THE IMPACT OF ECONOMIC LIBERALISATION POLICIES ON TECHNOLOGIES IN ENTERPRISES PROCESSING AGRICULTURAL PRODUCE:

The Case of Kampala (Uganda) and Dar-es-Salaam (Tanzania)

by

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Abstract

This research project analysed the impact of economic liberalisation policies on technology utilised in enterprises dealing in processing of agricultural produce. The importance of agro-based processing enterprises in Africa in general and Uganda in particular has been recognised especially with regard to their role in creating forward and backward economic linkages, thereby acting as "engines" of industrial growth. Most studies have, however, concentrated on articulating the significance of these enterprises in terms of providing employment and enhancing national productivity and identifying constraints that they face within the prevailing economic environment, but are silent on how economic policies have specifically affected technologies in these enterprises.

The bulk of studies undertaken have also been gender insensitive and have treated enterprises managed by women and men as homogenous. This project addressed this deficiency with a gender - sensitive perspective by establishing the capacity of agro-based processing enterprises in technology intake, the impact of economic liberalisation policies on the maintenance of technologies in these enterprises, and how entrepreneurs have technologically responded to economic liberalisation, and made recommendations to relevant policy makers on the necessary policy adjustments for the enhancement of technological development in these enterprises. In order to capture valuable comparisons, the study was conducted in Kampala (Uganda) and Dar-es-Salaam (Tanzania) through interviews, participatory rapid appraisals, focus group discussions with entrepreneurs, and national level consultations with relevant authorities.

Executive Summary

Economic liberalisation has been the key element of Structural Adjustment Programs (SAPs) in the better half of the developing world over the past one and a half decades or so. While furious criticisms against the orthodox SAPs have been a common feature on international and national fora, it has now been established that in cases of severe macro-disequilibria, adjustment though painful is the inevitable way forward.

The criticisms are nevertheless without a foundation. Adjusting countries across the developing world have invariably experienced short-term difficulties, including scarcity of money, loss of jobs, loss of markets to foreign competition, etc. in the course of adjustment. However, some gains like greater efficiency, availability of more goods, accessibility to foreign exchange funds, lower inflation and interest rates and technological transfer gradually start to manifest themselves.

Economic liberalisation has far reaching implications on various sectors of an economy. This report presents the findings with regard to its impact on the technologies employed in enterprises processing agricultural produce using Kampala (Uganda) and Dar-es-Salaam (Tanzania) as focal points of reference. Agriculture is the back-bone of most of the adjusting developing economies. With industrialisation now recognised as the key to sustainable economic development, it is a considered view that in these agricultural economies, agricultural processing industries should be given due attention. This is envisaged to promote forward and backward linkages.

The study was carried out in Dar-es-Salaam (Tanzania) and Kampala (Uganda) being the main industrial nuclei in both countries. In each, 100 respondent firms were randomly selected. The overall objective was to establish the impact of economic liberalisation on the technologies employed in agro-processing industries. Under this, many aspects like technological capacity, organisation and management, composition, technological changes, gender perspectives, etc, were explored. The primary data was supplemented by secondary findings.

It was found that the main products in the sector include sugar, animal feeds, dairy products, fruit drinks/beverages, grain flour, coffee, tea, alcohol/wine, bread and confectioneries, cooking oil and textile products. On organisation and management, professionalism was found to be lacking in many of the small/medium and/or privately owned enterprises. However, most of the bigger ones were found to be well organised and managed.

Technological capacity and transfer were found to have increased tremendously due to liberalisation. However, tariffs on some industrial utilities and some of the products were found to have become prohibitive under liberalisation. Machinery/equipment and its maintenance costs have gone up mainly due to de-subsidisation. Also, competition for the market has increased, hence the need for better quality and more efficient technology. However, the machinery/equipment is much easier to procure now because of easier accessibility to foreign currency, and foreign sources of supply and local fabrication. Also, there are fresh foreign markets for exportation, for example, tinned coffee processing has created more opportunities for the private sector.

No gender differentials were observed in terms of policy impact on firms owned/managed by women as opposed to those of men. Foreign investors have been flocking into both countries since the liberalisation policies started, with better technological capacities in terms of both machinery/equipment and manpower.

Overall, it was found that the agro-processing sectors in both Uganda and Tanzania have had substantial technological benefits from the liberalisation process despite some negative effects. It was also found that these gains are a little bit more ubiquitous in Uganda than Tanzania, ostensibly because the former has been implementing the polices for a longer period and in a more bold manner. Nevertheless, it was found that in order to maximise the gains of adjustment in the developing world, other key issues need to be surveyed. These are set out in chapter four of this report.

The report concludes with an overview of the situation and recommendations for delivery initiatives.

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Chapter One: Introduction

1:1 Context

Economic liberalisation policies have been under implementation in both Uganda and Tanzania for some time now. But while the former embraced the policies as early as 1981, the latter only came on board in 1986. The cornerstone of economic liberalisation is to free markets by eliminating distortions and to restore competition, paving the way for greater efficiency.

Liberalisation is the pillar of Structural Adjustment Programs (SAPs) of the World Bank and stabilisation policies of the International Monetary Fund (IMF). The former are designed to reduce economic and financial imbalances by re-orienting the structure of the economy towards greater efficiency, while the latter aim at reducing short-term disequilibria, especially with regard to the budget balance of payments and inflation (Stewrd: 1990).

Adjustment programs and stabilisation policies as advocated by the IMF and the World Bank have been effected in many developing countries over the last 15 years or so, with mixed reactions and results. The orthodox programs are founded on a set of policy instruments (otherwise known as conditionalities) which the two financial giants usually insist on; before an adjusting country can benefit from their loans or other financial facilities. The typical package invariably involves the periodic devaluation of the country's currency, massive cuts in government expenditure, desubsidisation, maintenance of positive interest rates, reduction in the number of public servants, privatisation of public enterprises, increase in government revenue collection mainly through taxes, and liberalisation of trade, to mention but a few.

The debate on the impact of adjustment and stabilisation on the welfare of the people, especially in Africa, has been raging for the past decade and has been well documented (Adebayo: 1989; Ochieng: 1996; Mutebile: 1990; Mugyenyi: 1991; Stewart: 1990). In some countries like Zambia and Zimbabwe, the programs had to be abandoned at one time due to civil unrest, while in others like Ghana and Uganda, substantial progress seems to have been made under the programs.

Presently, the critics and proponents seem to have reached a consensus, that in situations facing most of the developing world, the programs are inevitable, and that the sooner a country starts to adjust the better. However, the consensus is qualified by a recommendation that orthodox programs should be flavoured with a "human face", an attempt to make the programs less tight for the people.

In Uganda, adjustment was introduced via an agreement with the IMF in 1981. This was precipitated by adverse economic disequilibria as a result of post-independence internal and external factors. At the time of independence in 1962, Uganda's economy was buoyant. This continued through the decade and economic growth is reported to have averaged 5.1% (World Bank, 1988). Unfortunately, the ascendancy to power by the military in 1971 ushered in an era of economic mismanagement and repression. Vali Jamal (1985) relates how rivals were decimated, intellectuals and entrepreneurs terrorised and the country's natural resources squandered, reducing a once - prosperous and promising nation to one of the poorest in the world.

The liberation war of 1979 to oust the military led to further destruction of property, the infrastructure and human life. The aftermath of the war was characterised by civil strife, political intrigue, and social unrest, pushing the country further into socio-economic chaos.

