Constraints Analysis and Interventions for Stimulating Indigenous Agribusiness Development in Southern Africa

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FOREWORD

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LIST OF ACRONYMS

ACRONYM	MEANING
ADRA	Adventists Development and Relief Agency
AGRICOM	The State Marketing Board for Mozambique
AISME	Agricultural related indigenous small or medium enterprise
AMIS II	Agribusiness and Marketing Improvement Strategies II
ANC	African National Congress - South Africa's resistance movement
APDF	Africa Project Development Facility
ARI	Agricultural Research Institute (Naliendele, Tanzania)
ATI	Appropriate Technology International
BET	Board of External Trade of Tanzania
BFE	The Portuguese Banco de Formento e Exterior
BIM	Mozambique Industrial Bank
BoT	The Bank of Tanzania
CARMOC	Mateus Gonçalves Cartonagens de Moçambique Lda (Mozambique)
CDC	Commonwealth Development Corporation
CIDA	Canadian International Development Agency
CIM	Companhia Industriel de Matola (Mozambique)
CLUSA	Cooperative League of the United States
CMBT	Mozambique Cashew Marketing Board
CMSA	Capital Markets and Securities Authority Tanzania
CNSL	Cashew Nut shell Liquid
CRDB	Cooperative Rural Development Bank Tanzania
CREDICOOP	Cooperativa de Credito e Investimento
CUT	Cooperative Union of Tanzania
DAI	Development Alternatives Inc
DPCCN	The Drought Relief Agency of the Mozambican Government
GAPI	BPD and Frederich Ebert Foundation Joint Venture (Mozambique)
GDP	Gross Domestic Product
EDESA	Economic Development in Equatorial and Southern Africa Ltd
EIM	Equity Investment Management Ltd (Tanzania)
EMOCHA	The State holding company for agricultural investments in Mozambique
ERP	Mozambique's Economic Rehabilitation Program
ESAF	Enhanced Structural Adjustment Facility (Tanzania)
EU	European Union
FAO	Food and Agriculture Organization

FDA	U S Food and Drug Administration
FAS	Free Alongside Ship
FED	Finance and Enterprise Development
FFPI	Fund for the Promotion of Small Industry
FMO	Dutch Government Aid Organization
FRELIMO	Mozambique Liberation Front
FSU	Southern Zone Farming System Research Unit (Tanzania)
GPPE	Office for the Promotion of Small Entrepreneurs (Mozambique)
GRM	Mozambican Government (The Revolutionary Government of Mozambique)
ICM	Instuto de Cereais de Mozambique (Mozambican Cereals Institute)
IDIL	The Institute for the Development of Local Industry (Mozambique)
IMF	International Monetary Fund
ISME	Indigenous Small and Medium Enterprises
JFS	Joao Ferreira dos Santos Ltda (Mozambique)
KIA	Kilimanjaro International Airport
LAZER	World Bank Lake Microenterprise Project (Mwanza Tanzania)
Loges	Rural stores in Mozambique
MALD	Tanzania Ministry of Agriculture
MDB	Marketing Development Bureau (Tanzania)
MINCO	Mozambique (microenterprise) Investment Company
MZM	Mozambique Menticash (dollars)
NAFCO	National Agriculture and Food Corporation Tanzania
NAPB	National Agricultural Products Board Tanzania
NBC	National Bank of Commerce (Tanzania)
NGO	Non-Governmental Organizations
NIGP	National Income Growth Program Tanzania
NMC	National Milling Corporation Tanzania
NRI	Natural Resources Institute (UK)
ODA	Overseas Development Agency
OPM	Office of Program Management
PL 480	Public Law 480 of the United States (Food for Peace)
PDPME	Program for the Development of Small and Medium Enterprises (Mozambique)
PRSC	Parastatal Sector Reform Commission of Tanzania
PSGE	Productive Sector Growth and Environment
PVOs	Private voluntary organizations
RENAMO	Mozambican Resistance Movement
RMPS	Risk Management and Profit Sharing

RSA	Republic of South Africa
SAEDF	Southern Africa Enterprise Development Fund
SATF	Social Action Trust Fund (Tanzania)
SBT	Standard Bank of Tanzania
SCT	Standard Chartered Tanzania
SGS	Societe Generale Surveillance
SME	Small and Medium Enterprise
TA	Technical Assistance
TANEXA	Tanzania Exporters Association
TBC	The Business Center (Tanzania)
TCMB	Tanzania Cashew Marketing Board
TDFL	Tanzania Development Finance Company Ltd
Tsh	Tanzania Shillings
TVCF	Tanzanian Venture Capital Fund
UHT	Ultra High Temperature
ULC	United Leasing Company (owned by EDESA)
UNDP	United Nations Development Program
USDA	U S Department of Agriculture
UNIDO	United Nations International Development Organization
WFP	World Food Program of the United Nations
WVI	World Vision International

EXECUTIVE SUMMARY

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Executive Summary

The objective of this study was to provide the analytical basis for the development of agricultural-related indigenous small and medium enterprises (AISMEs) throughout Southern Africa The first requirement was to identify the operating constraints these enterprises face and to target potential investment opportunities in key agribusiness sectors The second requirement was to recommend intervention methods and local partners that the Southern Africa Enterprise Development Fund (SAEDF) could use in carrying out its AISME investment programs

The activity was implemented in four steps 1) Secondary Research 2) Investment Environment Profiles for the 11 Southern Africa countries 3) Primary (field) Research, and 4) Seminars for Potential Investors The results of the secondary research, the investment profiles and copies of the slides from the seminars along with a brief summary of the seminar results are included in Volume II Volume I, this document describes the primary research findings

The primary research field work was completed over a four-month period between April and August 1996 for the PSD Unit of the PSGE Division of the office of Sustainable Development of USAID's Bureau for Africa The study team was composed of a business development specialist a financial/investment analyst and an enabling environment/operational constraints specialist The study focused on Tanzania and Mozambique two of the eleven countries within SAEDF's geographic area of interest

Tanzania

The team visited dozens of private and state-owned agribusinesses in Tanzania and conducted in-depth interviews with numerous agribusiness and service operators managers and entrepreneurs The study team also made an extensive review of background material on Tanzania's economy and Government's economic policy privatization and the status of agricultural and agribusiness development in the country Based on field work the team selected the following high-opportunity subsectors for detailed analysis

- Export horticultural crops including cut flowers green beans, dried and processed spices and dried flower and vegetable seed
- The production processing and export of pyrethrum as a natural pesticide,
- Cashew nut processing and export
- Sisal processing and export, for niche markets where natural fibers are in high demand and
- Cereals milling, storage and marketing

The team reviewed several other subsectors but did not do detailed analysis on them due to time limitations
The conclusions drawn from the study team's work in Tanzania are as follows

i) Government policies and attitude are the biggest problems to be overcome in expanding private agribusiness in Tanzania Old socialist ideas and attitudes appear to die very slowly Economic openness and free market principles are slowly progressively making inroads but at a rate proportional to the pressure applied by international lending and donor agencies The inescapable conclusion is that Government is a reluctant participant in Tanzania's economic liberalization process

International and local investors are not sure the government of Tanzania is committed to a private sector-based economy and are therefore hesitant to invest The ambivalent attitude of the government and in some cases the population in general toward the private sector results in a poor attitude toward and very reluctant and slow government services to entrepreneurs

ii) The absence of credit is the second biggest constraint to agribusiness development in Tanzania Tight money and high interest rates are the result of structural readjustment and the prolonged transition to a free market economy Commercial bank credit for production activity is reserved for large, long established exporters, many of whom are parastatal organizations

iii) The lack of technical and managerial skills is another constraint to AISME development There is a need to foster entrepreneurship by creating role models of successful entrepreneurs supported by training programs aimed at developing entrepreneurship and business managers

iv) Government services are deficient and there is a special need to improve the transport and communications infrastructure throughout the country The weak infrastructure is perpetuated by poor management limited funding for maintenance and upkeep ageing infrastructure and equipment and "rent seeking" behavior by officials who profit from their authority to grant licenses or permits

