not been in line with a rise in the price of inputs or the rapid rise in the cost of living (basics such as fish, kerosene, soap, sugar, salt and clothing). The poor speak of being priced entirely out of the market for certain basic needs (such as beef, chicken, milk and fish – i.e. the protein content of meals). The rise in the cost of living is reflected at all levels. Figure 7 shows that selected indices have risen gradually since 2002 and rapidly since 2005 in all areas, most notably food (followed by fuel).<sup>4</sup> Indeed food inflation has been the most dominant part of inflation particularly, with since the global food price crisis which began in 2007.

Figure 7: Yearly trend in consumer price indices, November 2002 to November 2009

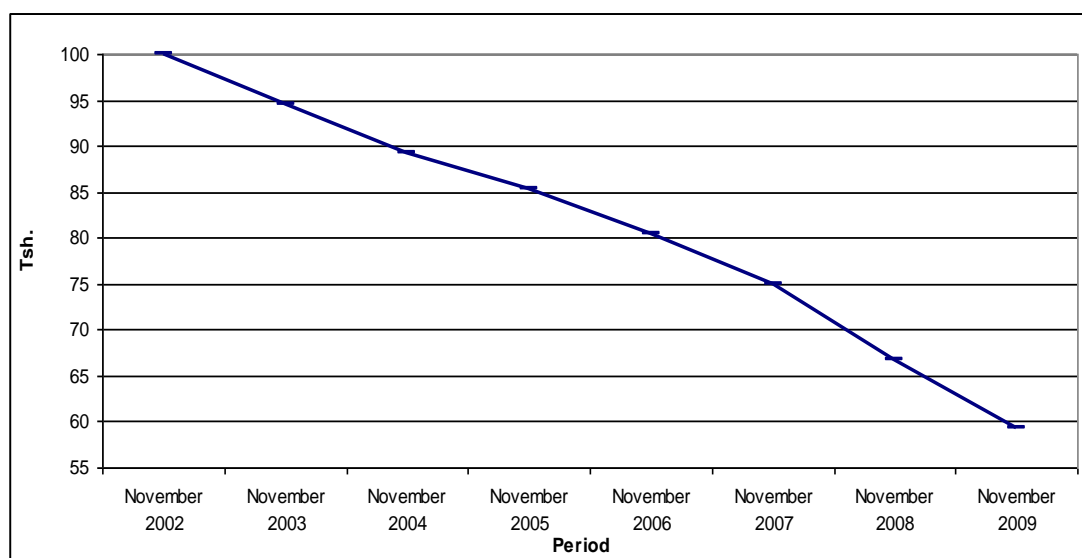


Source: NBS (2010).

<sup>4</sup> The National Consumer Price Index (NCPI) covers prices collected in 20 towns in Tanzania Mainland. Prices are gathered for 207 items. All prices collected are the prevailing market prices. The NCPI is a statistical measure of goods and services bought by persons in urban areas, including all expenditure groups. It measures changes in price – not – expenditure – which are the most important cause of changes in the cost of living.

Figure 8 shows the purchasing power of the shilling in terms of consumption at different times. The value/purchasing power of TSh 100 in November 2002 fell to just TSh 59.28 in November 2009. Poverty resulting from inflation in terms of costs of basic needs is felt more acutely in urban districts like Newala, Magu and Kayumbe in Nkasi district, where people are more reliant on the market for employment and where price levels are higher than in rural areas.

**Figure 8: Purchasing power of TSh 100, November 2002 compared with November 2009**



Source: NBS (2010).

### 5.1.2 Rising price of essentials and casual labourers

This rise in prices is particularly crippling for casual labourers. As one woman said, 'If we work as a casual labourer or make doughnuts for 20 days, we are paid TSh 20,000, but if we go to the market with that TSh 20,000 we cannot get enough food to cover 20 days' (see Box 7).

#### Box 7: Declining real income

Asna, who relies heavily on casual labouring, complains that money no longer has value in the market because prices for basic needs are so high; some goods have now become unaffordable – beef, sugar, cooking oil, chicken, eggs and milk. She said when she was first married 14 years ago she could afford all of these items to accompany maize/cassava *ugali* and now only vegetables are affordable, occasionally with some nuts from her farm. Asna wants a government body to regulate prices traders set in the market.

*Asna, Nkangala, Mtwara*

Table 9 presents crude estimates by one respondent on the extent to which prices changed between 1999 and 2009. Note official data show a doubling of prices since 2002 on all Tanzania levels, so these estimates may be a bit exaggerated; also, the respondent was very angry when reporting these trends. However, it does reflect how the respondent perceives the rise in prices.