At the turn of the decade, GNP per capital was quoted at US $250, population growth rate per annum at 2.5%, foreign debit at about US$ 3 billion and life expectancy at 49 years (MPED: 1991; UNICEF: 1989; world Population Data Sheet: 1991). Coupled with declining terms of trade and a global recession which led to a glut in the international market, weak demand from developed countries, high and volatile interest rates and dwindling external finance, Uganda had little alternative but to embrace adjustment.

However, the intensification of civil war in 1983 and a potentially volatile population led to a slow-down in adjustment, and it was not until 1987 when the National Resistance Movement (NRM) Government had taken over the reigns of power that adjustment took off in rearnest. To date, the government has implemented various policies under adjustment including liberalisation of trade, licensing of private forex bureaus, privatisation, retrenchment of civil servants, currency conversion, exchange rate adjustment, removal of subsidies, cost-sharing, tax reform, etc. The country is hailed as an example of the novelty of adjustment policies.

In the case of Tanzania, it is noteworthy that the country was run along the principles of socialism from the time of independence in the early 60s under Mwalimu Julius Nyerere. The pillars of socialism - public ownership, subsidisation, heavy government expenditure on social services, etc. are diametrically opposed to the very essence of stabilisation and adjustment. Indeed, the latter are based on western laissez - faire principles, with the private sector initiative as the driving force.

While Tanzania was spared the post-independence turmoil that characterised Uganda's policy, little socio-economic progress was made and adjustment became inevitable. As Ishrat et al (1994) put it, with discontent growing, Nyerere decided not to continue as president and at the end of 1985, Ali Hassan Mwinyi was elected as his successor with free reign to embark on economic reform. What emerged was the Economic Recovery Programme (ERP) adopted in mid - 1986, and adjustment in Tanzania had began. In 1987, the government entered into the first structural adjustment facility agreement with the IMF, followed by the second in 1988 and the third in 1990.

To date, there has been interest and exchange rates liberalisation, licensing of private banks, liberalisation of agricultural marketing, parastatal reform, privatisation, revenue collection reforms, private sector promotion, desubsidisation, retrenchment of some civil servants, currency devaluation, etc. (Bagachwa: 1992; Ishrat et al: 1994; Crounch: 1987).

Like most of the sub-saharan African countries, both Uganda and Tanzania exhibit agro-based economies. It is estimated that the agricultural sector, directly or indirectly, contributes about 70% of the GDP, over 80% of export earnings and provides a livelihood to about 80% of the population (UNDP, 1989). The major agricultural products include coffee, cotton, tea, sisal, cashew nuts and tobacco. In addition, non-traditional export crops have gained prominence including fruits, vegetables, beans, maize and simsim. It is around these crops that the agro-processing sector in the two countries revolves.

The technological trends in the agro-processing sector including machinery and labour was the focus of inquiry. With the economic liberalisation polices implemented in Uganda and Tanzania under the banner of adjustment programs for over a decade, a revenue of discernible policy implications was considered imperative and timely.

1.2 The problem

The crucial role of agro-based processing enterprises in the socio-economic development of sub-Saharan African countries, has been recognised for quite some time. Their contribution to employment, income-generation, forward and backward linkages, and generally the livelihood of the agricultural majority has never been disputed. Despite the positive acknowledgement however, the sustainability and improvement of technological systems employed in these enterprises, in the face of changing economic policies, has not been thoroughly investigated.

Wide ranging economic programs like structural adjustment normally bear far-reaching implications for various economic variables like technology. In agro-based economies like Uganda and Tanzania, such implications reflect tremendously on the prospects for sustainable socio-economic development. This study was tailored towards unravelling the impact of economic liberalisation on the technology in agro-based processing industries in the two countries taking Kampala (Uganda) and Dar-es-Saalam (Tanzania) as case studies.

1. 2. 1 Literature review

Existing literature overwhelmingly indicates a lot of optimism towards agro-based processing enterprises, as "engines" not only of industrial growth but also as welcome linkages between agricultural production and industrial growth (Aleke-Dondo, et.al:1986). Governments in Africa with the common denominator of a growing appetite for industrialisation have also embraced agro-based enterprises as vehicles of growth. The contribution of agro-based processing enterprises in terms of local production and boosting of incomes of the population has been recognised (UNDP:1980; FAO: 1987; Uganda Manpower Survey: 1987). In other economic aspects, the contribution of agro-based processing enterprises to the provision of employment, income generation for the population, the industrialisation process and the creation of an integrated and self-sustaining economy in Uganda has been acknowledged (Friedrich Ebert Foundation: 1989). Even of more significance has been the recent realisation during the 1980s that agro-based processing enterprises in rural areas and small towns play a much more substantial role than hitherto surmised, by providing substantial employment. As a result, agro-based processing enterprises have acquired new dimensions in national development (Helmsing and

Kolstee: 1993). The strong linkages with other sectors of the economy, exhibited by agro-based processing enterprises in the predominantly agricultural economies of Africa and their potential for promoting efficient and important substitution of basic consumer goods and competitive non-traditional exports are even more positive attributes to agro-based processing enterprises (World Bank/Government of Uganda Mission report: 1991, APT Design and Development Report: 1992). A recent household survey in Uganda, for example, revealed that there is much potential for a shift in demand from basic food products/staples to more processed and superior goods, (e.g wheat, sifted maizemeal, liquid milk, etc. (Ministry of Planning and Economic Development: 1989/90). Other studies indicate that agro-based processing enterprises have an in-built equilibrium because they create demand as well as supply (Sessional Paper No. 2: Policy Framework for Promoting Small Scale and Jua Kali Enterprises Development in Kenya: 1991).

The operational appropriateness of agro-based processing enterprises in African rural socio-economic settings has also been realised. These enterprises depend on local raw materials, thereby linking the agricultural sector and the budding industries in Africa. They can be located anywhere, making them socially acceptable, and also meet such goals as decentralisation to curb rural-to-urban migration. They are labour intensive, thereby providing employment to a number of people (Friedrich Ebert Foundation: 1989; Helmsing and Kolstee: 1993).

Despite the overwhelming optimism built around agro-based processing enterprises, the literature also points out constraints, which affect the performance of agro-based processing enterprises. Constraints cited include policy-related ones which result from Government rules, regulations and programs, many of which are disincentives to entrepreneurs, currently operating or interested in establishing enterprises. These are poor infrastructure which includes lack of/or intermittent supply of electricity, poor or non-existent telephone facilities, inadequate and lack of clean water, difficulty in getting access to credit facilities, scarcity of information on different types of technology appropriate to agro-based processing enterprises, difficulties in finding assured market outlets in both the domestic and particularly the more competitive export markets and insufficient or lack of training for agro-based processing entrepreneurs (World Bank/Government of Uganda, small Scale Enterprise Mission Report: 1991).

Behind all these socio-economic advantages of agro-based processing enterprises in African economies and constraints facing them, have been the far-reaching changes in economic policies instituted in the whole of Africa mainly during the 1980s, referred to as "Structural Adjustment Programs" (SAPs). These changes are characterised, in a nutshell, by depreciation of the domestic currency, liberalisation of foreign exchange and trade, control of public sector-employment and privatisation of parastatals, liberalisation of internal (domestic) trade and finance, including elimination of price controls, liberalisation of banking regulations and interest rates, and demand management, including demand control and re-orientation from consumption to investment, and from domestic demand to exports (Helmsing and Kolstee: 1993; Aderanti: 1993). These changes in the economic climate have had and continue to exert a structural impact on all sectors of the economy. Subsequently a number of studies to establish the impact of structural adjustment programs on different sectors of the economy in Uganda have been undertaken (Mutebile: 1990; Hyuha: 1991; Mugyenyi: 1991; Basirika: 1992; Bibangambah: 1992; Manyire: 1992; Nkumbi: 1992). The bulk of these studies have indicated that SAPs have not yet adequately addressed all structural imperfections in various economic sectors in general, and agro-based processing enterprises in particular.

