

## CHAPTER 3: RURAL GROWTH & POVERTY REDUCTION

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### INTRODUCTION

If MKUKUTA targets are to be met, it is clear that critical priority is needed for rural poverty reduction. Since poverty reduction is sensitive to growth, a strategy must be put in place that ensures high growth for a sustained period of time. This calls for two things to happen. First, agriculture must grow at a sustained growth rate of at least 6 per cent per annum. Second, growth needs to be broad based, and strategies that promote such broad-based growth must be developed and implemented.

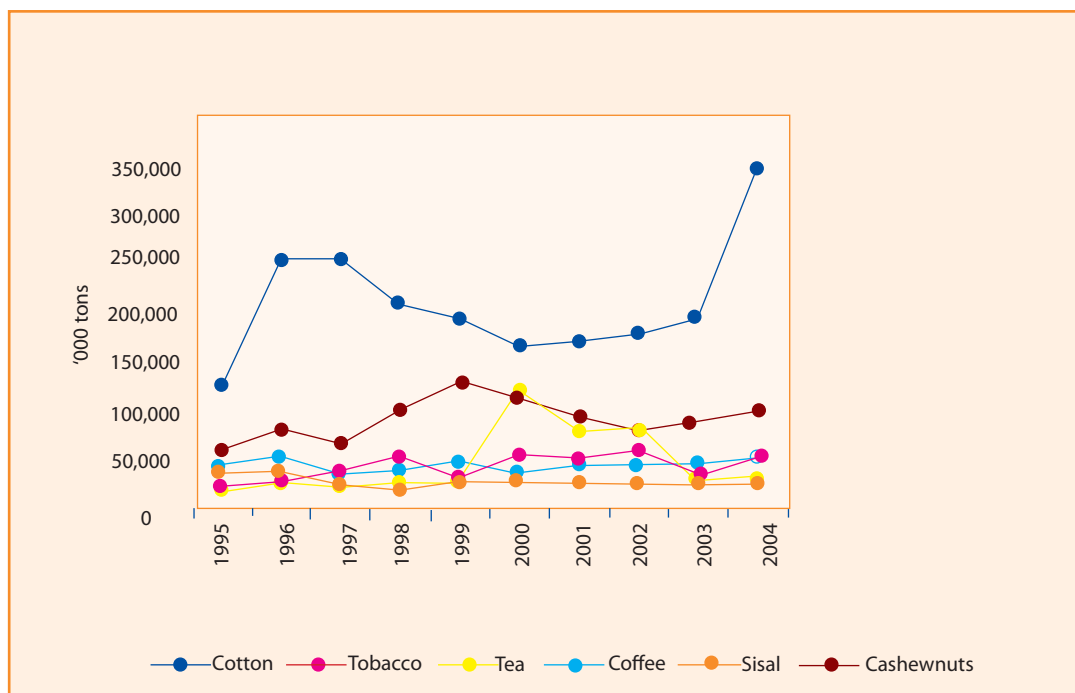
The analysis in this chapter recognises that Tanzanian agriculture is driven mainly by smallholder producers. They have limited education and experience, are frequently exposed to shocks and have to deal with weak institutional arrangements for production. This has led to low increases in agricultural production and insufficient improvements in the quality of production. Therefore, to promote production and quality in an environment/economy such as Tanzania's, there is a need to reconsider the traditional approach to agriculture - based on smallholder farmers competing in liberalised markets - and to consider new approaches to promote sustained, high quality production. In this chapter it is argued that an integrated production system that links production, extension services, transportation, processing and marketing is able to overcome some of the constraints, especially those due to exposure to price shocks and limited access to information, credit, inputs and markets for final produce.

The following section shows that current production and quality levels for most crops are unacceptably low and unstable. This is followed by Section 3 which outlines the context in which the production process and marketing are taking place and which focuses on the constraints faced by smallholders. Section 4 proposes an integrated system as a way to address these weaknesses and draws from good practice examples.

### PRODUCTION AND PROCESSING TRENDS

Production of both food and cash crops has fluctuated around low levels, and some have actually declined over the last decade. Figure 21 shows the trends in major crops. Most cash crop production levels, such as for tea, tobacco, sisal, and coffee, have fluctuated around 50 million tons a year. Only cotton and cashews have recorded significant jumps in production. Cashew production increased in 1999 to about 130 million tons but has since declined to an average of 100 million tons a year. Cotton production, although increasing in the mid 1990s, subsequently declined steadily until it began to increase slowly after 2000 and then it rapidly increased in 2004.

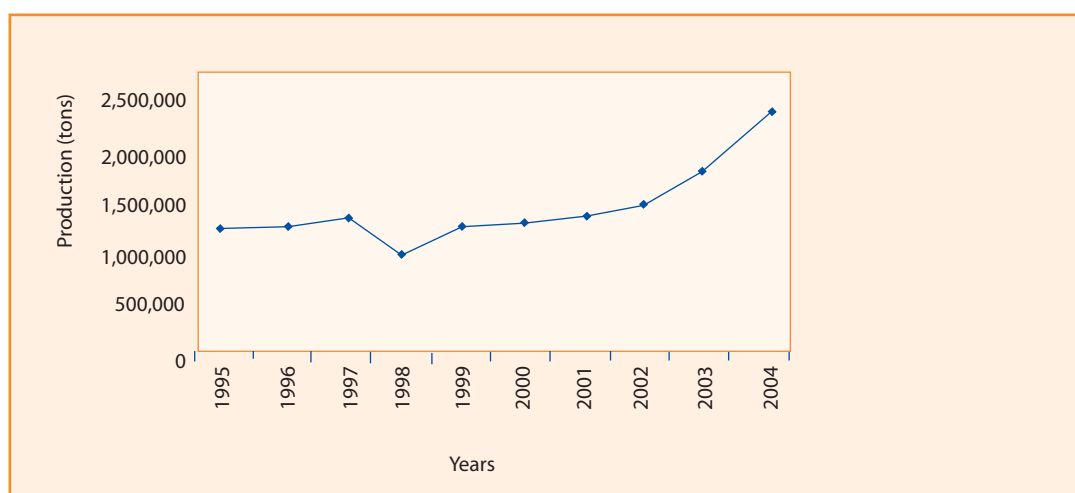
**Figure 22. Trend in the production of major cash crops, 1995-2004**



Source: URT, Economic Surveys, various years

Sugar cane recorded a much higher growth in production from 2001 after several years of stagnation as shown in Figure 22. This significant growth can be attributed to the privatisation of sugar cane estates and the adoption of the out grower model of production which began in early 2000.