The recommended actions for SAEDF to capitalize on opportunities in Tanzania are as follows

i) SAEDF should consider export horticulture as an agribusiness subsector with high investment potential With the right local partner floral exports would be especially promising The export of dried herbs and dried selected flower and vegetable seed also show excellent potential Linking indigenous producers and intermediaries to existing export companies is a recommended means of bringing AISME operators into the export business

ii) With the liberalization of grain marketing in Tanzania SAEDF should consider the possibility of joint venture investments in grain milling and warehousing It is also recommended that SAEDF initiate a micro enterprise

development program in partnership with a local organization such as the National Income Generation Program (NIGP) to finance the construction of wholesale municipal markets

iii) It is further recommended that SAEDF consider investing in the production, processing and export of selected traditional export crops Small to medium scale semi-mechanized cashew processing is one possibility production processing and marketing of sisal as a natural fiber is another opportunity area and the small-scale processing and export of pyrethrum as a natural pesticide is a third possibility

iv) While implementing its field work in Tanzania, the team encountered several specific investment opportunities that promise a high return and would have a big impact on local employment It is recommended that SAEDF contact the respective entrepreneurs listed in Appendix A, 2 0 to explore these opportunities

v) It is also recommended that SAEDF negotiate a service agreement with Standard Bank, under which the latter would represent SAEDF in screening administering and monitoring investment projects in Tanzania SAEDF should consider using the Tanzania Venture Capital Fund as a mechanism for making venture capital investments in Tanzania To stimulate microenterprise development it is recommended that SAEDF establish a partnership with the NIGP

Mozambique

Prioritizing the list of potential subsectors to review in Mozambique was difficult due to the myriad of available choices With the country beginning to rebuild and the economy in prolonged postwar recovery investment opportunities exist in virtually all subsectors

The final selection was four agroindustries cashew, coconut products cereals and edible oils, and also packaging, a service industry that affects all agroindustry

The production of cashew and coconut are important to tens of thousands of small holders in the northern provinces Furthermore both are historically important export crops that have suffered a prolonged decline With less Government involvement and improved world prices the outlook for these crops is the brightest that it has been for many years

Food grains and edible oils were selected since the lives of all Mozambicans are touched by the cost and availability of these basic food items With the country slowly returning to normal food production and with the emergence of private traders engaged in the distribution and sale of food products, opportunities are increasing for AISME involvement in processing and marketing these commodities

The packaging industry was selected because the growth in packaging material demand will likely keep pace with all other economic subsectors and will provide new opportunities for the creation and expansion of AISMEs Furthermore with

State owned manufacturing plants quickly being spun off to private operators and the likelihood that domestic production of packaging material will replace imported products the industry's growth prospects are very bright

Four other subsectors were chosen as secondary contenders for small and medium enterprises horticultural production and marketing dairy processing livestock and poultry production and animal feed milling and distribution

The conclusions drawn from the study team's work in Mozambique are as follows

i) Despite numerous problems and constraints Mozambique's situation is far from bleak With peaceful reconstruction and a strong privatization program Mozambique appears poised for strong economic recovery Parts of the country Nampula in particular are poised for an economic boom

ii) Mozambique has a favorable investment code with important investment tax incentives which encourage business development particularly outside the urban centers Investors and business entrepreneurs both national and foreign are encouraged and made to feel welcome

iii) Many constraints still exist to AISME development The most severe are the poor infrastructure and the high is cost of transporting goods particularly in a north-south direction

iv) The non-availability of finance is another constraint to AISMEs The discipline of economic stabilization and IMF-dictated tight money policy has severely limited the availability of bank credit

v) Government policy and its regulatory framework are in a state of flux Agricultural policy is still being written and land tenure is uncertain Practices followed by many Ministry officials are still based on the old socialist system Most procedures for licenses and permits are generally not well known, are not published and are not transparent. Control systems on private businesses by various Ministries require employee rosters, time worked, employee health certificates and a myriad of other information must be available for inspection at a moment's notice

vi) The country's fiscal system is another substantial problem especially for importers The customs code is exceedingly complex with a proliferation of product categories The structure of import duties is confusing and lends itself to abuse Smuggling and under-invoicing of imports are common give an unfair advantage to traders and constitute a major threat to legitimate manufacturers

vii) Another constraint to AISME development is the basic structure of commerce and industry Many monopolies or quasi-monopolies remain from the colonial period While the State is no longer involved in company operations,

in each Province there is a small group of Government-linked firms that controls most economic activity In this system of near-monopoly control it is difficult for new AISMEs to gain a foothold

viii) Manufacturing technology for agro-processing and packaging is generally antiquated and noncompetitive with regional manufacturers A related problem is that, in many instances, factory workers and even technicians are ill-prepared and ill-trained for factory operations

The recommended actions for SAEDF to capitalize on opportunities in Mozambique are as follows

i) In determining opportunities for potential investment in Mozambique SAEDF should consider food grains edible oils, packaging copra products and cashew nuts

ii) Specific investment opportunities are recommended for consideration by SAEDF in the packaging industry and for the export of coconut wood products SAEDF's involvement in micro enterprise development is recommended for small-scale bakeries edible oil pressing, coconut oil pressing for village-level soap making and a small farmer outreach program for copra exports, in collaboration with a large exporter

iii) It is recommended that SAEDF select the Banco International de Moçambique as its commercial bank partner in Mozambique SAEDF should consider an investment in the new venture capital fund MINCO, and should also consider working with ULC Moçambique the leasing company SAEDF should play a leadership role in the evolution of micro credit programs in Mozambique by providing direct or indirect funding for apex wholesale micro finance mechanisms

iv) SAEDF and USAID/Mozambique should collaborate on micro enterprise development programs particularly in the northern provinces where USAID is involved

v) It is recommended that USAID/Mozambique follow through on maize exports from the northern provinces as outlined in the strategy paper prepared for the Mission by the team

vi) It is recommended that USAID/Mozambique develop a long range program for the rehabilitation of the cashew industry by supporting the creation of a Fund for cashew development, to be managed and implemented by the industry itself

Overview

The following matrixes were used as handouts at the seminars held in Southern Africa and are presented here as a summary of the findings of the overall activity

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Subject	Key Points	
	Mozambique	Tanzania
Prioritized Enabling Environment Enhancements Needed to Capitalize on ISME Investment Opportunities and Overcome Key Constraints in High Potential Subsectors	1) Road system improvements are needed to increase the capability of transporting goods throughout the country particularly in a north south direction 2) ISMEs must be given access to commercial credit Investment credit for long term agribusiness projects is not available from the financial sector Working capital financing such as a bank overdraft facility is only available to large traders and to long established manufacturers 3) Government policy and its regulatory framework need to be finalized Agricultural policy is still being written, and land tenure is uncertain Government dictated minimum farm prices are a hindrance to efficient marketing Government s control over routine business operations needs to be diminished 4) The customs code needs to be simplified and the number of product categories reduced Illegal imports should be controlled To ensure that industry becomes internationally competitive the import duty structure should be rationalized and the level of import duties gradually reduced 5) Fiscal reform is needed to simplify the tax structure on business and to eliminate the assessment of duplicate taxes under the cascading circulation tax 6) The oligopolistic structure of many industries should be gradually eliminated by encouraging and promoting new businesses which should lead to greater competition Governments participation in these industries even as a silent partner should be phased out 7) Manufacturers should be provided fiscal incentives to upgrade and modernize manufacturing technology particularly within the agribusiness and packaging industries Programs are also needed to upgrade the skills of factory workers and factory technicians	1) While there is an apparent willingness to change from a State controlled to a market driven economy at the upper levels of government, there appears to be deep resistance to change at lower levels Economic openness and free market principles are slowly progressively making inroads but the rate of progress appears to be proportional to the pressure applied by international lending and donor agencies Government policies and programs must more fully embrace market liberalization 2) The country's legal framework must be brought into alignment with free market policies Most of the old socialist laws are still on the books Although there is de facto liberalization, many of the changes which have taken place over the past few years are without legal basis and could be reversed under another political environment 3) Programs are needed to upgrade the level of technical and managerial skills in Tanzania Entrepreneurship can be fostered by successful entrepreneurs acting as role models but this must be supplemented by training programs aimed at developing indigenous business managers 4) There is a need to improve the transportation and communications infrastructure throughout the entire country 5) There is a strong need to improve the general level of government services to the private sector

Subject	Key Points	
	Mozambique	Tanzania
Suggested Financial Institutions for Use by the SAEDF to Invest in High Opportunity Subsectors	1) **Commercial bank partner** It is recommended that SAEDF select the Banco International de Moçambique as its commercial bank partner in Mozambique 2) **Venture capital / leasing partner** SAEDF should consider an investment in the new venture capital fund MINCO 3) **Micro finance partner** SAEDF should provide direct or indirect funding for APEX wholesale micro finance mechanisms	1) **Commercial bank selection** It is recommended that SAEDF select Standard Bank (Tanzania) 2) **Venture capital fund / leasing company** SAEDF should consider the Tanzania Venture Capital Fund as a mechanism for making venture capital investments in Tanzania 3) **Micro finance activities** SAEDF should consider investing in two initiatives sponsored by the National Income Generation Program (NIGP) The Umbrella Project for Microenterprise Credit Development and the Small and Medium Sized Enterprise Credit Support Project