All these studies have, however, concentrated more on analysing the impact of SAPs on output from different economic sectors, while minimum attention has been paid to the impact of SAPs on technology within these sectors. The bulk of existing studies on agro-based processing enterprises have also been gender insensitive, treating enterprises owned and managed by women as homogenous with those owned and managed by men. There are, however, some divergent aspects between enterprises owned and managed by women and those owned and managed by men, which would be considered when studying these enterprises (Mugyenyi: 1991; Basirika: 1992). In the same breath, studies on enterprises involved in processing agricultural produce have shown more concern on how much these enterprises are producing, and their significance in the economy, than on issues of technological advancement of these enterprises, within the prevailing economic environment. This lopsided development has prompted the call for more research on technology for processing agricultural produce (Aleke-Dondo, et.al: 1986; CASTAFRICA 11: 1987) with the aim of enhancing efficient use of raw materials, production techniques, energy and labour as indispensable factors for increasing productivity, and for the success of economic adjustment in the third world (South, South Commission: 1992).

The project addressed the above identified deficiencies in research on technology, thereby responding to the call for more research on technology for processing agricultural products, by investigating the impact of economic liberalisation policies on technology in enterprises processing agricultural produce, with a gender sensitive approach.

1. 2. 2 Scope of the study

The study constitutes the investigation of the impact of economic liberalisation policies on agro-based enterprises in Uganda and Tanzania. The enterprises include:

(i) agro-processing of crop products
(ii) agro processing of animal products

The analytical period ranged from 1987 in the case of Uganda and 1992 in the case of Tanzania. These two periods were adopted since they represent the time when the two countries radically embraced the policies in various sectors of their economies.

1. 3 Objectives

The overall objective of the study was to establish the impact of economic liberalisation under SAPs on the technologies employed in agro-processing enterprises.

The specific objectives were to:

(i) Assess the current technological capacity in agro-processing enterprises.

(ii) Examine how agro-processing enterprises are internally organised and managed, in order to establish their potential for technological improvement, in an economically liberalised environment.

(iii) Establish how de-subsidisation and elimination of price controls have affected the procurement and maintenance of processing equipment for agro-processing enterprises.

(iv) Evaluate the magnitude of technological changes by entrepreneurs involved in agro-processing in response to economic liberalisation.

(v) Examine whether the impact of economic liberalisation on the state of technology is significantly different in agro-processing enterprises owned and managed by women from those owned and managed by men.

(vi) Make recommendations on the necessary policy modifications, within the overall economic liberalisation program for the enhancement of technological efficiency in agro-processing enterprises, based on the research findings.

1. 3. 1 Research issues

In order to achieve the above objectives the following research issues become pertinent:

(i) What is the educational background/characteristics of individuals managing agro-based processing enterprises? How skilled are they in relation to the processing plants they are managing? What is their potential for adopting new and more efficient technologies? How efficient is the equipment currently in use for processing? What is required to enhance greater efficiency? Is the technology being utilised, suitable under the prevailing socio-economic circumstances?

(ii) How is labour recruited? What is the employment capacity of the enterprises? How well are the finances of the enterprises managed? What proportion of profits is reinvested in the enterprise for expansion? Has economic liberalisation enhanced profits? How is equipment and spare parts procured? How are the various sections of the enterprises, i.e accounts, processing, marketing, personnel, etc. managed? On the basis of the above, what is the potential for technological improvement for each enterprise?

(iii) How has the elimination of government subsidies on agro-based processing equipment affected the processing of agricultural produce? What is the impact of these policies on capital accumulation? How has economic liberalisation affected the availability on the market of processing equipment and spare parts? How has

economic liberalisation affected their prices? Are they easier to procure now (by entrepreneurs) than before the economic liberalisation came into effect?

(iv) Have the entrepreneurs instituted any changes modifications in their technology as a response to economic liberalisation? Has there been any increase in investment in technology in the enterprises as a result of economic liberalisation? Are the entrepreneurs conscious of the positive impact of economic liberalisation as advocated by Government? Are there any plans by entrepreneurs to improve modify or even acquire new technology for more efficiency? Are entrepreneurs aware of any better technology to acquire in order to cope with conditions of an economically liberalised environment?

(v) What is the proportion of enterprises managed and owned by women? Are there significant differences in response to economic liberalisation between women and men entrepreneurs? Are there specific technological problems resulting from economic liberalisation experienced by women - led enterprises as different from those experienced by those owned and managed by men? Are there significant differences in management between women- and men- led enterprises?

Chapter Two: Methodology

2.1 Introduction

The project adopted a multifaced survey design in order to gather data on a spectrum of variables related to adjustment programs and agro-based industries in Uganda and Tanzania.

2.2 Research population

The project preparation commenced with recruitment of field investigators cum-research assistants and their supervisors. Suitable assistants were recruited among a pool of graduates of social sciences. They underwent an interview exercise which mainly focused on communication skills. As a result, eight (8) Research Assistants were selected. After selection of field investigators, supervisors were also appointed to guide the research process.

2.2.1 Training

The training of field investigators and research assistants was conducted for a period of two (2) days. The investigators were ingrained in various techniques of social investigation with prime focus on interviewing.

2.2.2 Pre-test of research instruments

The training episode was followed by a pilot study conducted for one (1) day. The major aim of the pilot study was to test the appropriateness of the research instruments. The pilot study was successfully conducted and a few anomalies found in the instruments were amended.

2.3 Field work structure

The field investigation was divided into two (2) categories, each constituting four (4) persons under one supervisor. This was done in order to limit the supervisors' span of control to only one country, hence facilitating effective supervision.

2.3.1 Study area and population

The study was carried out in the districts of Kampala (Uganda) and Dar-es-Salaam (Tanzania). The two countries were found to be very suitable due to the factors below:

(i) Uganda and Tanzania were envisaged to provide crucial comparative information since the two countries had pursued different economic and political ideologies during the period before adjustment. While Tanzania was socialist, Uganda pursued a mixed economy.

(ii) Kampala and Dar-es-Salaam constitute the largest concentration of agro-processing enterprises in the two respective countries. The impact was therefore deemed to be more evident.

(iii) The two countries have adopted and implemented stabilisation and structural adjustment programs which include de-subsidisation and de-regulation of commodity prices in general, including agro-processing equipment. This has been going on for a long time in both countries to enable impact analysis.

Uganda and Tanzania have been selected because these two countries have previously pursued different approaches of economic policy. While Uganda has for long pursued the mixed line of economic policy regime characterised by both aspects of capitalism and socialism, Tanzania has pursued socialist policies.

The implication of liberalisation policies to such different economic framework in these two countries need to be investigated.

Similarly, while Uganda has for considerable time implemented most of the liberalisation and adjustment programs including retrenchment of both civil servants and demobilisation of soldiers, Tanzania has only nearly adopted a rather slow process possibly due to its previous socialist tendencies.

2.4 Sampling

The total sample size selected was 200 enterprises disaggregated equally between Kampala (Uganda) and Dar-es-Salaam (Tanzania). In both cases, a sampling frame of existing agro-processing enterprises was obtained from the ministry responsible for trade. This was augmented by current records from the departments responsible for revenue collection.

The enterprises were then categorised according to their activities and a proportionate distribution of enterprise sub-categories determined. Employing the systematic sampling technique, 100 representative enterprises were selected in each district to constitute 200 enterprises for the entire study.