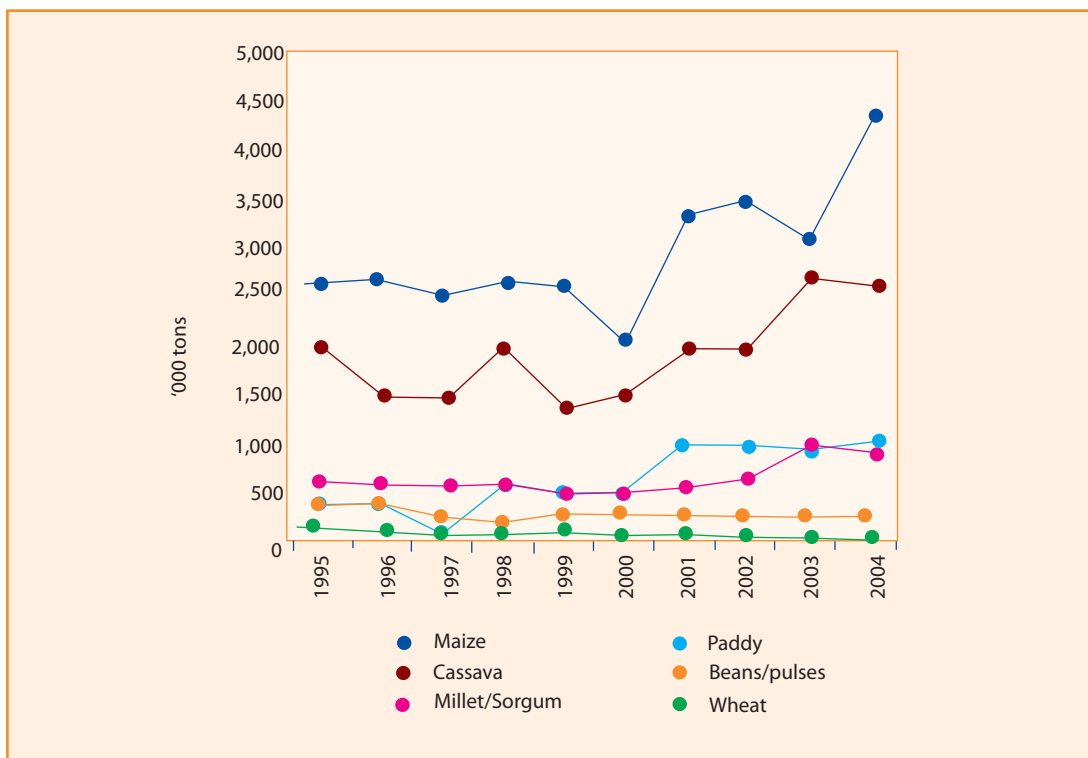
**Figure 23. Trend in the production of sugar cane, 1995-2004**



Source: URT, Economic Surveys, various years

Food crop production has demonstrated a similar pattern of production at low levels. Maize and cassava show a recent upwards trend from the year 2000 onward as indicated in Figure 23.

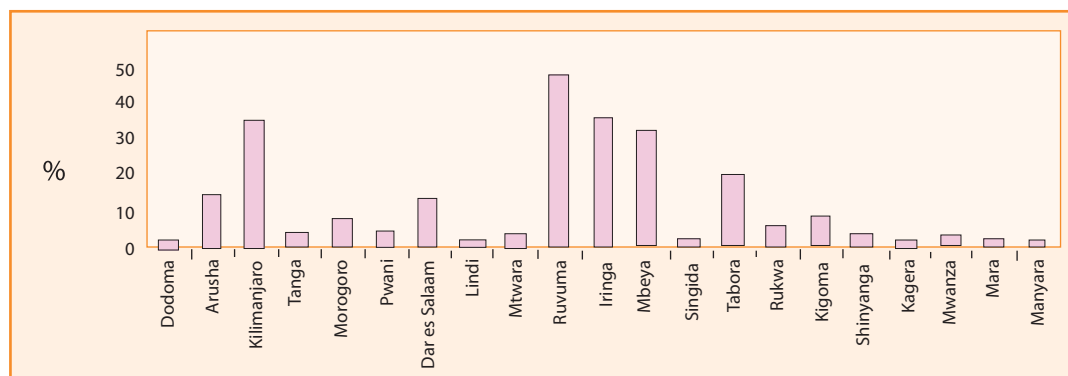
**Figure 24. Production trend in major food crops, 1995-2004**



Source: URT, Economic Surveys, various years

Fertiliser use is still low in most areas of the country. The exceptions are in Iringa, Mbeya, Ruvuma, and Kilimanjaro Regions, as shown in Figure 24, where more than 30 per cent of households are reported to be using fertilisers. The first three of these regions are among the big four producers of maize.