**Table 9: Estimated prices of foodstuffs in TSh, 1999 and 2009**

Type of Food	1999	2009	Multiplier
Maize	600 - 700	7,000	10
Cassava	2,000	18,000 - 20,000	10
Sugar	400	1,400	3.5
Beef	1,000 – 1,500	5,000	2.5
Whole Cow	100,000	500,000	5
Cooking oil	6,000	23,000	4
Chicken	1,000 – 1,500	9,000	7.2

Source: da Corta and Magongo (2010).

Non-food essentials such as soap and kerosene are said also to have doubled or even trebled in price over the past 10 years. In Tanzania, the most food-insecure are those reliant on the market for food, particularly casual labourers. It is feared that food insecurity may be on the increase in Tanzania despite fast growth rates, for three reasons:

- A rise in the number of labourers as a consequence of rapid population growth (more than trebling since 1960s) and dwindling size and fertility of farm land owned;
- A sustained fall in agricultural production over time which reduces labour opportunities and leads to stagnating wages; and
- A rise in the prices of food or non-food essentials.

This means that, despite poverty reduction efforts through MKUKUTA, hunger may be on the rise for casual labourers. The United States Agency for International Development (USAID) Famine Early Warning Systems Network (FEWSNET, 2009) outlook for Tanzania October 2009 to March 2010 suggests that prevailing above-average prices for food have increased the numbers of food-insecure households across Tanzania.

### 5.1.3 *Why did costs rise in the context of low incomes?*

This is a question which puzzles economists, as the lack of local effective demand for these products should have depressed prices. One answer is the cost of transport. Across Tanzania, rising fuel prices have increased the costs of transporting food to the market, contributing to the increase in prices of both food and non-food essentials (FEWSNET, 2009). Newala district is high on a plateau and truckers face both high fuel prices and possible breakdowns on exposed roads, adding a premium onto the price of the goods imported. The Kalesa to Kayumbe road is in poor condition, particularly during the rainy season, which pushes the cost of transportation up.

The persistent shortage of electricity in Tanzania has also tended to push consumer prices up because production costs have naturally increased. Another reason might be the growth of the government salaried sector. With permanent incomes and superior access to credit based on constant wages, this is one of the few groups experiencing upward mobility. The



salaried sector and the people who serve them (hairdressers, restaurant and hotel staff) may push up the price of goods in local markets independently of the price of cashews. Non-governmental organisation (NGO) presence further adds to this demand for goods, as does a steady stream of visitors (NGO staff, visiting officials, crop traders, etc.). This is a typical situation in Mtwara and Mwanza. Other possibilities include the rise in credit availability over the past few years, increasing the amount of money in the economy.

## 5.2 Rapidly rising cost of services: water, education and health

Another very lumpy and growing cost for poor people is the cost of essential services. In most places, the most pressing costs are for water, education and health. MKUKUTA was designed to broaden access to basic social services, which is spelt out under Cluster II. However, the costs of these services are making people poorer. The poor either pay or do without, resulting in undereducated youths and negative hygiene and health consequences.

People in Nchinga, for example, face water shortages. In the 1960s, they had water pumped from the Ruvuma River into communal points and piped directly into buildings. This equipment is now very old and needs repairing; the electricity supply necessary to pump the water is also insufficient. As a consequence, poor people have to either pay for water or walk long distances to collect it. They spend six up to eight hours collecting water (either 2am-8am) or (6am-2pm) and it is an uphill task coming back. The older children can help, but they come back exhausted and unwilling to go to school. People may also forego a wage doing casual labour by collecting water. In short, lack of free or very cheap water affects poor people either in direct monetary terms through a forfeited wage (TSh 500), or through reduced education for the children or negative impacts on the family's hygiene and health. All the researchers noted many children with dirty faces and clothes in all three study sites. Meanwhile, reduced purchasing power makes it difficult to ensure consumption of expensive protein- and vitamin-rich foods; along with poor sanitation this can exacerbate malnutrition.

Another problem is the cost of school fees and supplementary contributions. When we asked a Newala focus group why there seemed to be more children out of school in Nchinga and Nkangala compared with other places in Tanzania, the response was an emphatic, 'We do everything possible to send our children to school! But the poor and destitute cannot meet the payments for fees, uniform and supplementary costs and so are turned away.'