The sample size was statically determined. The statistical equation used was:

$$n = \frac{Z^2 \, P^q}{d^2} \qquad N > 10{,}000$$

Where: n - connotes the desired sample size
2 - is the standard normal deviate usually set at 1.96
p - is the proportion of the sample with relevant characteristic under-study
q - 10 -p
d - is degree of accuracy corresponding to the standard

2.5 Study variables

Economic liberalisation

Which include desubsidisation and deregulation of prices determines the costs of agro-processing equipment, and other forms of technology applied in agro-based processing enterprises.

Production cost

Is dependent *inter alia* on the cost of procurement of agro-processing equipment, spare parts and the purchase cost of other inputs in the processing of agricultural products.

Entrepreneurs' income level

Is expected to vary according to the changes in the procurement prices of agro-processing equipment and spare parts.

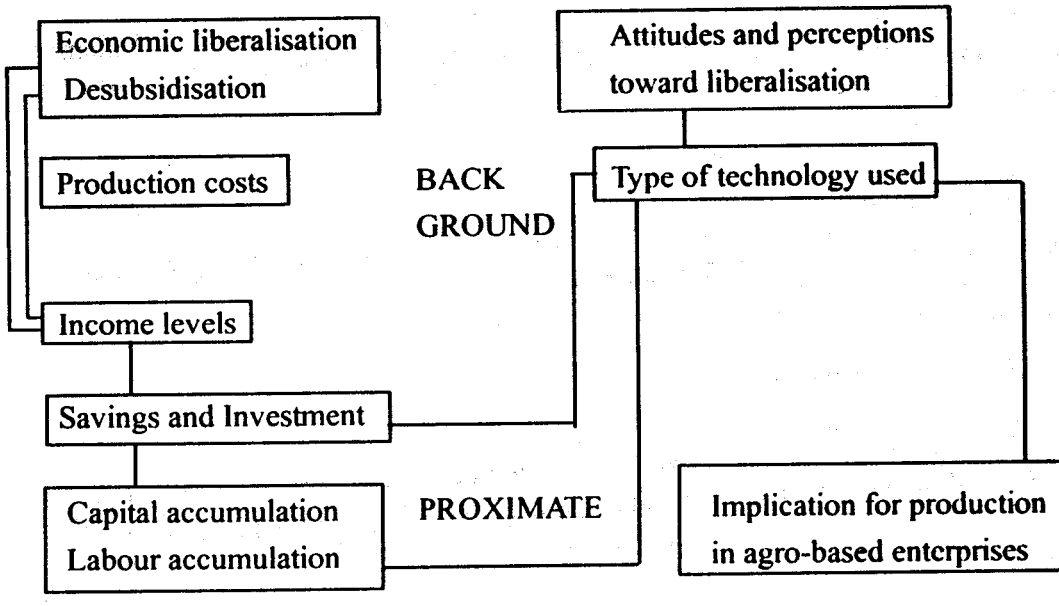
Savings and investment level

Is envisaged to determine the level of capital and labour accumulation which directly influences the nature of technology applied in agro-based enterprises.

Type of technology

Is the major dependent variable. The mode and nature of technology used in agro-based enterprises is influenced by the level of income and capital accumulation among agro-based entrepreneurs. These variables however, seem to be intricately linked and mutually re-inforcing. The inter -linkage is indicated in the framework below.

Conceptual framework



As shown in the conceptual mode above, economic liberalisation measures seem to have some impact on the technology used in agro-based enterprises through both background and proximate variables. It is apparent that de-subsidisation and de-regulation of import prices raises production costs due to increase in prices of processing equipment, agricultural inputs and other forms of technology. This will influence income levels among entrepreneurs. Income levels *ceteris paribus* determine savings and investment, a condition that affects capital and labour accumulation. The net effect is a direct influence on the type of technology used, a situation which will influence people's attitude and perceptions toward the policy. This will have implications for improvements in production in agro-based enterprises.

2. 5. 1 Identification and respondents

After selecting the enterprises in the two countries, the researchers conducted prior visits to meet the leaders in the organisations and to obtain permission to carry out the study in these organisations. This exercise was successfully done after which the interviewing followed.

2.6 Data collection

2.6.1 Primary data

An interview schedule (Questionnaire) was administered to agro-processing entrepreneurs, managers and/or senior employees of the selected enterprises. Focus Group Discussions (FGDs) were also conducted among agro-processing entrepreneurs in both Kampala and Dar-es-Salaam (one each).

In addition, informant interviews were conducted among the relevant policy makers and other technocrats in both Uganda and Tanzania. An interview guide was used. There was also an observation checklist which was used during field visits to cross-check and record pertinent physical elements of the survey.

2.6.2 Secondary data

Primary data obtained from above was supplemented by the review of documentary sources. These included policy papers, bulletins, reports, research papers and other government and non-governmental publications.

2.7 Data management

Editing and coding of quantitative information was done by the senior investigators with the help of research assistants. The SPSS PC was used for analysis. Qualitative information collected by means of focus group discussions, informant interviews and observation was qualitatively analysed using thematic techniques.

Chapter Three: Study Findings

3.1 The Agro-processing sector

The central role of agro-based processing enterprises in the development process of the predominantly agricultural economies of Africa has long been acknowledged (Aleke - Dondo et al 1986; UNDP 1980; FAO). The agro-processing sector is hailed as a crucial bridge between agricultural production and industrial growth. Whether in terms of employment provision, income generation, industrialisation, import substitution or economic integration and sustainability, the sector's real and potential contribution has been variously recognised (MPED 1987; Friedrich Ebert Foundation 1989; Helmsing & Kolstee 1993). It has also been argued that agro-based processing enterprises exhibit in-built economic equilibrium as they create forward and backward linkages.

In Uganda and Tanzania, it was found that most of the enterprises in the agro-processing sector produce the following products:

- Sugar
- Animal and poultry feeds
- Coffee
- Tea
- Maize, wheat, cassava and millet flour
- Cleaned simsim, beans and rice
- Alcohol and wine
- Fruit drinks/beverages
- Processed tobacco
- Bread, biscuits and other confectioneries
- Cooking oil
- Milk, yoghurt, butter and other dairy products
- Minced meat, meat rolls, sausages, bacon and other meat products
- Textile products.

It is pertinent to note that while the agro-processing sector was initially dominated by enterprises in the line of traditional exports like coffee, tea, cotton and tobacco, the non-traditionals currently predominate. It was observed that most of the enterprises in the latter category are relatively young and most of them have been established in the last 12 years.

It was established that the main inputs of the agro-processing sector in Uganda and Tanzania include:

- Maize, millet and wheat grains
- Cassava
- Ginger and pepper
- Fruits, etc.
- Fish
- Lake shells
- Beans and Soya
- Cotton and cotton seeds
- Milk
- Meat
- Coffee beans
- Tea leaves
- Sisal
- Eggs
- Sugar, sugar cane and mólasses
- Fats/oil
- Tobacco leaves
- Sunflower and simsim
- Cashew nuts

This aspect demonstrates the backward and forward linkages within the sector.

3.2 Organisation and management

Organisational and management norms in the agro-processing sector were found to be related to the legal status, ownership and the size of the individual enterprises both in Uganda and Tanzania. Most of the enterprises were found to be partnerships (52% Uganda; 50% Tanzania) followed by sole proprietorships (42% and 45% respectively) and trailed by limited companies (4% and 5%); and finally corporations (2% and 0% respectively).

Limited companies and corporations were found to be well-organised. In both countries, it was found that 100% of the enterprises in the above two categories were departmentalised along functional roles. The departments cited variously include:

- Administration/personnel
- Production
- Purchasing/procurement
- Marketing/sales
- Accounts

The departments were presided over by departmental managers under a General Manager or a Managing Director who handled the day-to-day running of the enterprise. It was also found that invariably, there is an apex Board of Directors who formulate policy for the enterprise.