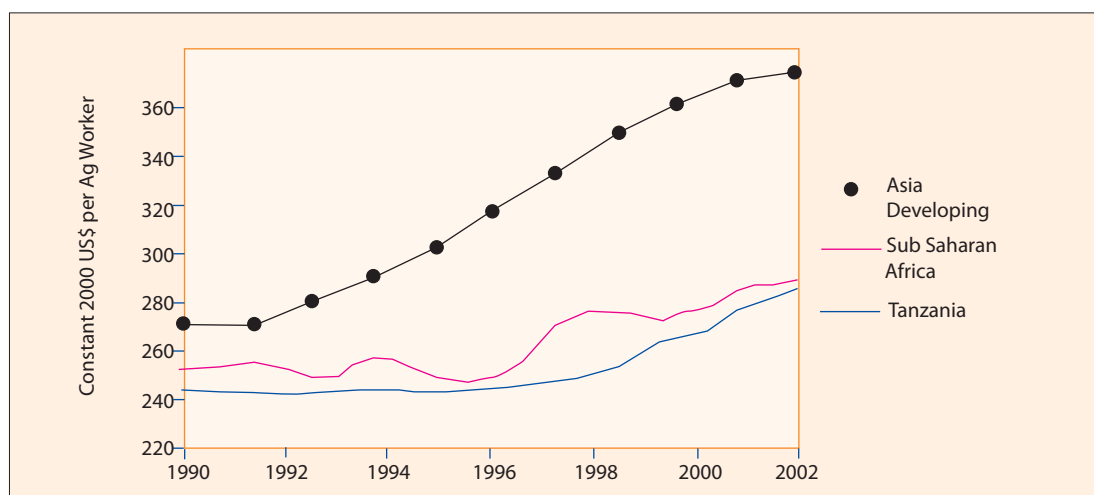
**Figure 25. Households using fertilisers, by region, 2002/03**



Source: NBS, Agricultural Sample Census 2002/03 - preliminary report of draft basic tables

Current levels of agricultural growth are not sufficient to meet the poverty goals as embodied in the MKUKUTA. Achieving these will require a growth process that is quantitatively faster and qualitatively different. Past growth has depended on expansion of the area cultivated and labour productivity increases have been insufficient to support faster growth and poverty reduction. As shown in Figure 26, labour productivity in Tanzania has trended up since 1994 but at levels below those of the Sub Saharan Africa (or Asia).

**Figure 26. Agricultural labour productivity (agricultural value added per agricultural worker)**

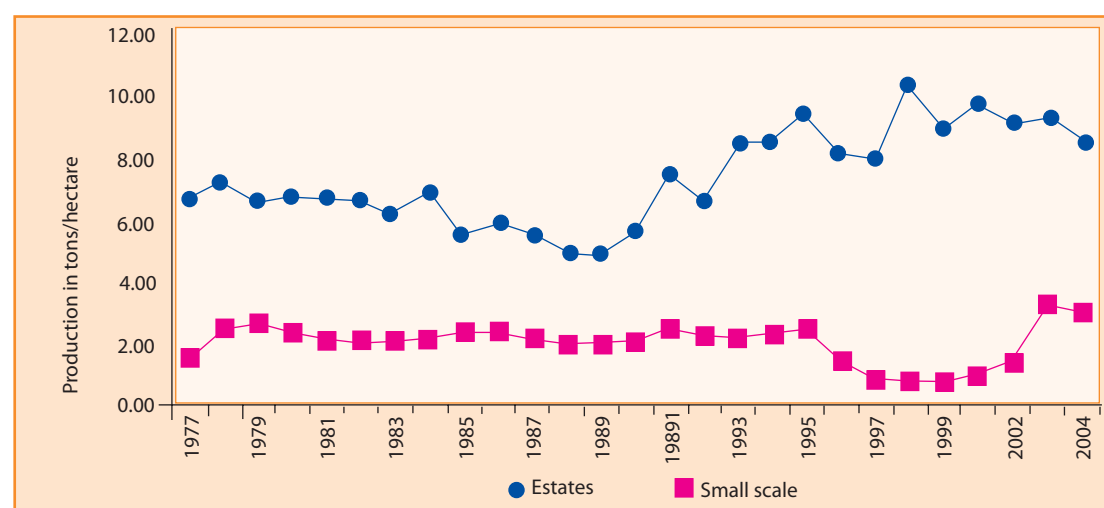


Notes: (1) countries with incomplete data for series excluded: (2) Asia Developing includes India and China (3) Sub-Sahara Africa excludes South Africa.

Source: Development Data Platform, World Bank

Productivity has been especially low for smallholders compared to agricultural undertakings by estates or large commercial farms. The comparison of productivity between smallholders and large scale estates is most detailed in time series information on tea production as shown in Figure 27.

**Figure 27. Production of tea per hectare by type of producer, 1997-2004**

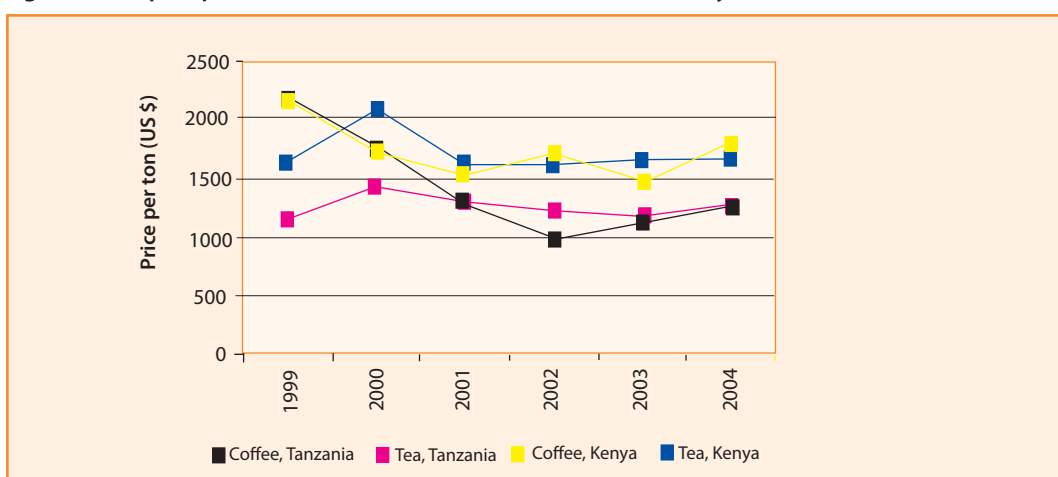


Source: URT, Economic Surveys, various years

Clearly, tea yields from smallholders have been consistently lower than from estates since the mid 1970s to the present. In the mid to late 1990s, productivity of estates increased while that of smallholders plummeted. This suggests there is room for significant increases in smallholder productivity if the constraints they face are understood and tackled. This is also the case for other crops. Production rates in 2002/03 by smallholders growing maize (0.73 tons/hectare) and sorghum (0.43 tons/hectare) compare poorly with production by large farmers (4.0 tons/hectare for maize; 2.7 tons/hectare for sorghum).<sup>80</sup>

Associated with low levels of production and productivity in smallholder agriculture is the declining quality of export crops. While data are limited for assessing the quality of crops exported from Tanzania, a comparison of average prices fetched by exports of coffee and tea from Tanzania and Kenya is considered a good proxy. Figure 27 shows that both Tanzanian and Kenyan coffee fetched the same average price before 2000, but subsequently the price for Tanzanian coffee dropped far below the Kenyan coffee price.