**Box 8: Rising cost of education – evidence from Nkangala, Mtwara and Kalesa, Rukwa**

Asna (aged 32) is a single mother who is determined to send her four children to school despite the hardship, yet she finds the costs nearly crippling. For the three children in primary school she has to pay between TSh 10,000 and 20,000 per year plus uniform costs of TSh 10,000 (she said it is TSh 70,000 for the three children). Her eldest daughter did not pass her exams in Standard 7, so Asna decided to send her to a private, non-boarding school, a common choice when children do not get through. Indeed, she dissolved her marriage on this basis: her husband would not give Asna the freedom she needed to subsidise her daughter's school fees. The contributions for this daughter alone are TSh 70,000 and TSh 20,000 in fees (e.g. exam fees, watchman), plus uniform, which is about TSh 15,000. So she needs about TSh 175,000 just to send her four children to school. On top of this, Majengo residents have contributed TSh 10 from each kilo of cashew nuts in order to build a government secondary school.

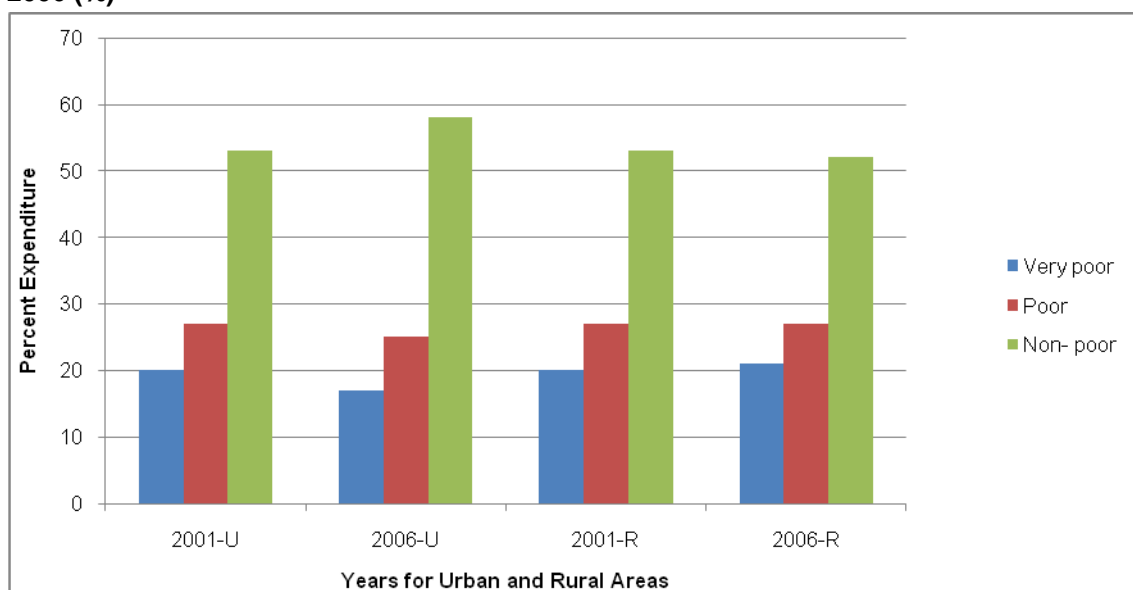
In Kalesa, Samweli (aged 35) complains that contributions for the primary school are very high for his nine children. He pays TSh 2,500 a month for each child in order to pay salaries for some teachers not registered under the government system. Such teacher contributions are village policy. He also pays TSh 200 each week for stationery.

*Asna, Nkangala, Mtwara and Samweli, Kalesa, Rukwa*

Other people who are poorer than Asna and Samweli cannot send their children to school because of the costs. At the local government school, if a child does not either contribute TSh 30,000 for a desk and chair or supply one made at home, they can be told to go home. Teachers at a primary school will tell students to go away if they do not pay. Inability to pay for uniforms is perhaps the saddest reason for keeping children home, yet it is very common. Ordinarily, children in school, including secondary school, are those from 'non-poor' families.

Data on expenditure on education reveal that the very poor spend an average of 20 percent of total expenditure on education (Figure 9). The poor do not take their children to school mainly because of lower real incomes which tend to lower their purchasing power.

**Figure 9: Average expenditure on education by poverty category, urban and rural, 2001 and 2006 (%)**



Source: Fieldwork.

Despite the availability of dispensaries, health centres and sometimes hospitals, accessibility of health services is in many cases a serious problem because services are too expensive for poor people. People often have to pay TSh 25,000 for each x-ray or visit, 'but few poor people can just come up with TSh 25,000 when they are struck suddenly with a disease, so these people die' (Focus group respondent, Newala, Mtwara). Also, when they are admitted to hospital, they often find there is no medicine and that two or three patients are forced to share one bed.

MKUKUTA has attempted to increase service provision by taxing users – to finance health, education and water services in particular. However, locals are finding their incomes from agriculture are simply not adequate to meet the rise in the costs of services.

## 6 Summary, conclusions and recommendations

This study intended to assess whether or not agricultural growth has occurred during the past 10 years in the areas under survey and whether or not this growth has been associated with poverty reduction.