In the case of sole proprietorships, the case was found to be the contrary. In Uganda, 67% of the sole proprietorships were found to lack functionally organised departments, and in Tanzania the proportion was found to be as high as 76%. 83% and 78% respectively, reported that the proprietor formulates policy while the rest of the respondents said that policy is formulated by the owner but after consulting the manager or some senior employees. It emerged that in most of the sole proprietorships, the owner acts as the policy formulator, purchasing officer, financial controller, personnel manager and overall supervisor.

For partnerships, organisation and management practices were found to be commendable in some cases and poor in others. The inclination was however, found to be highly related to the size of the enterprise. The bigger enterprises generally exhibit better organisation and management modes. Table 1 below illustrates some of the indicators surveyed.

Table I: Organisation and management indicators

Legal Status of Enterprises	UGANDA						TANZANIA					
	Respon-dents		Departmen-talised(%)		Policy formulation by Board/ Consul-tation (%)		Respon-dents		Departmen-talised (%)		Policy formulation by Board/ Consul tation (%)	
	Freq	%	Freq	%	Freq	.%	Freq	%	Freq	%	Freq	%
Sole Proprietor ship	42	42	13	33	7	17	45	45	11	24	10	22
Partnership	52	52	22	42	25	48	50	50	18	36	21	42
Limited Company	4	4	100	2	100	5	5	5	10	5	100	
Corporation	2	2	100	2	100	0	0	-	-	-	-	
Total	100	100	41	41	38	38	100	100	34	34	36	36

In Uganda, only 42% of the partnerships were found to be departmentalised while in Tanzania it was only 36%. For all the agro-processing enterprises, 41% (Uganda) and 34% (Tanzania) were found departmentalised while policy guiding 62% and 64% of enterprises in Uganda and Tanzania respectively was made by the owners. It is therefore apparent that the organisations in Tanzania are generally below acceptable standards, especially in the dominant small and medium firms.

3.3 Technological capacity

The technological capacity of the agro-processing sector was investigated under various parametres including manpower, machinery, energy sources and other utilities available. About half of the respondent firms in both countries were found to employ between 11-20 persons, while the other half was evenly spread between those employing below 11 and those above 20 persons.

In both countries, it was also found that about 70% of the firms have less than half of their staff unskilled. The few areas of skill cited include production and quality control, purchasing, stores management, administration, marketing and accounts. On the other hand, the major area where skill shortage was cited was accounts. In both cases, it was found that under 10% of the skilled staff hold university degrees in their areas of specialisation. Over 60% were instead found to hold tertiary/technical certificates or diplomas.

Invariably, it was found that firms in both countries employ some friends relatives of either the owners or the top managers, often without regard to appropriate qualifications. In smaller firms and especially in sole proprietorships it was observed that the owners manage the accounts/finances themselves without regard to their areas of specialisation.

However, most of the firms - over three quarters in both countries - insisted that they undertake regular capacity building programs including apprenticeships, short courses and on-the-job training of staff. But while evidence was manifest in the medium and large categories of firms, it was hardly discernible in the smaller firms in both countries.

In terms of manpower, serious inadequacies in know-how were clearly manifest in both countries. The small, poorer firms have to make do with the inadequately qualified/experienced local staff. However, the bigger firms which can afford better pay, scoop the few well qualified personnel on the job market. A

few of the latter category of firms have had to enlist the services of expatriates in some specialised areas, like production and quality control.

Regarding capacity, the agro-processing sector remains predominantly a small-scale affair. The main reasons cited include lack of enough capital to finance expansion. Nevertheless,the influx of foreign investors and the increasing advent of joint ventures and mergers has enabled substantial improvements in the technology employed and production capacities.

On power and other utilities, Table 2 below sheds light on the situation that obtains in the agro-processing sector.

Table 2: Power and other utilities

	Frequency	Percentage
Major source		
Hydro-electricity	176	88.0
Thermal	16	8.0
Mechanical	2	1.0
Other (firewood)	6	3.0
Total	**200**	**100.0**
Power Reliability		
Reliable	32	16.0
Not reliable	168	84.0
Total	**200**	**100.0**
State of utilities		
Poor	65	32.5
Fair	104	52.0
Adequate	23	11.5
Other	8	4.0
Total	**200**	**100.0**

No significant disparities were found between Tanzania and Uganda with regard to the issues above. The agro-processing enterprises mainly use hydro-electricity which according to 84.0% of the respondents is very unreliable. On utilities, including water, telephones, access roads, etc, 84.5% considered them either fair or poor. Only 4.0% intimated that the infrastructural facilities were very good and only 11.5% regarded them as adequate.

The machinery/equipment used in the sector necessarily tallies with the products. It includes oil mills, grain mills, grain cleaners, coffee roasters, feed processors, meat processors, milk processors, bakery equipment, etc. Most of this is between 2 and 5 years of age. About 78% of the firms use mainly imported equipment while the rest - mainly the small firms- use locally fabricated equipment. However, an overlap was noted, whereby about 37% of the firms use machinery/ equipment and spares, some of which are imported and others are locally fabricated.

In terms of efficiency, table 3 below illustrates the findings. It is noteworthy that with regard to the efficiency aspects investigated, there are no significant differentials between Tanzania and Uganda. In terms of durability, only 14.0% complained that it was very low/low. However, a substantial 48.0 percent claim that the maintenance costs are high/very high. In terms of capacity, a substantial 27.0% responded that it was very low/low. This is especially with regard to the small sole proprietorships.

Only 7.5% confirmed that the machinery/equipment breaks down at a high/ very high rate. 77.0% indicated that the rate is reasonable while 15.5% claimed that it was low/very low.

Also, a small proportion of 13.0% said that the rate of commodity loss when processing was high/very high while the rest agreed that it was either reasonable or very low/low.

On product quality, a whooping 90.5% claimed that it was high/very high and only 2.0% admitted that it is very low/low. Indeed, among the respondent entrepreneurs from Tanzania nobody (0.0) admitted that their product quality was poor. However, informant interviews revealed that quite a number of agro-processors produce poor quality products, mainly due to rudimentary technology. It was established that the main culprits are the small firms, especially in the areas of bakery/confectionery, feeds and milling.

Table 3: Efficiency of machinery/equipment

	UGANDA		TANZANIA		AGGREGATE	
	Frequency	%	Frequency	%	Frequency	%
Durability						
Very low	11	11.0	17	17.0	28	14.0
Reasonable	68	68.0	71	71.0	139	69.5
High/V.high	21	21.0	12	12.0	33	16.5
Total	**100**	**100.0**	**100**	**100.0**	**200**	**100.0**
Magnitude of commodity loss when processing						
Very low	32	32.0	26	26.0	58	29.0
Reasonable	54	54.0	62	62.0	116	58.0
High/V. high	14	14.0	12	12.0	26	13.0
Total	**100**	**100.0**	**100**	**100.0**	**200**	**100.0**
Production quality						
Very low	14	14.0	0	0	4	2.0
Reasonable	9	9.0	6	6.0	15	7.5
High/V. high	87	87.0	94	94.0	181	90.5
Total	**100**	**100.0**	**100**	**100.0**	**200**	**100.0**
Breakdown frequency						
Very low	14	13.0	17	17.0	31	15.5
Reasonable	84	84.0	70	70.0	154	77.0
High/V.high	2	2.0	13	13.0	15	7.5
Total	**100**	**100.0**	**100**	**100.0**	**100**	**100.0**
Maintenance costs						
Very low	9	9.0	3	3.0	12	6.0
Reasonable	49	49.0	43	43.3	92	46.0
High/V.high	42	42.0	54	54.0	9	48.0
Total	**100**	**100.0**	**100**	**100.0**	**100**	**100.0**
Production capacity						
Very low	21	21.0	34	34.0	55	27.5
Reasonable	51	51.0	54	54.0	105	52.5
High/V.high	28	28.0	12	12.0	40	20.0
Total	**100**	**100.0**	**100**	**100.0**	**200**	**100.0**

It was also established that many of the firms in the sector have acquired better and more efficient machinery and equipment especially in terms of durability, efficiency, and capacity.