High Opportunity Subsector	Major Constraints to ISME Success in High Opportunity Subsectors	Apparent Investment Opportunities in High Opportunity Subsectors
Tanzania		
Horticultural Export Crops including cut flowers green beans dried and processed spices dried flower seed and vegetable seed	i) With the exception of a few products there is limited knowledge about export crop production processing and marketing ii) There is a lack of investment capital to finance crop production inputs processing plants and equipment Working capital financing which is a requirement for export crops is nonexistent iii) In the short run limited air cargo capacity is a constraint to increased shipments of fresh cut flowers and fruit and vegetables from the major producing zones of Kilimanjaro and Arusha iv) The condition of many rural roads is deficient in the areas where export crops are grown v) Government horticulture related services are generally deficient and there is an all too often tendency among lower level Government officials to fleece the businessman particularly foreigners whenever possible vi) Packaging materials are not manufactured in Tanzania and are therefore difficult to acquire and very expensive	i) Subcontracting to supply products to existing horticultural exporters is a promising business opportunity for ISMEs For example Sunripe Kilimanjaro would like to concentrate its efforts on value added fresh vegetable processing New ISME packing shed operators could contract for vegetable production with small producers and could select grade box and transport the finished product to Sunripe s processing plant where it would be processed for export ii) With the increasing importance of flower and vegetable seed exports it would also be possible for satellite ISMEs to work between the seed exporter and small farmers as a wholesaler of export quality seed iii) The production and export of dried processed food spices hold great promise for agribusiness ISMEs A model project developed by the Tanzania Exporters Association (TANEXA) utilizes the concept of contracting small scale producers in the Tanga Morogoro and Dar es Salaam regions to produce spices for export by TANEXA through the port of Dar es Salaam iv) The cut flower export business is very capital intensive, demanding in terms of production scheduling and crop cultivation and relatively high tech in its requirements for post harvest handling transport logistics and overseas sales coordination However with a skilled management team that has experience in cut flower production particularly roses the fresh flower export business can be highly profitable and therefore a good ISME opportunity

High Opportunity Subsector	Major Constraints to ISME Success in High Opportunity Subsectors	Apparent Investment Opportunities in High Opportunity Subsectors
Cereals Milling, Storage and Marketing	i) The lack of suitable transport is the single biggest problem facing the cereals subsector The uncertainty and difficulty of obtaining transportation are major constraints to the development of improved marketing systems for cereal crops ii) Limited credit to traders constrains their ability to expand trading operations or to accumulate and store food crops for sale in the off season iii) The lack of storage facilities results in significant losses of food crops from spoilage and theft Particularly important is the lack of wholesale market facilities iv) Restrictive government policies on the export of food crops constrain the cereals export sector Export permits are issued only during time of surplus production and imports are encouraged during times of shortage	i) SAEDF should consider funding small scale hammer mills through a microenterprise investment fund and also should look at medium scale venture capital partnerships in the cereal milling industry Another possibility would be to invest in one of the newly-privatized rice mills ii) Food grains storage is also an opportunity for agribusiness investment Financing for intermediate storage facilities for grain crops combined with a line of credit for working capital (secured by the same grain stocks) could have a tremendous impact on agricultural trade and be a good investment iii) Inadequate unsanitary wholesale market facilities in Tanzania s regional capitals highlight the great need (and the opportunity) to provide municipal markets with grain handling facilities SAEDF could finance the construction of ISME or association owned grain handling facilities in or near municipal markets

High Opportunity Subsector	Major Constraints to ISME Success in High Opportunity Subsectors	Apparent Investment Opportunities in High Opportunity Subsectors
Sisal Processing and Sisal Byproducts Export for niche markets where natural fibers are in high demand	i) Government is still involved in sisal production and processing although markets are relatively free Government owned businesses that compete with private firms receive preferential treatment including scarce financial resources from State influenced banking and marketing services ii) The Tanzanian Government controls the major part of the industry and is a major constraint to its development Although the industry is slowly being privatized Government participation in the privatized companies will likely continue	The best means of exploiting the opportunities in the sisal industry would be to develop sisal by products In addition production improvements can be gained from new plant varieties and by using improved harvesting techniques The by products with the best market and therefore ISME potential are the following i) Green waste from the leaves of the harvested sisal can be used for animal feed The product can be fed to the animals fresh or dried and fed in concentrated form ii) There is use for the pulp fibre from the bulb (center) of the sisal plant which is harvested when the field is prepared for a new crop every 10 years Pulp production is approximately 20 tons per hectare each time the field is cleared These fibers are short and are ideal for paper making iii) The sisal plant in East Africa is similar to the magay plant in Mexico which is used to produce alcohol An alcoholic beverage from sisal could also be produced in Tanzania iv) The leaves of the sisal plant have medicinal properties Extract from the leaves could be marketed to the pharmaceutical industry v) The green pulp remaining after the fiber is removed from sisal leaves can be converted into bio gas that is useful as fuel The fuel can be burned to generate steam for electric power or to provide heat vi) The digested material from bio gas can be used either as fertilizer or as a feed for cultivated fish vii) Carpets manufactured from sisal are a popular consumer product because they are made from natural fiber The world market for natural floor coverings is expanding rapidly

High Opportunity Subsector	Major Constraints to ISME Success in High Opportunity Subsectors	Apparent Investment Opportunities in High Opportunity Subsectors
Cashew Nut Processing and Export	i) High taxes are hurting exports and the industry continues to suffer because of Government policies Tanzanian cashew nut exporters are required to pay an export stamp duty of Tsh 5 000 per ton and an export levy of 3 percent of the total value Cashew nut farmers are required to pay an additional levy of Tsh 39 80 per kilogram to be used for local development projects ii) Government owns all 12 cashew processing factories in Tanzania Current processing efficiency is not acceptable if Tanzania is to be competitive in world markets The technology chosen is not appropriate for local conditions All twelve units require large amounts of water (30/50 000 gallon per day) and require up to 400 kilowatts of electric power in areas where water and power are very difficult if not impossible to obtain iii) Government s cashew nut procurement and processing policy are now under review for changes Cashew nut processors interested in leasing the closed Government processing facilities have requested that they be given first and exclusive preference to purchase raw nuts as an incentive for leasing the Government processing facilities The Government has unofficially accepted this request as stated in public newspapers By reducing market competition in the purchase of raw cashew nuts the farmers income will be reduced and progress in cashew marketing will be stopped	Processing plants in India are reported to operate at a cost $40 per ton lower than Tanzania Taking into consideration the low whole nut recovery rate and higher cost of operating Tanzanian cashew processing factories when compared to India (the major competitor) it is advisable to look at highly efficient alternate technology that has the capability to provide a higher whole nut recovery rate i) The major cashew investment opportunity which depends on favorable Government agricultural policies would be to establish a small cashew processing plant using technology that is appropriate for Tanzania A labor intensive system copied from India can be easily adapted to local conditions and would require minimum infrastructure support in terms of electric energy water and fuel ii) Additional ISME opportunities exist in cashew tree maintenance services (spraying and pruning) by products processing (e g cashew juice) and first level trading (buying grading transporting and reselling)

High Opportunity Subsector	Major Constraints to ISME Success in High Opportunity Subsectors	Apparent Investment Opportunities in High Opportunity Subsectors
Pyrethrum Production, Processing and Export as a natural pesticide	Dried pyrethrum flowers are rarely exported instead they are processed into crude extract which is exported and later refined The refined extract is used to manufacture insecticides There are only two crude extract buyers available to Tanzania McLaughlin Gormley King in the United States and the Pyrethrum Board of Kenya Refining technologies are patented i) A major constraint to the industry is the lack of dried flower buyers and refineries Also, entry into the USA market for an insecticide is difficult in light of the requirement to obtain the necessary USDA and FDA approvals ii) Another factor is the required high utilization level of plant and equipment for efficient crude or extract processing Since pyrethrum cannot be stored for a long period an ongoing supply of flowers is essential to keep the factory operating The supply of raw material depends greatly on the producer price If the price is low the farmer will stop producing Prices in Tanzania are normally highly erratic	i) The State owned crude pyrethrum processing plant is being privatized With a knowledgeable investor as a partner, the potential investment opportunity could be highly attractive ii) A second opportunity would be to improve the quality of flowers by selling seed and seedlings of improved varieties obtained from cloning the better yielding plants