**Figure 28. Export prices of coffee and tea from Tanzania and Kenya, 1999-2004**



The average price of tea from Tanzania has also been consistently below the price of Kenyan tea. These figures show that, other things being equal, the quality of coffee and tea exported from Tanzania has been consistently lower than that from Kenya during the first half of this decade. It is likely that this trend also applies to food and other cash crops.

### **Constraints on smallholder production**

Most rural Tanzanians are young, and most smallholders lack education. The recent Agricultural Sample Census (2002/03) estimates there are 4.8 million households cultivating about 44 million hectares overall, mostly with family-based labour. Although production varies widely between crops, the vast majority of households rely on a single crop as their main source of livelihood. Crop production is the main activity for about 50 per cent of smallholder households. Overall, few household members are engaged in livestock (2 per cent) and fishing (1 per cent) as their main activities, although there are regional variations.

<sup>80</sup> Source: NBS, Agricultural Sample Census 2002/03 - preliminary report of draft basic tables

Nonetheless, approximately 70 per cent of smallholder households have one or more off-farm income sources.

Smallholder agricultural households are modest in size (averaging 5 members), and the majority of members are under 20 years (53 per cent). Nearly 14 per cent are under 5 years. Just over a quarter (28 per cent) are students, and 10 per cent are unable to work due to health, age or disability. Although most households are male-headed (80 per cent), many are also headed by females (20 per cent). This reconfirms earlier findings of the Household Budget Survey (2000/01) which estimated 22 per cent of rural households as female-headed.

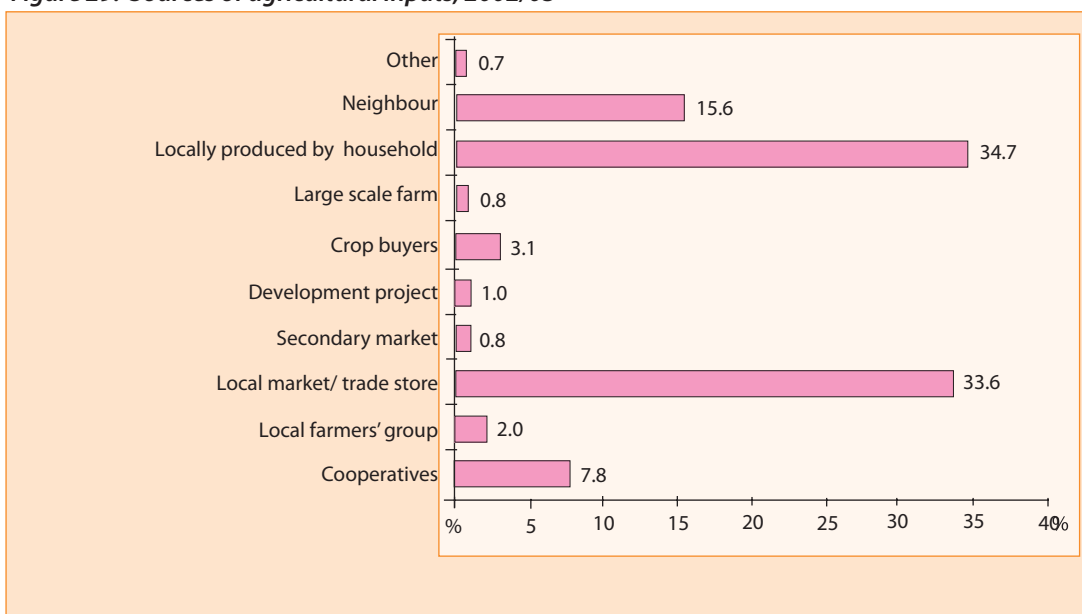
The lack of education is constraining many households. Overall 31 per cent of heads of smallholder households have had no education and 63 per cent have had some level of primary schooling, although only about 20 per cent completed Standard Four.

Beyond education, what other factors are holding back smallholders from increasing their productivity? By and large, land is not a binding constraint to production. Overall 63 per cent of households reported to be using all the land available to them for production. And, although 46 per cent felt there were issues of land insufficiency, this national picture is skewed somewhat by particular regions where there are significant numbers of livestock keepers, namely Arusha (74 per cent), Kilimanjaro (69 per cent) and Mara (61 per cent). Land continues to be held mainly under Customary Law by nearly 78 per cent of farming households despite the new Village and Land Acts. Few females reported land ownership or customary rights to land (19 per cent), mirroring nearly exactly the percentage of female-headed smallholder households. Further research would be needed to confirm whether it is female-headed households, or other females, who have rights of land security.

Most smallholders are using few agricultural inputs to increase their crop yields. Fewer than 20 per cent use any form of inputs other than farmyard manure (used by 26 per cent). Modern inputs such as fertilizers, pesticides, and improved seeds are scarcely used. The inputs smallholders use are mainly locally produced by their own households (e.g. manure, compost) or sourced from the local market/trade store. Few households purchase inputs from cooperatives, farmers' groups, or development projects.

Most smallholder households cultivate by using traditional hand hoes and fewer than 40,000 of the 4.8 million in total own a tractor. Nonetheless, the tractors that do exist are well utilised by about 140,000 households, primarily for ploughing in preparation for maize production during the long rainy season. Oxen are also used for ploughing, although ownership is very uneven geographically, with the vast majority of owners living in Shinyanga.