### 6.1 Rapidly rising costs of basic necessities

The findings show that agricultural growth has generally been persistently lower than the levels required to reduce poverty significantly and improve the livelihoods and the living standards of the majority agricultural population. However, moderate agricultural growth has been registered in some areas. This is evident from a number of indicators, including trade opportunities (e.g. in terms of cross-border trade outlets), livestock production, agricultural technologies, the WRS, etc. However, for some reason, this moderate growth has not been translated into increased well-being for the people, which is disquieting.

The general upward trend of price levels and distorted market structures for agricultural products are the major factors responsible for this. Inflation has rapidly raised the prices of essential goods and services, including the cost of casual labour in the agriculture sector. Likewise, the cost of services such as water, education and health has increased rapidly, thus diffusing the effect of increased producer prices for cashew nuts, sesame and non-traditional agricultural products. Real producer prices are therefore persistently very low owing to inflation. In addition, the current market structure has crowded out farmers. The wealth created in these localities does not benefit local producers but rather a few traders who deliberately suppress local prices and subsequently pay farmers marginally. This is happening because local economies and therefore local farmers are delinked from external (regional export) markets which offer attractive producer prices. Private traders therefore make substantial margins from other markets outside the local farming communities where they sell products bought from local farmers at profitable prices.

Since market liberalisation, which started in the early 1980s, Tanzania has not been able to set up an alternative system which can correct such market distortions. The market structure needs to change to reflect the interests of all market participants. It is important for the government to maintain a supportive policy environment and ensure that it plays an effective minimum regulatory role. At least minimum intervention by the government in the market is inevitable. The current market structure has loopholes (owing to the passivity of some key players, particularly the government), which encourage exploitation of farmers by crop buyers and deny farmers direct access to attractive markets.

There is therefore an urgent need to come up with effective agricultural-based strategic programmes which will transform smallholder agriculture and increase growth by way of

stimulating agricultural activities and ensuring the attainment of higher growth and subsequently improved livelihoods for those involved in the sector.

## 6.2 Barriers to agricultural growth (and poverty reduction)

Agricultural markets are dominated by a few private traders who are free to practise unfair competition thus burdening smallholder farmers. The existing market structure does not favour local economies, because of inflation, which is currently standing at 9.5 percent. The WRS is one market instrument which can be used to correct these market distortions. The scheme can be organised in such a way that it enables farmers to sell indirectly to external markets. To scale down the effect of inflation, support services need to be directed to the production of food crops to ensure food security, improve farmers' income and reduce food inflation, which is too high.

Some weaknesses within the current WRS can be addressed through the promotion of strong farmer-based organisation such as Umoja wa Wakulima wa Korosho Tandahimba (UWAKOTA) and Umoja wa Wakulima wa Korosho Newala (UWAKONE), which operate in Tandahimba and Newala districts, respectively. These organisations offer an alternative market channel through the WRS, collecting (buying) cashew nuts from members and deposit the consignment with the WRS. It is reported that these organisations are more transparent and accountable to members than primary societies. These are demand-driven farmers' organisations which have strong bargaining power and are meant to serve the interests of members. The demand for organisations like UWAKOTA and UWAKONE is growing in other districts, especially Newala and Masasi.

A diversified set of interventions is equally necessary to address a number of agricultural barriers. Barriers to agricultural growth and therefore poverty reduction also include low productivity of land, labour and production inputs; limited capital and access to financial services; inadequate agricultural technical support services; poor rural infrastructure hindering effective rural–urban linkages; difficult gender relations; weak producers' organisations; depressed prices for primary commodities in global markets; and insecurity with respect to property and businesses, rights to land and use of land as collateral for credit. These negatively affect productivity in agriculture, which includes fisheries, and livestock, and yet are critical to enhancing agricultural production and productivity in Tanzania. They thus represent priority areas for agricultural investment if agricultural productivity and therefore growth are to be improved. Efforts must therefore be made to ensure timely delivery of agricultural support services with a focus on private sector participation, improved road networks, credit, education for farmers, etc.

Women are suffering as a result of increased rates of divorce and abandonment by husbands, largely because of poor enforcement of rules and regulations related to women and marriage and because most divorced women in rural areas are ignorant of the legal

system. They therefore cannot take any steps to minimise the difficulties they face as a result of divorce or neglect. Sensitisation and legal support are therefore required to assist women who are trapped in such situations.

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(CPRC) is an international partnership of universities, research institutes and NGOs, with the central aim of creating knowledge that contributes to both the speed and quality of poverty reduction, and a focus on assisting those who are trapped in poverty, particularly in sub-Saharan Africa and South Asia.

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