High Opportunity Subsector	Major Constraints to ISME Success in High Opportunity Subsectors	Apparent Investment Opportunities in High Opportunity Subsectors
Mozambique		
Food Grains	i) The most important constraint to cereals marketing is the poor condition of the transport infrastructure especially roads in Mozambique ii) Ports are also major logistical bottlenecks due partly to lack of infrastructure but primarily due to serious management shortcomings Coastal shipping services are poor with an inadequate number of vessels iii) There are also problems due to a shortage of trucks which is in turn related to the poor road system iv) The network of informal traders is weak and undercapitalized By virtue of their informality they are locked out of credit sources v) Storage is deficient As a result of their vulnerability to crop losses during the war farmers no longer store grain This limits the amount of grain available during the lean season Traders are not disposed to store grain crops given their problems of obtaining credit vi) Official minimum purchase prices distort the market and are constraints to market development Fear of prosecution may discourage traders from buying at below the official price which reduces market demand	i) With inexpensive (subsidized) imported wheat a large demand for flour has evolved particularly in urban areas This provides a great investment opportunity in the newly privatized wheat flour milling companies It is estimated that production could double and still not meet demand ii) Maize milling is also a growth industry Small hammer mills should be encouraged under microenterprise development programs and large scale milling and refining of maize flour is an opportunity in the larger cities and regional capitals iii) Storage facilities near the major consumption areas provide another investment opportunity These would enable grain crops to be stored at the time of harvest for sale during the lean period Off-season price increases should more than offset the cost of storage and interest iv) There is a great need for grain handling facilities near municipal markets in Maputo as well as other capital cities v) Due to the exceptional maize harvest in the northern provinces during the 1995-96 crop year an immediate opportunity exists for maize exports from the provinces of Nampula and Cabo Delgado vi) Companhia Industriel de Matola (CIM) a wheat milling company is expanding rapidly It plans to double its wheat milling capacity open a pasta factory begin milling refined maize flour and start producing animal feed within the next year The company also plans to help develop small scale neighborhood bakeries under the expectation that they would become loyal customers for CIM bakery products CIM is starting a bakery school and will provide technical and management support to the new bakery enterprises Investment opportunities in CIM and in the microenterprise bakeries should be assessed

High Opportunity Subsector	Major Constraints to ISME Success in High Opportunity Subsectors	Apparent Investment Opportunities in High Opportunity Subsectors
Edible Oils	i) An inadequate and erratic supply of raw material is the biggest constraint to the oil seed processing industry A separate but related problem is that oil extraction by products have a very minimal market in Mozambique ii) The second largest constraint to the development of the sector is limited and expensive credit Investment credit is not available through normal banking channels Short term trading credit is very scarce and expensive iii) The third constraint is the market disruption created by large imports of donor provided vegetable oil (which create short term market gluts oftentimes at commercial values below their shadow prices) as well as unfair competition from illegal vegetable oil imports iv) The productivity of Mozambican factory labor is generally low Although wages are also low this does not necessarily translate into low unit labor costs when productivity is considered A related problem is that skilled workers are extremely difficult to find and lengthy training is required to provide workers with the needed technical skills v) Government officials and the government bureaucracy are still geared toward a system of socialist control even though economic liberalization is taking place This is manifested by a myriad of time consuming procedures permits licenses and stamps which are required for the simplest transaction For imported items the red tape burden is particularly onerous Licenses are required for all imports and can take months to be issued	i) With overall industry capacity utilization at a mere 20 25 percent there is little room for additional large scale processors except for purely strategic reasons such as the JFS Company s plan to process its own oil seed The supply of domestic oil seeds must expand further to become more closely aligned with processing capacity before additional facilities could be used effectively Therefore development of the edible oils subsector must begin with increasing the production of oilseeds and oilseed production has good potential ii) Opportunities exist for ISME intermediaries to link vegetable oil processing plants with small oilseed producers Indigenous satellite businesses could be created around the oil processor as a contract supplier of oilseed SAEDF s microenterprise fund could finance vehicles seed drying and cleaning equipment and warehouses for seed storage With the collaboration of USAID and its PVO partners a small farmer outreach program could be organized for the commercial production of oilseed under contract with the ISME intermediaries iii) A second opportunity for the SAEDF microenterprise funds would be to finance the purchase of T press hand operated oil crushers for rural village level production of edible oil which has a ready market These show great promise as a means of stimulating the production of oil seeds by small farmers which could eventually become an important commercial crop in rural areas

High Opportunity Subsector	Major Constraints to ISME Success in High Opportunity Subsectors	Apparent Investment Opportunities in High Opportunity Subsectors
Packaging	i) Increased economic activity and the production of consumer goods will increase the market for packaging materials Conversely without adequate packaging materials growth of the consumer products market will be significantly constrained Presently the market for most products is too thin to support more than one manufacturer which negates the possibility of healthy competition ii) There is little information available within Mozambique on the latest available packaging technology Packaging equipment is generally antiquated and needs to be modernized iii) Packaging manufacturers are constrained by the lack of investment capital needed for plant renovation and working capital for inventories and accounts receivable iv) The lack of trained workers/technicians is also a significant constraint to the packaging industry v) A convoluted system of import duties overlapping circulation and consumption taxes and Government s inability to control illegal imports which pay no duties place legitimate packaging manufacturers at a severe disadvantage compared to informal traders	i) CARMOC is studying the feasibility of investing in equipment to produce double wall (lined) heavy-duty paper bags capable of holding 25 kilograms of food products such as flour meal or animal feed They may be interested in SAEDF financing ii) Palmeloc a recently privatized dairy cooperative will soon reopen in Maputo Daily production capacity of the rehabilitated plant will be around 20 000 liters of milk and milk products Metal Box a can manufacturer plans to invest in blow molding equipment to produce high density polypropylene milk containers one half and one-liter size and also 250 gram yogurt containers to serve dairies Metal Box may need SAEDF financing iii) A plant to manufacture heavy duty woven bags made from a combination of plastic and natural twine material such as jute or sisal is under consideration by Mozambican Agency Ltd a manufacturer of quality clothing iv) Future packaging investment opportunities will become available on a selective targeted basis as other manufactured and processed products evolve from an expanding economy Likely future opportunities will be waxed boxes used by exporters of fish and shrimp freezer bags for frozen food products and UHT packages for milk

High Opportunity Subsector	Major Constraints to ISME Success in High Opportunity Subsectors	Apparent Investment Opportunities in High Opportunity Subsectors
Copra Products	i) The industry s greatest constraint is its lack of productive capacity after years of warfare and economic deterioration Coconut plantations as well as roads bridges and the communications infrastructure need to be rehabilitated It will also be necessary to reconstruct buildings and drying ovens and to replace processing equipment and vehicles ii) After productive capacity has been restored the industry s next greatest need will be to diversify away from the production of a single commodity copra which is processed into oil and sold into increasingly competitive markets Therefore there is a need to develop higher value added products iii) The greatest constraints to the rehabilitation and transformation of the coconut industry are the limited availability of investment capital the absence of technical information which would provide the know how to make the transformation from commodity to value added products and the management skills needed to bring about the required changes	i) New coconut products are an excellent business opportunity Coconuts grown in Mozambique have a thick shell that is particularly suitable for making the highly valued activated carbon used for gold recovery in the mining industry There is a market in southern Africa for an estimated 8 000 tons per year of high grade activated carbon ii) A market for fresh coconuts exists among the Indian community in Durban South Africa The market is currently supplied by Sri Lanka shipping through Singapore iii) Companhia da Zambezia a large copra exporter has entered into an agreement with Outspan the South African citrus marketing company to produce and export to the RSA wooden pallets in kit form to serve South Africa s citrus industry ISMEs would have opportunities to subcontract with Zambezia to cut trees saw the logs into lumber provide wood for pallets and transport pallet kits to the port for export iv) World Vision is a PVO that has operated in Mozambique for many years primarily in emergency food distribution and famine relief WVI is assisting a womens group that purchases copra from small holders for further drying and processing The copra is dried to a low moisture content and squeezed through a T press to produce coconut oil which is sold to small entrepreneurs for manufacturing soap This is an opportunity for microenterprise investments

High Opportunity Subsector	Major Constraints to ISME Success in High Opportunity Subsectors	Apparent Investment Opportunities in High Opportunity Subsectors
Cashew Nuts	i) Government interference in cashew marketing is a constraint to raw nut production The export tax on raw nuts along with Government s heavy handed attempt to force farmers and traders to sell raw nuts to inefficient processing facilities reduces competition and drives down the price to the producer ii) The major constraint to the industry is the mechanical processing currently used which lowers the amount of whole kernels recovered compared to labor intensive (semi manual) methods iii) This mechanized process also uses extensive water (30 000 gallons per day for a 5 000 ton capacity processing plant) and electricity (280 kilowatts at full production) iv) Future Government intervention in Mozambique s cashew industry is not currently defined but seems to be taking the form of a processing subsidy While the subsidy will provide short term relief to the major problem of low industry profitability it will be a long term constraint to the development of an efficient and therefore sustainable processing industry v) The Cashew Working Group has yet to establish a viable redevelopment strategy for the cashew subsector This strategy is needed to define the role and responsibilities of all participants including the Government	i) The recovery of cashew plantations is a significant investment opportunity Most plantations were established during the 1960s and early 1970s by traders and other businessmen but were abandoned during the 1980s Their rehabilitation provides a major opportunity for the rapid recovery of cashew nut production and likely a viable investment ii) An opportunity in cashew processing would be the development of a semi mechanized factory that could be replicated by a village level ISME or introduced to existing processors as an alternative to their mechanized processing equipment iii) The development of by products from cashews constitutes another opportunity These products are in demand in many industries ranging from the high technology chemicals and paints plastics automobile and ship building industries to the fruit juice and homeopathic sectors The most important by products are a) cashew nut shell liquid b) cashew apple juice c) testa (husk of the kernel) d) cashew alcohol e) cashew dried fruit and f) Anacardium extracts for homeopathy

Abt Associates Inc.