**Figure 29. Sources of agricultural inputs, 2002/03**



Source: NBS, Agricultural Sample Census 2002/03 - preliminary report of draft basic tables

Few farmers use any form of irrigation (approximately 8 per cent). Only approximately 125,000 hectares are under irrigation, mainly for maize and paddy production. Those farmers who do use irrigation source their water mainly from rivers and canals using gravity fed methods and hand buckets. Iringa, Mbeya and Kilimanjaro have the highest number of smallholders using irrigation methods to increase yields. Those without access to irrigation are exposed to erratic rainfall and frequently experience harvest losses due to climatic shocks (Danford et al. 2005).<sup>81</sup>

Why are so few smallholders using improved methods of production? The most frequent response was that prices of inputs were too high (33 per cent), or not available (20 per cent) and there was a lack of money for purchasing (18 per cent). Indeed, in most rural areas of Tanzania the source of inputs is a local shop or trader, and they are spread thinly. In many villages there is commonly no agricultural stall, and in most wards there is likely to be only one, if any. Competition and economies of scale are therefore largely absent. With low demand, even those traders who do function, offer few inputs for sale.

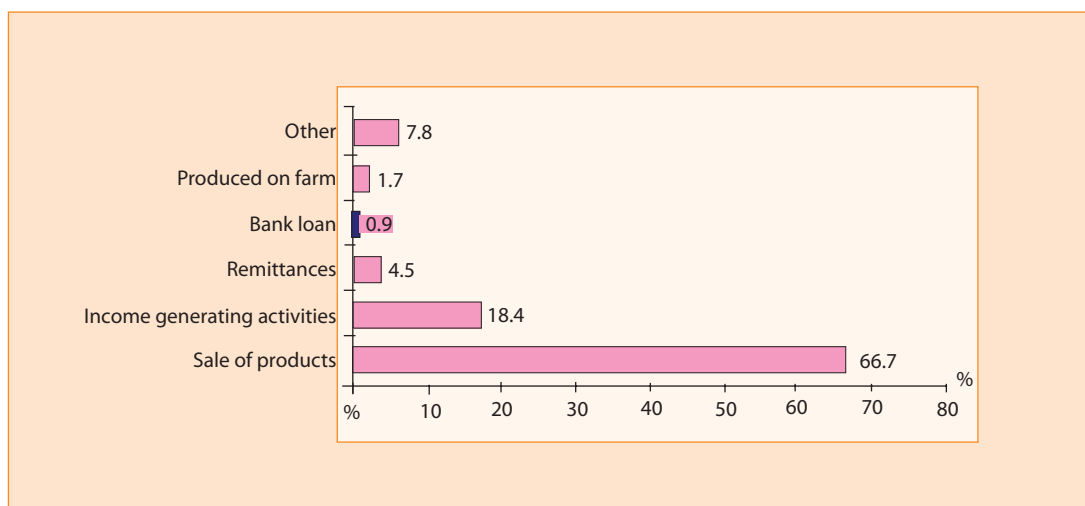
Households are purchasing agricultural inputs mainly from the money they receive from the sale of their own farm products and other income sources, see Figure 29. Few access any credit at all (3.1 per cent), and even fewer female-headed smallholder households access credit (0.53 per cent). This is true of all households, including those who own tractors. Of the few who have borrowed, about a third received finance from cooperatives. A further third of households borrow from family, friends or relatives. Most of this limited borrowing is for fertilizer, agro-chemicals and seeds; very little is for tools, labour or irrigation.

Smallholder households said they did not know how to get credit (38 per cent), or did not know about credit generally (22 per cent) or said it was not available (19 per cent). A further 10 per cent did not want to get into debt. Credit, like agricultural inputs, has been unevenly

<sup>81</sup> Sango Danford, Vivian Hoffmann and Luc Christiaensen. 2005. "Characterizing Households' Risk Environment and Their Coping Strategies." Mimeo.

spread across rural Tanzania, with Lindi, Manyara, Mara and Arusha receiving the lowest number of credits during the agricultural year 2002/03, while Tabora, Ruvuma and Mbeya received the most.

**Figure 30. Main sources of finance for buying agricultural inputs, 2002/03**



Source: NBS, Agricultural Sample Census 2002/03 - preliminary report of draft basic tables

The processing and storage of crops show similar trends in terms of low levels of activity beyond the household level. Maize milling represents by far the largest amount of processing of any crop and is done mostly for household consumption using neighbours' machines. This is also the case for paddy processing. Storage is mainly short term (less than 6 months) and losses are sometimes substantial, up to a quarter of the crop stored.

The majority of crop-growing households consume most of what they produce. Yet many also sell some portion of their agricultural production (70 per cent). Produce is most often sold to neighbours or in the local market/trade stores, most likely for expenditure smoothing. The exceptions are in Kilimanjaro where crops (mainly coffee) are sold via marketing cooperatives and farmers' associations, and in Mbeya (paddy) where crops are sold to traders.

Saving to invest in assets or new production technologies is made difficult by annual fluctuations in agricultural income which generate low savings; by low access to financial institutions and credit; and by the frequency with which households experience shocks related to health crises or otherwise which require additional unplanned expenditures (Hooegeven 2005).<sup>82</sup> In addition, institutional constraints to marketing make the expansion of production relatively unattractive. Most smallholders indicate that Government regulatory boards, trade unions, farmers' associations and cooperatives impose obstacles to market access. However, given the fluctuations in production, the limited access to financial intermediation (savings and credit) and the current low levels of production, it is unclear if significantly more sales would be generated if the institutional arrangements for marketing were friendlier to smallholders.

<sup>82</sup> Johannes G. Hooegeven. 2005. "Risk, Growth and Transfers. Prioritizing Policies in a Low Income Environment with Risk. The Case of Tanzania." Mimeo.



Given the low use of agricultural inputs and the relatively modest marketing of crops, what advice do smallholders receive that might affect their productivity? Extension advice, mainly from Government (93 per cent), reaches very few smallholder households, and even in those it does reach it is not clear whether households link the use of inputs (e.g. improved varieties, agro-chemical use, etc.) with production and marketing. Only about 35 per cent of the 4.8 million smallholders reported receiving extension messages during the 2002/03 season. Although this is the general case, it varies geographically. In 2002/03 thousands of Mbeya farmers received advice on the use of agro-chemicals, organic fertilisers and processing from large scale farmers. Thousands of Kilimanjaro farmers received advice on mechanisation from cooperatives, and NGOs/development projects provided significant numbers with advice on the use of improved seeds and fertiliser. It is therefore a mixed picture and the impact on production levels requires further empirical research.