Local fabrication of machinery/equipment and parts was found to be a major player in the realm of efficiency. The practice seems to have enabled the firms to acquire reasonably good machines at a much lower price and more readily than imported machinery. On the other hand however, it was noted that the quality and durability are much lower. This affects the breakdown frequency and also the quality of the products.

On the whole however, there has been a notable shift towards greater efficiency over the past 10 years. It is noteworthy that many of the firms have acquired new machinery/equipment over the past 7 years and invariably, 100% of this category agreed that the new machinery is better than the previous one. The firms which have inefficient machinery/equipment were very quick to add that they plan to improve their technological capacity in the near future.

3.4 Policy impact

The policy implications of liberalisation policies were investigated under a number of variables. These included the firms' turnover, production costs, profit levels, the product market, availability of machinery/equipment, and maintenance costs.

The effect was categorised under positive, negative and none from the point of view of the individual firms. In terms of turnover, 61% reported a positive impact with 54.0% in Tanzania and 67.0% in Uganda. This was variously attributed to the opening up of export markets, removal of corporate monopolies and the abolition of price restrictions in some cases. In other cases however, (28%), a negative impact was noted. This was attributed to increased competition and production costs, hence the rise in prices.

Tables 4(a) and 4(b) below highlight the trends of policy impact, disaggregated into small firms (employing less than 5 people) and big firms (employing more than 5 people).

Table 4(a)Impact of liberalisation: small firms (employing less than 5 people)

	UGANDA		TANZANIA		AGGREGATE	
	Frequency	Proportion %	Frequency	Proportion %	Frequency	Proportion %
Turnover						
No effect	1	2.0	4	8.0	5	5.0
Positive	31	62.0	26	52.0	57	57.0
Negative effect	18	36.0	20	40.0	38	38.0
Total	**50**	**100.0**	**50**	**100.0**	**100**	**100.0**
Production costs						
No effect	0	0.0	2	4.0	2	2.0
Positive	6	12.0	8	16.0	14	14.0
Negative effect	44	88.0	40	80.0	84	84.0
Total	**50**	**100.0**	**50**	**100.0**	**100**	**100.0**
Machinery/ equipment cost						
None	42	84.0	36	72.0	78	78.0
Positive	6	12.0	4	8.0	10	10.0
Negative	2	4.0	10	20.0	12	12.0
Total	**50**	**100.0**	**50**	**100.0**	**100**	**100.0**
Machinery/equipment availability						
None	14	28.0	14	28.0	28	28.0
Positive	18	36.0	24	48.0	42	42.0
Negative	18	36.0	12	24.0	30	30.0
Total	**50**	**100.0**	**50**	**100.0**	**100**	**100.0**

Table 4(b) **Impact of liberalisation: small firms (employing less than 5 people).** (Continued)

	UGANDA		TANZANIA		AGGREGATE	
	Fre-quency	Propor-tion	Fre-quency	Propor-tion	Fre-quency	Propor-tion
Profit levels						
None	12	24.0	13	26.0	25	25.0
Positive	8	16.0	11	22.0	19	19.0
Negative	30	60.0	26	52.0	56	56.0
Total	**50**	**100.0**	**50**	**100.0**	**100**	**100.0**
Machinery/ equipment maintenance costs						
None	28	56.0	32	64.0	60	60.0
Positive	8	16.0	11	22.0	19	19.0
Negative	14	28.0	7	14.0	21	21.0
	50	**100.0**	**50**	**100.0**	**100**	**100.0**

Table 4(b) Impact of liberalisation: Big Firms (employing more than 5 people)

	UGANDA		TANZANIA		AGGREGATE	
	Fre-quency	Propor-tion %	Fre - quency	Propor-tion %	Fre-quency	Propor-tion %
Turnover						
No effect	2	4.0	9	18.0	11	11.0
Positive effect	34	67.0	27	54.0	61	61.0
Negative effect	14	29.0	14	28.0	28	28.0
Total	**50**	**100**	**50**	**100.0**	**100**	**100.0**
Production Costs						
No effect	1	2.0	4	8.0	5	5.0
Positive effect	0	0.0	2	3.0	2	2.0
Negative effect	49	98.0	44	89.0	93	93.0
Total	**50**	**100.0**	**50**	**100.0**	**100**	**100.0**
Machinery/ equipment costs						
None	1	0.0	2	4.0	2	2.0
Positive	0	8.0	14	28.0	18	18.0
Negative	46	92.0	34	68.0	80	80.0
Total	**50**	**100.0**	**50**	**100.0**	**100**	**100.0**
Machinery/equipment availability						
None	7	13.0	4	8.0	11	11.0
Positive	41	82.0	46	92.0	87	87.0
Negative	46	5.0	0	0.0	2	2.0
Total	**50**	**100.0**	**50**	**100.0**	**100**	**100.0**

Table 4(b) **Impact of liberalisation: big firms (employing more than 5 people).** (continued)

	UGANDA		TANZANIA		AGGREGATE	
	Fre-quency	Propor-tion %	Fre-quency	Propor-tion %	Fre-quency	Propor-tion %
Profit levels						
None	1	1.0	6	12.0	7	7.0
Positive	29	57.0	41	82.0	52	70.0
Negative	20	5.0	3	6.0	41	41.0
Total	**50**	**100.0**	**50**	**100.0**	**100**	**100.0**
Firms market						
None	5	10.0	2	4.0	7	7.0
Positive	33	66.0	19	38.0	52	52.0
Negative	12	24.0	29	58.0	41	23.0
Total	**50**	**100.0**	**50**	**100.0**	**100**	**100.0**
Machinery /equipment maintenance costs						
None	10	19.0	13	25.0	23	23.0
Positive	12	23.0	13	26.0	25	25.0
Negative	28	58.0	24	49.0	52	52.0
Total	**50**	**100.0**	**50**	**100.0**	**100**	**100.0**

For production costs, firms in both Uganda and Tanzania (88% and 98% for small and big firms respectively) concur that the impact of the policies has been negative. The main areas noted include high electricity and other utility tariffs, taxes on inputs and fuel costs.

On the costs of machinery/equipment, an aggregated proportion (76% and 80% for small and big firms respectively) agree that the impact has been very negative. They argue that both governments have removed the subsidies which used to be in place, and that concessional loans for the purpose are no longer available. Nevertheless, a few of the firms said that the prices of machinery/ equipment have declined, possibly due to competition among many suppliers. Quality of the equipment has however, remained the same, indicating the lack of significant changes in technology for agro-processing enterprises, in spite of the implementation of economic liberalisation policies.

To press this analysis further, it was thought imperative to investigate the views of policy makers as regards the impact of economic liberalisation on agro-based enterprises in the two countries. The Ugandan policy makers included the officials from the Ministry of Finance and Economic Planning who had this to say:

> The economic policies we have adopted have played a big role in creating macro-economic stability. The stringent monetary and fiscal policies have reduced some disposal income, hence affecting the consumers'demand, but the most important achievements have been in the way of creating efficiency.