1.0 Introduction

1 1 Objective of this Activity

This activity was implemented to create the analytical bases needed to accelerate the development of agricultural-related, indigenous, small and medium enterprises (AISMEs) in Southern Africa As outlined in the scope of work for the study, the most important operating constraints faced by AISMEs were to be assessed and potential agribusiness investment opportunities for small and medium investors were to be identified in key agricultural subsectors A third requirement was to recommend intervention methods and partners that the Southern Africa Enterprise Development Fund (SAEDF) should use in the counties studied It was also necessary to analyze the linkages that SAEDF could establish with the private sector, host governments and international donors to leverage its resources It is expected that USAID and/or the SAEDF will use this analysis to develop programs for AISME assistance in Southern Africa locations where the prospects and the enabling environment are the most favorable

The overall activity was implemented in four steps

1) Secondary Research - designed to provide the field research team with a good background on the subject, the secondary research report appears in Volume 2, Section 2 0

2) Investment Environment Profiles for the 11 Southern Africa countries - designed for use by SAEDF managers to help them gain a basic understanding of the environments of the countries in their geographic scope These profiles appear in Volume 2, Section 3 0,

3) Primary (field) Research, the subject of this report, Volume 1 and,

4) Half-day Seminars for Potential Investors, presented by the project team in Dar es Salaam, Johannesburg and Maputo, which reviewed the results of the activity including a) high opportunity agribusiness subsectors, b) the most important constraints facing potential investors in these subsectors, c) suggested basic investment opportunities within the selected subsectors, and d) the enabling environment improvements needed to stimulate participation in the suggested investments The latter subject was presented to Mission and local government managers Copies of the seminar presentation slides are included in Volume 2, Section 4 0 and a brief summary of the results of the seminars along with lists of the seminar attendees is presented in Volume 2, Section 5

Based on feedback from participants the seminars were very well received by those in attendance and there were numerous suggestions from attendees for follow-on work to more specifically define and profile the suggested agribusiness investments It was clear that equity investors especially venture capital funds, have substantial financial resources available to invest in Southern Africa and were quite interested in more details on how they could become participants in some of the investment opportunities discussed in the seminars However, they need more details on the opportunities, including operating company partners Therefore the consultants developed a proposal for follow-on work to develop more detailed profiles of the higher potential investments as well as interested operating partners The completion of this follow-on research would enable USAID to increase the return on its investment in the current activity by enhancing the

chances of stimulating actual additional agribusiness investments having a positive impact on SMEs That proposal appears in Volume 2, Section 6 0

1 2 Scope and Methodology

The primary research portion of this study was completed in a four-month period between April and August 1996, for the PSGE Division, Office of Sustainable Development, Bureau for Africa (AFR/SD/PSGE) Field research was completed by a three-person team composed of a business development specialist, a financial/investment analyst and an enabling environment/operational constraints specialist Two of the three members have extensive experience in agribusiness development and the third member has a long history in banking All three team members have worked at length in Africa

The study focused on Tanzania and Mozambique two of the eleven countries in the Southern Africa Region covered by SAEDF[1] The team visited both countries twice The purpose of the first visit was to identify high opportunity agribusiness subsectors and rank the key operating constraints that AISMEs must overcome to rapidly develop and/or sustain their businesses in the subsectors The second visit was to identify investment opportunities in the targeted subsectors and to develop intervention methods and/or intermediaries that SAEDF could use to overcome the constraints and capitalize on the identified opportunities A total of three weeks was spent in Tanzania on both visits and five weeks in Mozambique On the team s first visit to Mozambique field researchers develop ideas for rehabilitating the cashew industry Many of these ideas were incorporated into a scope of work subsequently written by USAID for a major industry analysis On it's second trip to Mozambique the team wrote an action plan for the export of surplus maize from the northern provinces, resulting from an exceptionally productive season USAID and its PVO contractors intend to use the plan to stimulate maize exports from Mozambique At the completion of each trip, two team members met with the President and CEO of SAEDF in Johannesburg to exchange ideas and to inform him of activity progress

In Tanzania the team was based in Dar es Salaam and made field trips to the horticultural producing areas around Mount Kilimanjaro near Arusha and Moshe, to the cashew producing regions in the southern coastal areas around Linde, Masasi, Mtama, Mtwara, Newala, and Nachingwea, and to the agribusiness and mining boom town of Mwanza, on the south shore of Lake Tanzania In Mozambique the team worked primarily in Maputo and made field visits to several locations in Nampula Province In carrying out their field research team members interviewed many agribusiness operators in the targeted subsectors related service providers, officials at relevant government ministries, managers and directors of parastatal companies, bankers and officials at other (non banking) financial institutions, PVOs, international lending institutions and donor agencies This report was written by the team members over the course of the field work The

[1]The eleven countries within SAEDF s sphere of influence include Angola Botswana Lesotho Malawi Mozambique Namibia South Africa Swaziland Tanzania Zambia and Zimbabwe

final draft of the report was completed by the team members at their respective locations after the second trip to Southern Africa The AMIS II Task Manager at Abt Associates reviewed and edited the final report

Volume One, the main report, is composed of an Executive Summary, Introduction, and separate chapters that analyze the agribusiness environment in Tanzania and Mozambique The country chapters discuss the enabling environment in the targeted subsectors and their related constraints and opportunities They also recommend mechanisms for intervention by SAEDF and suggest local partners for each location Each chapter ends with a summary of conclusions and recommendations for SAEDF's involvement in that country Volume One includes three Appendixes Appendix A - Information Referenced in the Report, Appendix B - People and Organizations Visited and Appendix C - Reference Documents

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2.0 Constraints and Opportunities for Agribusiness ISME Development in Tanzania

2 1 Basis for Selecting High Opportunity Subsectors

In carrying out its work in Tanzania, the team visited dozens of private and State-owned agribusinesses and conducted in-depth interviews with many agribusiness and service operators, managers and entrepreneurs The study team also did an extensive review of background material on Tanzania's economy and the GoT's economic policy, privatization, and the current status of agricultural and agribusiness development in the country This work helped narrow the search for high-opportunity subsectors into three broad categories

i) Horticultural crops with export potential were selected as the first priority, in view of their potential impact on foreign exchange earnings and rural employment, particularly among women

ii) A limited number of traditional export crops such as pyrethrum, cashew nuts and sisal were also selected for analysis Previously, export marketing and much of the production of these crops were controlled by Government However, with economic liberalization, private companies may find unique opportunities in these sectors If these traditional export crops can be successfully rehabilitated, they too would have a huge impact on exports foreign exchange and rural employment

iii) Cereal crops produced and consumed domestically, were also selected for analysis since the evolving, private marketing system for these crops provides good investment opportunities Furthermore, the lives of all Tanzanians are affected by the distribution and marketing of cereals products

The specific subsectors analyzed were the following

- Export horticultural crops including cut flowers, green beans, dried and processed spices, dried flower seed and vegetable seed
- The production processing and export of pyrethrum as a natural pesticide
- Cashew nut processing and export,
- Sisal processing and export, for niche markets where natural fibers are in high demand, and
- Cereals milling storage and marketing

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Several other promising subsectors were reviewed, but a detailed analysis was not made given the time available for completing the work These subsectors were

- Dairy production processing and distribution
- Processed meat production for local markets, and
- Animal feed milling, primarily with indigenous materials

A number of non-agricultural subsectors such as Lake Tanzania shipping and mining for gemstones, diamonds and gold would also provide excellent investment opportunities However, these were not analyzed because they did not fall within the agribusiness scope of this activity

2 2 The Enabling Environment

2 2 1 THE IMPORTANCE OF AGRICULTURE

Agriculture is the backbone of the Tanzanian economy In 1992 the agricultural sector contributed about 45 percent of GDP nearly 55 percent of foreign exchange earnings and provided employment for more than 80 percent of the population There are about 3 5 million farm families working small holdings with an average cultivated area of less than one hectare More than 90 percent of farm holdings are less than two hectares

Food crop production is the dominant factor in the agricultural economy, accounting for 55 percent of agricultural output Livestock is the second most important subsector, accounting for 30 percent Export crops count for 8 percent of agricultural output, while fishing hunting and forestry account for the remainder