Services such as crop processing, extension and cultivation advice provided to farmers who are linked to large scale farms are significant in some regions of Tanzania. More than 40 per cent of farmers were provided with such services in Mtwara, Tabora, Kagera, and Lindi in 2002/03. Most received advice from privately owned large scale farms, not from those owned by Government or parastatals.

In summary, smallholders do not practice high-yield farming methods, they produce mainly for subsistence, and the little produce they store is kept for only a short time. Sales take place as income smoothing strategies and are not a reflection of a surplus that can be invested in additional assets or new production technologies. Combined with earlier evidence in this chapter, this illustrates that rural smallholders are caught in a vicious circle of low quality and low quantity production. The following section explores ways of addressing the situation.

## LESSONS AND THE WAY FORWARD

Efforts should be directed towards understanding and eliminating the barriers to smallholders that continue to inhibit the growth of productivity. The objective is to transform the sector into one with high labour productivity and high quality outputs. Specifically, the major aims should be to increase both the quantity of production (through increasing the number of hectares under cultivation and their yields) and the quality of production.

This way forward may require rethinking the current approach of dispersed and unorganised rural smallholder production. Smallholders as individuals find it difficult to respond to the challenges posed by rapid changes in local and global markets. Such changes call for the ability to respond to market information and invest, adjust volumes, values and even the content of production on a continuous basis. This is not to deny the improvements in smallholder production that have been observed, nor the fact that smallholders do increase production in response to higher prices (World Bank 2000).<sup>83</sup> The recent increases in cashew and cotton production reported in Figure 22 are cases in point. Yet the structural problems facing smallholders – limited access to information, to inputs, and to output and financial markets, and high exposure to shocks – justify the consideration of alternative institutional arrangements. Such arrangements would involve smallholders being increasingly better organised – in forms generally referred to as producer associations – and their engagement in integrated approaches to production, extension services, transportation, processing and marketing.

<sup>83</sup> World Bank 2000. Agriculture in Tanzania since 1986. Follower or Leader of Growth?

## PRODUCER ASSOCIATIONS: THE COOPERATIVE MODEL

Producer associations enable access to required and affordable inputs (technologies, credit) which can improve productivity, reduce costs through supply chain linkages and improve competitiveness. Yet it is not only production gains that are important; producer associations of smallholders that are well organised can also strengthen labour rights and help to ensure that the benefits of increased production are more equitably shared.

Cooperatives are the dominant form of smallholder producer associations. Cooperatives have advantages which accrue when there is genuine participation of members (Davis 2003), as was the experience with the cooperative movement in Tanzania in the 1960s. Through cooperatives, farmers can enhance their access to inputs and to output markets, improve their bargaining power vis-à-vis traders, enforce product standards and gain access to information, extension and credit. On-going efforts to revive cooperatives are, therefore, a move in the right direction.<sup>84</sup> However, these initiatives are being implemented with the legacy of a difficult history of government interventions, embezzlement of funds and mismanagement. Reforms are being made in an environment where the institutional framework for democratic cooperatives has collapsed, where the cooperative movement has lost legitimacy from its members and where cooperatives are financially weak and ill-prepared for global competition.

The recent Cooperative Policy and accompanying legislation aim to ensure that cooperatives function as independent and competent business entities, are democratic, and follow international cooperative principles. Only when this has happened can cooperatives become a development option for smallholders in rural Tanzania. It will take time, especially in areas with no history of democratic cooperative movements, that is, those outside the coffee and cotton growing areas of Kilimanjaro, Kagera and Mwanza. In areas such as Dodoma, Sumbawanga, Tanga, and others, it may take a long time to restore the confidence of smallholders and convince them that the cooperative option is a viable one, because they have no experience of a working cooperative movement. In areas such as Kilimanjaro, the important factor is the assurance that government interference will not return. Here, smallholders from the older generation can still recall the cooperative system as a viable and profitable development option.

### *Challenges of cooperatives*

The first major challenge for the cooperative option is to build the confidence of smallholders that cooperatives are viable and beneficial to them. It is possible to restore confidence with the appropriate political commitment, even though it will take time.

The second challenge is to build the integration of production, transport, processing and marketing into the cooperative system to take advantage of supply and demand value addition, without complicating the institutional arrangements to unmanageable levels. This may require shifting the focus of cooperatives from either production or marketing to a more multi-purpose approach which concurrently encourages investments from members and external agents.

The third challenge is to ensure the introduction of innovations and knowledge into the cooperative system on a continuous basis, without subjecting members to the payment of high

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<sup>84</sup> Cooperative Development Policy 2002, URT 2003

consultancy fees or to being used as an experiment. Given most smallholders' low education levels and inexperience in breadth of farming methods, this may be doubly difficult. Nonetheless, all three challenges will need to be addressed if this model is to be used as a development option.

### *Integrated producer schemes*

Integrated producer schemes are designed to develop the capacities of smallholders through extensive provision of extension services and close monitoring of production and quality control. The model links production to investments in agro-industrial activities and markets. It has typically involved technical assistance from foreign or local private companies. Where product chains are not well developed, collection centres provide links between farmers and processors or markets. The centres provide farmers the incentive and mentoring support needed to increase production and quality.

In Tanzania three examples demonstrate that this option is viable and beneficial to smallholders. The production of sugar cane in Mtibwa and Kilombero, tea in Rungwe District through the Wananchi Tea Company, and sisal in Tanga Region through Katani Ltd. Although these examples use crops which require on-site processing, this is not a precondition for integrated producer schemes. Either local or distance processing may be possible, as is evident with schemes in the dairy sector in Tanzania. Determining whether to process locally or at a distance depends mainly on the weight and bulk of the raw materials and therefore on the costs of transportation.