The officials argued that the liberal policies pursued, have promoted export trade and have widened the flow of tradable goods. The officials from the Tanzania Ministry of Finance had this to say:

> The policies pursued by the government have created effective competitiveness among agro-producers and processors. This has resulted into efficiency and high quality products. Those who have failed to compete have left, while those who have managed the competition have continued to grow.

In terms of availability of the machinery/equipment, 87.0% of the big firms agreed that the impact has been positive while only an aggregated 10.0% of the small firms indicated that the impact had been positive. This trend probably results from the fact that while small firms depend on machinery available on the local market, the bigger firms can access foreign markets for machinery. The small firms

are therefore more easily affected by changes in the local economy than bigger firms.

With regard to profit levels in the big firms, there were marked differentials between Uganda and Tanzania. While only 57.0% noted positive change in the former, 82.0% of the Tanzanian firms reported positive effects which are neutralised by the very high production costs. Most of the blame was laid on high taxes on the inputs and also the high tariff costs on electricity and other sources of fuel. There were no significant differences in profit levels with regard to small firms between the two countries. This is attributed to the low levels of operation of the small firms, leading to much more minimised effects on profits than the bigger firms.

On the firms' market, the reaction was mixed. 52% argued that the impact was positive, 41% said that it was negative, while 7% reported no impact. The positive category mainly cited exportation as the main cause of expanded markets. Otherwise on the local scene, many agreed that competition had become stiff due to liberalised trade.

Maintenance costs for machinery/equipment were reported to have increased by 53.5% of the respondents. However, it is noteworthy that this contrasts sharply with the costs of the machinery/equipment reported to have increased by 80% by the respondents. This was attributed to the fact that the current machinery/ equipment is more durable and breaks down less often.

Also, it was noted that most of the spares can even be locally fabricated or procured. Other policy impact criteria explored were exportation, technological changes, future plans and capital accumulation among others. Table 5 on page 31 portrays the responses.

In both countries, the overwhelming majority of respondents (79.5%) concurred that it is now much easier to procure machinery and equipment. This was mainly attributed to easier accessibility to foreign exchange, the presence of more suppliers in the respective countries, and easier communication between intending buyers and sellers.

It also transpired that a sizeable number of firms (58.0%) have entered the export market. They explained that this has made it possible for the firms to expand their market and has facilitated technological changes in a bid to satisfy the international market, in terms of quality and also in order to compete favourably in terms of pricing. The expanded market has further enabled the use of excess capacity of the installed machinery, and the exploitation of economies of scale through a higher production level. It was found that most of those exports end up in the East and Central Africa lake region and western Europe.

Table 5: Further aspects of policy impact

	UGANDA		TANZANIA		AGGREGATE	
	Fre-quency	Propor-tion %	Fre-quency	Propor-tion %	Fre-quency	Propor-tion %
Procurement ease						
Easier	85	85.0	74	74.0	159	79.5
More difficult	4	4.0	14	14.0	18	9.0
No difference	11	11.0	12	12.0	23	11.5
Total	100	100.0	100	100.0	200	100.0
Exports some products						
Yes	62	62.0	54	54.0	116	58.0
No	38	38.0	46	46.0	84	42.0
Total	100	100.0	100	100.0	200	100.0
Changed machinery/ equipment						
Yes	64	64.0	78	78.0	142	71.0
No	36	36.0	22	22.0	58	29.0
Total	100	100.0	100	100.0	200	100.0
Which is better						
Same	2	2.0	7	7.0	9	4.5
Current one	62	62.0	71	71.0	133	66.5
Previous	0	0.0	0	0	0	0
N/A	36	36.0	22	22.0	58	29.0
Total	100	100.0	100	100.0	200	100.0
Profits re-invested						
None	1	1.0	16	16.0	9	4.5
No profits yet	21	21.0	12	12.0	33	16.5
	43	43.0	32	32.0	75	37.5
	14	14.0	30	30.0	44	22.0
	1	1.0	6	6.0	8	4.0
	12	12.0	3	3.0	15	7.5
	8	8.0	17	17.0	25	12.5
Total	100	100.0	100	100.0	200	100.0

However, it was noted that the market has been affected by a number of factors. The main one is instability in the Great Lakes region. Civil strife in Somalia, Sudan, Zaire, Burundi and Rwanda has often made it very difficult for the firms to exploit the lucrative regional market. Also fierce competition from regional industrial power houses like Kenya has been a problem.

Complaints about low local demand were also expressed, especially by the larger firms. A number of these argued that the purchasing capacity of the majority of the population has been on the downward trend, due to lower real wages, low government expenditure, loss of jobs, etc. Many complained of idle capacity of their industrial plants, due to the above reasons, in the face of greater technological capacity.

Noting that liberalisation has unleashed cut-throat competition in the market, respondents explained that change in technology has been found to be the pre-requisite for survival. Training of staff and acquisition of better machinery/ equipment have been the hallmark of technological change over the last ten years in both countries. Invariably, all respondents (100%) reported training programs for staff of one sort or other, while 71% reported a change in machinery/equipment. In fact, the 29% who have not changed machinery/equipment were found to be either big firms, already with efficient machinery/equipment or relatively young firms whose technology is up-to-date. However, a small fraction (8%) pleaded lack of capital to purchase better machinery/equipment. But even this category explained that acquisition of better machinery/equipment features prominently in their future plans.

It was found that of the 200 respondent firms, only 24 (12%) are owned and/or managed by women. Of these, only 16(8%) are owned and managed by women. In both Uganda and Tanzania and going by the parameters used in the foregoing, no significant differentials of a discernible pattern were found to be manifest in the firms owned and managed by women as opposed to those owned and managed by men.

Indeed, just like the male owned/managed firms, efforts have been made by female owned/managed firms to acquire better machinery/equipment where possible. Where it has not been possible, there are future plans. Training of staff, acquisition of technical assistance, exploration of export markets, etc are high on the agenda of both categories of firms. The findings therefore seem to unequivocably suggest that economic liberalisation policies affect both women- and men- managed enterprises in the same way, and there are no significant differences with respect to gender in Uganda and Tanzania.

It can be concluded in this section that, as shown earlier by the conceptual model on Page 14, economic liberalisation policies seem to have had some impact on the technology used in agro-based processing enterprises. Results from the study have indicated that de-subsidisation and deregulation of prices have raised production costs due to the increase in prices of agro-processing equipment, and agricultural inputs.

While, the general trend after liberalising an economy has been that the cost of production generally goes up and profits tend to reduce, results from the study indicate that this trend was only pronounced in the initial years of liberalisation; and has changed over the years. Though prices of equipment and inputs have been high, they have stabilised and turnover and profits have started picking up. This positive development is more evident in Uganda than in Tanzania, because of the greater period of liberalisation in the case of the former than the latter.

3.5 Focus group discussions

Two focus group discussions, were conducted, one in Kampala and the other in Dar-es-Salaam. They centred on reinvestment of profits, the impact of liberalisation on prices, profits, availability of processing equipment and spare parts, and the overall assessment of the impact of liberalisation on the performance of agro-processing enterprises. It was revealed that on average less than 25% of profits per enterprise are reinvested for business expansion. This probably explains why the bulk of enterprises have remained static for a long time and have not grown in size. Focus group discussions further revealed that economic liberalisation has not significantly enhanced the profits of the entrepreneurs due to a rapid increase in prices of inputs and a reduction in purchasing power of the public. The focus group from Uganda particularly revealed that:

> economic policies pursued by the government have resulted into very high taxation to both manufacturers and consumers. This has added on the problem of already high prices of our raw materials. You produce at high cost and then there is no one to buy since people do not have disposable income.