Maize and rice are the most important food grains widely produced and consumed in Tanzania They constitute the major sources of food in rural areas and are important commercial crops as well Other important food crops are cassava, sorghum millet potatoes beans and cooking bananas Wheat is also important but its production is limited to a few areas and consumption is primarily in urban centers

The traditional export crops are cotton, coffee cashew nuts, tobacco, tea and sisal These accounted for more than half the value of agricultural exports in 1992 Other export crops are pyrethrum, cardamom, cocoa and oil seeds Tanzania is dependent on traditional agricultural export crops for foreign exchange earnings but the earning power of the major crops has declined over the past twenty years due to a decline in real market prices

2 2 2 CHANGES SINCE INDEPENDENCE

Beginning with independence in 1966, the Tanzanian Government leaned on the agricultural sector to finance its expanding social service programs, and also the rapidly-growing industrial sector Essentially all government policies and strategies pursued after independence relied heavily on agriculture to finance other programs, under the theory that agricultural production would somehow survive without harm, and that the industrial sector would be the engine of growth The actual result was that excessive government intervention lead to inefficient resource allocation and a general inefficiency in the production and marketing of agricultural products Government intervention was carried out in the name of correcting income imbalances to ensure that weak social groups, both urban and rural, could afford to buy their minimum food requirements Another reason was to ensure that the agriculture sector supplied sufficient food to feed the general population, thereby ensuring food security

Government's first intervention in the marketing of food commodities came soon after independence with the establishment of the National Agricultural Products Board (NAPB) Before then, intervention by the previous colonial government was limited to the production and marketing of the main export crops The primary objective of the NAPB was to maintain a single channel marketing system to ensure that consumers and producers would not be exploited by private traders As a result several parastatal cooperatives and other institutions such as the National Milling Corporation (NMC) and Tanzania Distributors, Ltd were created in the food and agricultural sector to improve market efficiency and income distribution The result was the opposite of the desired effect, since consumer prices increased rapidly without a proportionate increase in producer prices Both consumers and producers lost from such market reforms Under government control of distribution, an excessive number of monopoly handlers of products were created between the grower and the consumer This resulted in general inefficiency and unnecessary marketing and handling costs making consumer prices rise excessively

Under the socialist government, the parastatal NMC was charged with purchasing grain from villages throughout the country at fixed nationwide prices It sold milled flour to consumers in the major towns at what with increased operating costs, ultimately became subsidized prices Separate parastatal bodies took responsibility for delivery to villages of the required inputs and taking their output of staples such as coffee, cotton, pyrethrum and cashew nuts, with each organization also being responsible for transporting, storing, processing and exporting their respective products Public agencies became involved in regional trading and transport, and even attempted to replace small traders with village-owned shops As a result of low official prices, late payments and unreliable crop collection, many farmers stopped offering their food crops to the State purchasing organizations, or offered only as much as was necessary to avoid harassment by village authorities

By 1984 it was evident that Government control of crop procurement and distribution was failing Government policy was changed to re-create Cooperative Unions as the country's official marketing agents Freely-established marketing

cooperatives had flourished in the early years after independence, but were de-registered by the Government during the "villagization" program[2] when villages themselves became multipurpose primary cooperatives for their residents

The Cooperative Unions created by Government were essentially public entities that did little to enhance marketing efficiency In most cases they only increased costs by adding an additional link in the public marketing chain The Unions were composed of the village-level Primary Societies and the Unions themselves were members of the Cooperative Union of Tanzania (CUT) The Primary Societies were cooperatives in name only because membership was automatic for all adult village residents and there was no share capital The Unions were financed not by their constituent Societies but instead, by grants and loans from Government Union managers were appointed by Government officials and the Unions were responsible for providing supplies and purchasing crops from farmers at prices fixed by Government Although attempts were made to assess the Union's costs and to include appropriate margins in their selling prices, they were obliged to fulfil their trading responsibility for all transactions, however unprofitable When the Unions incurred losses through a combination of internal inefficiencies and unreasonable Government demands, banks were ordered to tide them over with credit

Supported by Government credit the unions led a major revival of formal marketing during the late 1980s However, their trading operations were not carried out on a commercial basis For example in the late 1980s Government re-instituted a policy of "pan-territorial ' pricing, under which each crop was purchased at a uniform price throughout the country The result was that a number of marginal areas began producing grain and other food crops to supply major population centers

By 1990, pressure to reform the structure of the Cooperative Unions became overwhelming International donors which had long supported Tanzania s cooperatives withdrew their support and indicated that it would be revived only after Tanzania returned to international cooperative principles Meanwhile the Cooperatives had become heavily indebted to the public banking system International pressure, along with Government's efforts to erase the massive debts from the books of the banks, led to the passage of a new Cooperative Act in 1991

Under this Act Primary Societies were to be voluntary, member-formed organizations They could form Unions on a voluntary basis and were permitted to sell their members' farm produce directly to private traders The Unions themselves could become commercial entities free from Government interference It was further understood that Government would not press banks to make loans to the non viable unions

With the introduction of the structural adjustment programs encouraged by the IMF and the World Bank during the late 1980s, and particularly under the Economic Recovery Program which began in 1986, the dominant role of Government marketing institutions has dramatically diminished Prices of agricultural inputs and products are no longer set by

[2]After the socialist manifesto of the Arusha Declaration in 1969 many rural families were forcibly relocated to rural villages created by Government

Government-controlled product and marketing organizations With the liberalization of private trade, the Unions are now competing directly with private traders Increased competition and curtailed credit severely constrained their activities Today, most are bankrupt and have little chance of survival

Since 1989, trade in food crops has been completely privatized and private traders have expanded to fill the void left by the retrenching State marketing structure Today, private traders handle more than 90 percent of food marketing in Tanzania, and this has encouraged higher levels of production Government interference in marketing of food crops is limited to seasonal purchases of "food security" crops such as maize, beans and rice, and controls over the amount of these "sensitive" food commodities that is imported and exported Only about 10 percent of grain crops are purchased by the public sector at official producer prices The most significant official buyer is the Strategic Grain Reserve which purchases substantial quantities of maize from cooperatives as well as from private traders

The marketing system for traditional export crops has also been liberalized, although to a lesser degree Previously, all export crops were under strict Government control, by either parastatal Marketing Boards or Cooperative Unions The sole exception was for tea and sisal marketing, whereby private operators were permitted to sell their crops to either local or export markets although under the supervision of the respective Marketing Boards Unfortunately, change in the traditional export sectors has not kept pace with the progress made in the production and marketing of other crops Government still controls at least part of the production, processing and/or marketing of all traditional export crops, through its long-standing and tenacious Crop Marketing Boards

2 2 3 MACROECONOMIC HIGHLIGHTS

In conformity with a World Bank/International Monetary Fund (IMF) structural adjustment program now underway Tanzania has attempted to reduce its money supply One significant result of this restrictive policy has been high interest rates throughout the banking system 40 percent prime corporate rates were in effect, and have only recently subsided by several percentage points The restrictive monetary policies seem to be working Money supply (M3) decreased 5 4 percent from a year ago, according to official figures released in the May 1, 1996 Bank of Tanzania report M3 is now put at 682 billion shillings This was brought about by a Tsh 38 billion decline in net domestic assets of the banking system At the same time there has been an increase in both foreign exchange held in the system and savings deposits

Restrictive monetary policies have also led to a decline in the value of the Tanzania shilling The value of the shilling in January 1994 was 494 5 per US dollar the latest exchange rate (July 1996) was 636 Tsh a decline of 29 percent Interest rates paid on deposits fell during April 1996 from an average of 17 4 percent in March to 15 7 percent Short term interest rates on loans increased slightly from 35 7 percent to 36 4 percent The most recent Central Bank report notes that lending rates have not responded sufficiently to changes in the Treasury Bill rates (the yield of one year bills declining from 20 percent to 15 2 percent), while twelve month deposit rates have fallen in line with Treasury rates According to the same Central Bank report the trade deficit increased 13 8 percent from the first quarter a year ago to US $213 million This was due to higher imports of finished goods and a concurrent decline in raw materials export

earnings, due in part to lower world prices for coffee and gold GDP growth is forecast at 5 percent for fiscal year (FY) 96 in line with IMF guidelines Inflation is forecast at 22 percent for FY 96 down from 27 percent in FY 95

It should be noted that the IMF announced in June that a new three-year US $200 million Enhanced Structural Adjustment Facility (ESAF) was approved and will be disbursed beginning in the third quarter 1996 The Tanzania Revenue Authority, an autonomous body charged with the administration and collection of all taxes from the current revenue departments, is expected to begin operations in July