These schemes typically operate an integrated system that links production, extension services, transportation, processing and marketing. Table 19 below provides an overview of the three examples and their activities. The table reveals two main characteristics of the integrated producer schemes. First, in each of the three schemes, all activities from production through to marketing, are integral parts of the scheme. This is important to ensure adequate planning, quantity and quality control and communication/feedback by both the company promoters and smallholders. Second, the organisational structure may vary by scheme. At the production level it ranges from being composed entirely of smallholders, in sisal for example, with no involvement of the promoting company, to one that is largely controlled by company promoters. Sugar cane production is an example of the latter. The table also shows that some activities are sourced outside the companies. The Wakulima Tea Company (WATCO) out-sources both extension services and transportation to other institutions, namely the Tea Research Institute of Tanzania (TRIT) and CASPIAN, a haulage company.

**Table 19. Integrated producer schemes: 3 examples**

Activity	Tea	Sisal	Sugar cane
	Promoting Company: WATCO	Promoting Company: Katani Ltd.	Promoting Company: Kilombero
1. Production	Mostly smallholders	Entirely Smallholders	Promoting Company & Smallholders
2. Extension Service	Tea Research Institute (TRIT)	Promoting Company	Promoting Company
3. Transportation	CASPIAN (Haulage Company)	Promoting Company	Promoting Company
4. Processing	Promoting Company	Promoting Company	Promoting Company
5. Marketing	Promoting Company	Promoting Company	Promoting Company

It would appear that certain activities are more likely to be out-sourced (such as extension services and transportation) than others (processing and marketing). This raises the potential for opening space for partnerships that take advantage of skills which exist beyond the schemes themselves. For example, the potential may exist to utilise the large pool of agriculture extension staff in government to support integrated producer schemes, or to partner with specialised private transport providers whose costs are comparatively low.

Overall, although integrated producer schemes may vary, the basic framework remains the same: a closely coordinated integrated system of production, extension, transport, processing and marketing.

#### *Ownership and governance in integrated producer schemes*

Both ownership and governance are important for ensuring that the interests of all those involved are promoted in a fair and transparent manner and that loyalty is enhanced. In integrated producer schemes, land use rights belong to the farmers. In a few cases farmers also own the promoting company. For example, Rungwe smallholders own 25 per cent of the shares of the promoting company (WATCO) and in Tanga some of the smallholders who were former senior employees of Tanzania Sisal Authority own shares in Katani Ltd. Therefore, in principle, the integrated producer schemes do not preclude smallholders taking part in the ownership of the promoting company. To date, resource constraints have made such common ownership approaches out of reach for the majority of smallholders.

Of the three examples, only WATCO has representatives of smallholders on its Board of Directors, reflecting in part the share ownership structure of the company. However, there are indications that Katani Ltd. plans to allocate space for smallholder representation on its Board regardless of share ownership. This is aimed at enhancing dialogue between the company and smallholders in order to increase mutual learning, transparency and loyalty.

#### *Advantages of integration*

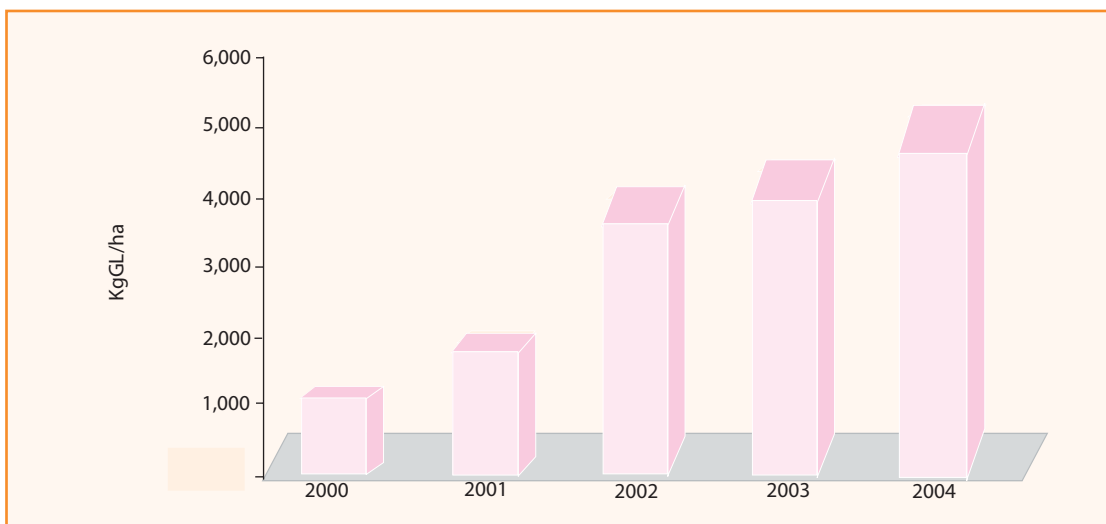
The integrated producer schemes have an inbuilt supply chain system which allows the realisation of value addition for the benefit of all involved. In Tanzania, integrated producer schemes have so far been organised mainly for crops with special specifications, in particular for crops that require processing immediately after harvesting. Such product specifications

tie the investors in processing facilities to the providers of agricultural produce and create an alliance which is of mutual benefit.

Produce that lacks such specifications – as is the case for maize or beans - may also be suitable for an integrated approach, provided that a strong bond between processors and primary producers can be generated. The strength of such a bond depends on the relative strength of smallholders compared to the strength of the processing company in the structure of ownership and governance of the company, the contribution of smallholders in total production, and the size and level of organisation of the smallholders' association.