The group from Tanzania revealed that:

> The only good thing that the current economic policy has brought is the availability of machines and their spare parts. Any machine or spare part you want to buy is available. The only problem is lack of enough money. Prices of equipment and spare parts, short up immediately after removing price controls but the prices have now stabilised although they are still high and are affecting the profit margins of the entrepreneurs.

Making an overall assessment, it was agreed in both focus group discussions that generally economic liberalisation, in general and removal of price controls in particular, had enhanced their access to processing equipment and better technologies. However, this has benefited firms which have been able to compete. In a focus group in Kampala, Uganda, it was revealed that:

> approximately 30% of small firms which started four years ago have wound up due to their failure to compete. The major problem has been high production costs amidst decreasing demand from the population.

In Tanzania, the respondents almost echoed the same problem. It was reported in a focus group discussion that:

> a substantial proportion of approximately 40% of agro-processing firms are operating on losses due to high costs of production. Although they have not yet closed down it is doubtable whether they will remain in business for the next two years.

From the preceeding analysis, it is apparent that the economic policies pursued by the two countries have adversely affected their agro-based enterprises. Even for those firms which appear to be competitive now, it seems doubtable that they can sustain their current performance. The most fragile firms include the relatively smaller firms with a small financial base and output capacity.

Drawing from the conceptual framework indicated earlier, it is apparent that economic liberalisation policies have impacted on the performance of the agro-based enterprises. While relatively large and medium size firms have weathered the ranges of the liberalisation policies, the small firms appear to have found it an uphill task to compete.

Chapter Four: The Way Forward

4.1 Overview

The debate on the gains of Structural Adjustment Programs (SAPs) of the World Bank and stabilisation policies of the International Monetary Fund (IMF) which has been raging for the past two decades is far from over. On the contrary, more and more inquiries into the impact of one or other dimension of the programs continue to yield mixed results. Nevertheless, the question is no longer whether to adjust or not, but rather how to go about the process. In a situation of acute macro-disequilibria, pundits have come to agree that adjustment is unavoidable.

However, it has also been recognised that adjustment in its orthodox form can be so harmful to a country and its people depending on the local situation, that it should take into account such issues as the basis of the economy, people's culture, level of development and industrialisation, technological capacity, etc.

Recognising the central role of agriculture and the need for industrialisation as the engines of growth and development in Uganda and Tanzania, this survey set out to explore the state and trend of agro-processing technology in a liberalised economic environment, under structural adjustment programs.

While the findings have been discussed in detail in the foregoing chapter, the major ones are repeated in summary here below for purposes of easy evaluation of the policy recommendations presented in the next section.

(i) There is an apparent skills problem among the employees in the agro-processing sector, despite some training programs which are apparently inadequate.

(ii) To a large extent, recruitment of staff tends to depend on whether a candidate knows the owners/top managers rather than the qualifications/ experience. This is especially true in the dominant small/medium firms.

(iii) Power is a problem. Electricity supply is unreliable and the tariffs are too high. Even thermal fuel attracts very high taxes, especially in Uganda, and is therefore expensive.

(iv) Most of the agro-processing firms are small. About three-quarters employ less than 20 people. Expansion is hampered mainly by lack of capital.

(v) While serious attempts have been made to modernise their machinery/ equipment, many cannot afford large-capacity ones and instead settle for the small/ medium capacity categories.

(vi) While the procurement process for machinery/equipment is now very easy, desubsidisation has caused increases in their prices. Maintenance is also now more expensive.

(vii) However, markets have expanded especially with exportation. Despite stiffer competition locally, production and profits have gone up.

(viii) The bigger firms are well organised, complete with functional departments headed by specialised personnel. However, the small ones lack organisation, coherent responsibility centres and proper decision-making channels and have become less competitive.

(ix) The sector is increasingly dominated by non-indigenous entrepreneurs. Many of the local ones have been pushed out due to unfavourable competition.

(x) There are high tax tariffs on some of the products. This curbs consumption, demand, production and prohibits expansion.

(xi) Industrial infrastructure is still a problem. Land and utilities like water, access roads, etc. are a problem.

(xii) Selective industrial facilitation in terms of loans, guarantees and other facilities are lacking.

(xiii) Technological changes in the positive direction, have been clearly manifest in the agro-processing sector over the last decade.

(xiv) Technological changes were not found to have a significant relationship with the gender affiliation of the owners/managers.

(xv) Most of the findings above apply both in Uganda and Tanzania. Just a few are more pronounced in Uganda because it has been implementing liberalisation policies longer and more boldly.

4.2 Emerging policy issues

The findings indicate that structural adjustment programs, however apparently successful they appear to be, need to be progressively reviewed and reconstituted to incorporate the necessary safety nets. This ensures the consolidation of the adjustment gains without affecting the program itself.

Often, orthodox adjustment has been pursued seemingly for its own sake, without regard to its impact on various other aspects of the economy, like technological improvement or people's welfare. Fortunately enough, the stereo-type, orthodox type of adjustment characterised by inflexibility has been largely abandoned in favour of the versatile, dynamic and flexible type.

In view of the above developments and findings, it would be advisable to incorporate the following recommendations in the overall policy framework under the ongoing structural adjustment in Uganda and Tanzania.

(i) Technical education should be given more attention than has hitherto been the case. More practical education at lower levels, more technical institutions, more international technical exchange and assistance programs should be encouraged. Other forms of tertiary education should also be promoted.

(ii) The promotion of professional project-management techniques is urgent. The training of managers and entrepreneurs need to be facilitated in terms of such techniques as recruitment, organisation, functional responsibility centres, financial management, etc.

(iii) Machinery/equipment usually requires substantial financial resources. De-subsidisation should just be gradual, especially for priority sectors. Also, or alternatively, credit facilities or guarantees should be availed to prospective entrepreneurs. Joint-ventures and mergers should also be encouraged.

(iv) Tariffs on electricity and thermal fuels need to be revised downwards, especially for the industrial consumers. Also, the taxation of local products versus the imported substitutes need to be in consonance with the principle of promoting local industry.

(v) There is dire need for the creation of industrial estates serviced with utilities for prospective investors in key sectors like agro-processing.

(vi) Supervisory and promotional bodies, especially in the areas of quality control, export promotion and investment facilitation which are already in place, need to be further strengthened.

(vii) Finally, there is need to implement liberalisation selectively, in order to promote local industry and appropriate technology. Local investors in key sectors like agro-processing require extra incentives, in terms of preferential taxation, credit, government market and extension services. This will promote home grown industrialisation, without affecting technological transfer from broad.

4.3 Areas for further inquiry

In cognisance of the need for flexibility in program implementation and the invaluable usefulness of progressive policy-evaluation, it now emerges that the following areas related to the problem at hand also need to be thoroughly investigated.

(i) What is the impact of adjustment programs on local investment as opposed to foreign investment?

(ii) What are the implications of trade-liberalisation on local production in the developing world?

(iii) To what extent should adjustment go in predominantly informal and agricultural economies?

(iv) What technology is more appropriate for countries characterised by a large, unskilled population and shortage of loanable funds?

(v) How best can the private -sector initiative be promoted in poor countries largely used to state controls and subsidies?

(vi) What mechanisms can be used to carry out the privatisation of state enterprises fairly and profitably in poor adjusting countries, without the risk of promoting foreign economic domination?

(vii) How best can technological advancement be achieved in the agro-processing sectors of poor adjusting countries, without knocking out the small-scale entrepreneurs?

(viii) What modes of facilitation for small entrepreneurs in the agro-processing sector can be employed, to promote technological advancement without derailing the tenets of the adjustment process?

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