2 3 Food Grain Marketing and Distribution Constraints and Opportunities

2 3 1 PRODUCTION OF CEREALS CROPS IN TANZANIA

The Food Security Department of the Ministry of Agriculture makes annual forecasts of food crops production in the country, using a model developed by the United Nations Food and Agriculture Organization (FAO) While there is no established means to verify the actual production figures the estimates are useful because they indicate the probable level of food production in Tanzania Annual forecasts for maize paddy rice (converted to rice equivalent) and wheat for the last ten years are shown by Table 2 1

Table 2 1 Annual Forecasted Production of Maize, Paddy and Wheat

(000 metric tons)

YEAR	MAIZE	WHEAT	PADDY	RICE EQUIV
1984/85	2 093	83	427	278
1985/86	2 211	72	547	356
1986/87	2 359	72	644	419
1987/88	2 339	75	615	400
1988/89	3 128	97	718	467
1989/90	2 445	106	740	481
1990/91	2 331	84	624	406
1991/92	2,226	65	392	255
1992/93	2 282	59	641	417
1993/94	2 159	59	614	399

Source Food Security Department (MALD)

Maize

The estimated national consumption of maize is approximately two million tons per annum Production in recent years has been adequate for domestic use (Table 2 1), although output varies according to weather conditions Maize is produced mainly by small scale farmers, whose production is dependent on rainfall Major producing areas are Arusha, Iringa, Mbeya Rukwa, Rumva and Dodoma These surplus regions normally account for 50 - 60 percent of national production

There is considerable evidence that the liberalization of the marketing system has resulted in shifts in production Dodoma was not previously a significant surplus producer of maize but, due to its relative accessibility, the region has emerged as a major maize supplier for Dar es Salaam in recent years Conversely, Rukwa, being more isolated, has declined in importance and no longer supplies Dar es Salaam

It is notable that most of the major producing regions for maize are near the country's borders Some of these producing zones are relatively inaccessible to the rest of the country, and their natural market outlet is the neighboring country This is particularly true of Rwanda Development of these border regions would be accelerated if official policy regarding exports were relaxed With free exports and storage facilities at the lake ports, export trade would flourish Informal exports of food crops are made primarily to the neighboring countries of Uganda, Zaire, Burundi, Rwanda, Zambia, and Kenya Shipments have also been reported to the Comoro Islands, and the Seychelles

Rice

Paddy rice is produced mainly by rainfall-dependent small holders who collectively produce about 90 percent of the national production The rest is produced under irrigated conditions on large scale government farms owned by the National Agriculture and Food Corporation (NAFCO)

Annual demand for rice is estimated by the Food Security Department to be approximately 400,000 tons, which indicates that the country has reached self-sufficiency in rice production (see Table 2 1) The main producing zones are Mbeya, Morogoro, Mwanza, Shinyanga and Tabora

Tanzania has the potential to increase its rice production, particularly in the lowlands of the producing regions With favorable export policies these regions could become an important producer of rice for export markets

Wheat

More than half the annual wheat production comes from the Hanang Wheat Complex in the Arusha region, composed of seven individual farms each with about 4,000 cultivated hectares The farms are separate subsidiary companies of the parastatal NAFCO Wheat production held relatively stable for seven of the past ten years, averaging around 80,000

tons annually However, during the past three years annual production declined to approximately 60 000 tons (Table 2 1) This decline has been partly weather related, but another factor is likely because the long-standing technical assistance provided to NAFCO by the Canadian International Development Agency (CIDA) ended in 1991, and production has suffered as a result Annual demand for wheat is approximately 120 000 tons, which requires that about 50 percent of national consumption must be imported

2 3 2 STRUCTURE OF THE GRAIN MARKETING SYSTEM

The current marketing system for grain crops is the product of a brief evolutionary period covering only the past five years As the result of rapid growth of private marketing and the entry of many individuals who have become professional grain traders the system is extremely fragmented and dominated by small traders While this fragmented trade structure encourages competition, it is far from ideal

Most food grains are handled by private traders who buy the crops directly from farmers and transport the grain to the wholesale markets Crop procurement at the village level is typically by direct contact between a trader and individual farmers, with little or no role for primary markets or local crop assemblers

In regional cities most local traders sell their maize beans sorghum and millet to local retailers Interregional traders serving Dar es Salaam sell their crop almost exclusively through commission agents located permanently at the receiving wholesale market Maize for human consumption is normally traded as a whole grain from the farmer all the way to the retailer or consumer, instead of being milled into maize meal The maize consumer normally buys maize in small quantities and takes the purchase to a neighborhood "posho" hammer mill for grinding into meal, at a cost amounting to no more than ten shillings per kilogram The full-grain maize meal is more nutritious, and many consumers find it more tasty than dehulled fine-ground meal

The current rice marketing system is characterized by a large number of small traders who operate between the farmer and rice mills These local traders buy small quantities of paddy directly from farmers and transport it to mills The milled rice is sold to either local traders or to interregional traders The interregional traders transport the rice to large markets, primarily Dar es Salaam

An important difference between rice and maize marketing is that short-term storage is readily available to paddy traders at the mill Many mill owners provide storage free of charge to attract customers These are normally clean dry storage rooms adjacent to the mill

Typically a small paddy trader will bring a few bags of rice to the mill and wait for a customer If space is available, paddy is held in storage until a customer arrives The paddy is not milled until a bargain has been struck with the customer (a trader or local retailer) and an advance received by the seller, covering the cost of milling

Because wheat is normally produced by larger farms and is milled by large mills, marketing of this crop is much more organized than for other grains Many of the mills have bakery outlets as well Most mills are privately owned, although the NMC still operates a few large mills in regional cities such as Arusha, and in Dar es Salaam Millers tend to contract for their wheat requirements directly with the producer However, the lack of commercial storage facilities means that each miller must purchase sufficient stocks to carry him through to the next production season In late 1991 the Marketing Development Bureau made a survey of 357 wholesale grain traders [3] which showed that traders are generally undercapitalized and seldom engage in inter-seasonal storage to take advantage of seasonal price rises They are only able to quickly turn over their stock and obtain a modest, but assured, profit The survey showed that the traders' scales of operation were typically small, with 58 percent of the maize traders and 71 percent of the rice traders handling 25 bags or less per shipment For regional traders moving grain between distant locations the average number of bags handled was 37 for maize and 25 for rice, with three shipments normally being made per month

The survey also revealed that there are few direct links in the market chain between the producer and the consumer Over three-quarters of the traders stated that they bought directly from farmers They had developed little specialization in their functions, in terms of dealing with specific crops, locations or customers Few traders had trucks, they relied on hired transport, which was difficult to find They generally lacked storage facilities in the towns where the grain was delivered Bags of grain were mainly kept in the open, with high risk of storage losses

Only 2 percent of the traders used bank credit, and these were large traders dealing in rice Access to credit was highly restricted, even for the large traders The three problems considered the most important to traders based on the percentage of responses to the survey question, were transportation (49 percent), credit (49 percent) and storage (31 percent)

2 3 3 CONSTRAINTS TO GRAIN MARKETING IN TANZANIA

The marketing "system" is generally recognized as having reached a point of stability being incapable of further progress until the major constraints limiting its development have been overcome These are the following

1) The lack of suitable transportation is the single biggest constraint facing the industry While the railroad is an important factor in moving goods by far the most common form of transport is what is commonly called "speculative back loads ' A trader or a few traders will accumulate a load of produce and wait patiently along the roadside for a vehicle to appear willing to haul the produce for a fee Vehicles may include trucks returning empty from hauling cargo to neighboring countries, busses, pickups, or even oil tankers The trader usually has no way of arranging this transport in advance, and may be required to wait for several days, sleeping in the open next to his or her produce

[3]The Wholesale Trade in Grains and Beans in Tanzania Marketing Development Bureau Dar es Salaam January 1992

Most traders scale of operations is too small to fill an entire truck Even if several traders have the capability to jointly hire a truck, coordinating the time and place of collection is difficult because of the uncertain nature of their purchases The uncertainty and difficulty of obtaining transportation are a major constraint to the development of improved marketing systems for food crops

ii) The lack of credit, which limits the traders' ability to expand the size of trading operations or to store food crops, is a severe constraint to grain marketing Lack of personal credit is a severe constraint to private traders As a result, there are many small operators, and the marketing system is highly fragmented and inefficient due to traders' very low level of capital accumulation Traders can buy only a few bags of grain at one time, and have to pool resources to hire transport Only a few interregional traders have the resources to accumulate a full truckload of product

Many traders use informal sources of credit, such as loans from family members or occasionally, from their wholesale buyer Reportedly, only 2 percent of traders borrow money from a banking institution The problem is twofold the lack of creditworthy assets to use as collateral by the traders, and the limited capital resources available to the private sector within the banking system This is a result of the financial sector giving a higher loan priority to parastatal organizations than to the private sector, and also is a manifestation of Government's tight money policy under economic stabilization