The integrated producer model has been in operation only for about five years in Tanzania, mainly in the form of out-grower schemes. Nevertheless positive results have been recorded in expanded area cultivated, in increased production and productivity and in improved quality. In Rungwe, annual green leaf production has increased fivefold in the last four years from 3,774,912 kg (2000/01) to 15,285,451 kg (2004/05). The average yields of green leaf from smallholders have increased consistently from around 1,000 kg/hectare (2000) to around 5,000 kg/hectare (2004), while the overall quality of tea from smallholders is reported to be above the standards set by the company<sup>85</sup>

**Figure 31: Tea productivity of smallholders in Rungwe**



Source: TRIT, 16 November 2005

Productivity performance is best for those smallholders with links to integrated producer schemes. Their average yield increased from 939 kg/hectare (2000/01) to 3,249 kg/hectare (2002/3) before falling to 2,962 kg/hectare.<sup>86</sup> Although there is room for improvement when compared with tea estates' productivity that averaged 9,128 kg/hectare (2000/01 – 2003/4), the yields from smallholders in integrated producer schemes have improved consistently and significantly since 2000.

One advantage of integrated producer schemes is that they allow for increased productivity and quality of agricultural output without making smallholders landless or labourers. In Rungwe the scheme is operating with 15,000 tea-producing smallholders; in sugar cane,

<sup>85</sup> TRIT, Annual Report, 2004.

<sup>86</sup> 2003/4, Economic Survey-2004

there may be fewer. For sisal, the number is growing. Retention of land use rights by smallholders is important in Tanzania, although it may be important to consider possibilities for consolidation in the longer term as changes and performance in other sectors of the economy take place.

### *The challenges of the integrated producer schemes*

Integrated producer schemes are relatively new in Tanzania and their institutional arrangements of structure and their rules of the game are evolving. Although there are signs that integrated producer schemes are spreading into other crops and sectors such as milk and dairy products, questions are being raised about their sustainability and social impact. Some of the challenges which the model is likely to face and which will need to be addressed by its promoters are outlined below. These challenges include how to establish the loyalty of smallholders for such schemes and how to minimise the marginalisation of smallholders by investors in the processing facilities.

The first challenge is that there is great risk that producers might sell produce to buyers outside the model scheme. The incentives for such transactions are two way. Outside buyers who have not invested in the production process are likely to offer higher prices to attract smallholder producers. On the other hand producers may prefer to sell to the "free rider" to avoid possible deductions for credit received from the company promoter. The provision of such credit is a common characteristic of integrated producer schemes, where credit is extended to producers for the purchase of inputs, fertilisers, pesticides and extension advice and other services.

This challenge can be addressed in several ways. First there may be a mutual agreement enforced through a legal contract, which must be binding to all the parties to deliver and to be accountable as per the agreement. Yet contract enforcement is notoriously difficult, and approaches that tie primary producers to processors on a voluntary basis are to be preferred. As long as the benefits of remaining in the scheme outweigh the benefits of operating outside the scheme, such voluntary compliance will occur as a matter of course.

Another challenge is that integrated producer schemes may operate within the framework of a monopolistic model. As such, there may be a danger for the company promoter to marginalise small producers either by offering low prices for the produce or overcharging for inputs (including extension advice). The room for manoeuvre for either party is a function of three factors. First is the relative power of each party in the relationship, which is partly determined by levels of production. The greater the contribution of the produce of small producers to the total volume of production of the scheme, the stronger will be their bargaining power. In the three examples cited above, sisal growers stand a better chance of bargaining for higher prices than sugar cane producers because their contribution to total production is higher. Second is the level of organisation of the producers - the more organised the small producers, the stronger their bargaining power. Of the three cases the sugar cane producers through the Kilombero Sugar Cane Growers Association (KCGA) and Ruembe Out-growers Association (ROA) stand a better chance to bargain for high prices than the poorly organised sisal producers. Third is the structure of governance. In the three cases, Rungwe tea growers are more likely to bargain for higher prices through their representatives on the Board of Directors than their sugar cane or sisal counterparts who have limited representation in overall management of the scheme. However, as noted earlier, ownership of the processing plant may not be a necessary condition for representation on the Board. Overall, these challenges can be addressed by putting in place stronger legislation and regulation to protect smallholders and labourers and prevent the monopolistic model that could develop out of this model.

## CONCLUSION, KEY MESSAGES, AND CHALLENGES

At the beginning of this chapter, two challenges were identified. High, sustained agricultural growth is needed for rural poverty reduction and this growth has to be broadly shared. In general, the agriculture sector in Tanzania has not performed well. Production has fluctuated around low levels for most food and cash crops. Similarly, productivity has remained low, especially among smallholder farmers who constitute the majority of agricultural producers in Tanzania. The quality of export crops has remained low relative to export crops produced by neighbouring countries. A combination of low production, low productivity, and low quality of agricultural produce has significant limiting effects on rural growth and therefore on poverty reduction.

Major factors contributing to this situation include low levels of education and literacy among smallholder farmers, exposure to variable weather, price shocks, limited private investments and weak institutional arrangements for promoting systems of support for production, extension, transportation, processing and marketing.

It is argued in this chapter that an integrated system of production involving timely access to inputs, modern and appropriate technology, extension, transport, processing and marketing, organised effectively, is able to overcome many of these constraints and will work to reduce rural poverty in the following ways:

- through increased production and productivity
- by raising the price of the produce due to an increase in its quality by taking advantage of the supply chain
- by ensuring greater access to productive activities by the majority of smallholders and labourers

Challenges remain in the implementation of the suggested approach. The major challenge is how to apply the model in small, scattered land holdings in areas of high production of crops that do not require immediate processing such as maize and beans. With adjustments, the framework should work with all crops. The necessary condition is for smallholders to increase production beyond subsistence levels to produce a surplus for the market.

As with other strategies, this integrated approach needs to be supported by the Government through an enabling environment. Three aspects of such an environment need to be addressed. The first relates to the maintenance of macroeconomic stability and the reduction of the cost of doing business. The former requires that prudent macroeconomic and expenditure policies are continued and sustained; the latter demands that actions are taken to reduce red-tape and rent seeking associated with the implementation of rules, regulations and licences. This is important for confidence building and the continued flow of private investment. Second, current Government efforts directed at improving rural infrastructure must be continued and sustained. An integrated producer system will add to the need for reliable rural roads, power and water supply compared with the demands of the current system of production. Third, efforts to enhance the human resource through the provision of basic social services must be continued and sustained. Households and individuals should be enabled to take full advantage of the emerging opportunities. This is only possible if they are appropriately educated and healthy.