The following chart shows the typical sources of trader credit

Sources of Credit Available to Traders

Sources of Credit	Percentage
No one	48 9%
Family	40 5%
Dalali*	3 6%
Other	2 2%
Total	100 0%

Source MDB Survey
*Commission Agent

iii) Restrictive government policies regarding the export of food crops limits the export market A private trader wishing to import or export food crops must have the requisite license For the export of "sensitive' food crops (maize, beans wheat rice) the trader must obtain an export or import permit from the Ministry of Agriculture (MALD) To carry out the transaction the trader must also register with the Central Bank The permit states the conditions under which the export or import is to be made Justification for the permits is that control of

trade in food stocks is necessary for food security Export permits are issued only during times of surplus production, and imports are encouraged during times of shortage Other food crops such as millet, sorghum, or cassava require no permit

Tanzania also has the potential to increase rice production, particularly in the lowlands in Mbeya, Morogoro, Shinyanga Tabora and Mwanza With favorable export policies these regions could become an important producer of rice for export markets

iv) The lack of infrastructure, such as storage warehouses results in high losses of food crops due to spoilage and theft Of particular importance is the absence of wholesale market facilities (See below)

2 3 4 FOOD GRAIN OPPORTUNITIES

2 3 4 1 Grain Milling

Prior to mid-1980 grain trading was tightly controlled by the single, State-controlled marketing channel NMC Public purchasing agents acting on behalf of NMC purchased grain from farmers which was milled into flour and distributed to the final consumer at controlled prices NMC was the only link between the producer and the consumer Liberalization of the food grain trade led to the eventual collapse of the official marketing system by the early 1990s Even before its collapse small-scale hammer mills had begun to spread through towns and villages across Tanzania providing low cost, for-fee milling services for both maize and rice In remote areas, or where electric power was deficient, the mills were powered by diesel engines Today, hundreds of small scale mills are in operation Since 1991, there has been a similar increase in large scale milling by the private sector The installed milling capacity by private operators is just about equal to the capacity of the NMC However, capacity utilization of the private sector far exceeds that of the NMC This is highlighted in the Table 2 2 This information is based on a 1995 survey completed by MDB in four major maize producing areas

The NMC is on the Parastatal Sector Reform Commission's (PRSC's) list of parastatal companies to be privatized - at least, partially NMC will be restructured and will remain in wheat and maize milling, only In the restructuring, NMC will sell outright seventeen warehouses, its hammer mill at Mtwara and its maize mill in Mwanza In addition, five rice mills will be privatized by selling the majority of their shares to joint-venture partners

Given the expansion of the private sector to fill the void left by the ever-shrinking State milling operations opportunities for both small and medium investors in grain milling should continue for the foreseeable future SAEDF should consider a) funding small scale hammer mills through its micro enterprise investment fund, and b) the possibility of venture capital partnerships with medium scale entrepreneurs in the grain milling industry Another possibility that SAEDF should consider is to become a partner in one of the newly-privatized rice mills, provided the mill's condition, viability and share price appear reasonable

Table 2 2 Maize Milling Capacity and Utilization in Four Major Producing Areas

Mill Owner	Location (City)	Year Established	Installed Capacity (tons/day)	Capacity Utilization (percent)	Type Ownership
NMC	Iringa	1991	60	58%	State
Kizota Prime Products	Dodoma	1994	60	100%	Private
NMC	Arusha	1991	60	25%	State
NMC Pugu Road	Dar es Salaam	1976	60	35%	State
NMC Mzizima, Plot 10	Dar es Salaam	1974	120	25%	State
NMC Mzizima, Plot 33	Dar es Salaam	1991	120	30%	State
Coast Millers	Dar es Salaam	1994	120	100%	Private
E R Investments	Dar es Salaam	1993	120	100%	Private
Zainabu Grain Millers	Dar es Salaam	1992	60	100%	Private

Source Marketing Development Bureau Planning and Marketing Dept , MALD

2 3 4 2 The Need for Grain Storage Facilities

Most grain storage facilities are owned by the State, while privately owned mills are generally strapped for storage facilities The NMC mills have excess storage space, given their low capacity utilization They also have the capability of shifting inventories among nearby mills while few private operators have this luxury Privatization of these underutilized government storage facilities would solve some of the storage availability problems, as well as price fluctuation

A problem inherent in the Tanzanian grain marketing system is considerable short-term price fluctuation due to the shortage of intermediate-level stockholding between the farmer and the consumer Seasonal price fluctuations are disadvantageous to farmers, since they receive lower prices immediately after harvest when they are often forced to sell

their crops to satisfy cash needs or to pay loans Consumers in urban areas are also adversely affected since a large share of their income is used to buy food and expenditures must frequently be adjusted based on seasonal grain prices

In the private marketing system, the only location where food crops are stored for any length of time is on the farm After the crop is harvested and the farmer satisfies his immediate needs for cash, grain will be stored by the farmer as a food reserve until the next harvest Private traders are not capable of storing grain for a long period The vast majority of traders are small operators with few physical assets, limited working capital and little possibility of obtaining commercial credit

Unlike regulated prices open market producer and consumer prices exhibit seasonal trends and regional price variations reflecting the time of harvest in the production zones and the marketing costs of delivering the product to consuming areas Given the lack of trader credit and the limited availability of storage facilities, the seasonal price pattern is particularly pronounced for the two main domestic food commodities, maize and rice, with prices reaching their lowest point just after harvest

Under the present credit constraint in Tanzania seasonal storage is not a practical option, despite the potential gains These gains can be substantial, as seen from the following seasonality indices for maize and rice These were calculated from MDB's monthly data on national average consumer prices collected at 44 municipal markets

Seasonality Indices for Maize and Rice

(Based on Average Consumer Prices during the Year)

(Average = 1 00)

	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
Maize	0 90	0 86	0 87	0 89	0 94	1 02	1 15	1 20	1 18	1 09	0 97	0 93
Rice	0 86	0 85	0 87	0 88	0 93	0 99	1 08	1 09	1 19	1 12	1 14	0 99

Source MDB

As shown above the seasonal price increase for maize is 40 percent during the six-month period between August and February Assuming no storage losses a trader to earn 5 7 percent per month or 94 percent per annum on this investment Similarly a rice trader who bought rice in August and held the commodity until March would earn up to 6 2 percent per month or 61 percent per year

At commercial interest rates, six months of seasonal storage would be a profitable option, but commercial credit is generally not available to traders Interest rates in the informal sector reportedly exceed 100 percent per annum, and are therefore are not a viable financing option

The lack of intermediate stocks between the farmer and consumer also increases the level of grain losses The MDB estimates that in Tanzania the average amount of grain lost during handling and storage is around 8 percent With better means of storage and improved handling methods the loss could be reduced to no more than 2 - 3 percent per season over the eight-month storage period

Due to the present storage limitations, millers in the major cities are not able to find wholesale merchants capable of supplying stocks of grain on demand Millers are dependent on the flow of trucks arriving from distant supplying locations Clean, dry storage facilities are essential for efficient milling as well as for distribution of the final product

The absence of intermediate grain stocks also discourages trade between producing regions and other countries, and diminishes the use of locally produced cereals compared to commercial grain imports and food aid Limited intermediate storage for local production combined with a program of revolving export credit from grain exporting countries such as the United States, often makes it more attractive to import grain from overseas than to produce locally

There is a genuine need to improve the storage of food grains in Tanzania, which presents an opportunity for agribusiness investment Financing for intermediate storage facilities for grain crops combined with a line of credit for working capital (secured by the same grain stocks) could have a tremendous impact on agricultural trade However financing alone would not be enough which highlights an additional need for technical assistance A high level of technical and managerial competence is required to properly store food grains in tropical climates SAEDF could play a key role by making joint-venture investments in grain storage in partnership with local investors SAEDF's local banking partner could provide a line of working capital credit, secured by the grain stocks The technical assistance (TA) facility available to SAEDF could be used to help the entrepreneur overcome the technical problems of grain handling and storage

2 3 4 3 The Need for Regional Market Facilities

The need for additional wholesale markets to serve the larger cities of Tanzania has been thoroughly studied by the Ministry of Agriculture's Marketing Development Bureau (MDB) In 1992 the Bureau made a survey of grain wholesalers[4] to gather data on the marketing systems for grain crops The study also included an assessment of the condition of municipal markets in nineteen cities across Tanzania In Dar es Salaam, the survey team reviewed the physical condition of two major grain markets Tandale and Bugurundi, and made recommendations for improvement Subsequent to the MDB survey construction of the new Bugurundi market was funded by the European Union (EU)

The survey concluded that wholesale market facilities were particularly deficient in six regional capitals Arusha, Morogoro, Mbeya Iringa, Shingida and Tanga In general, in all these cities, the wholesale market area is located in

[4]The Wholesale Trade in Grains and Beans in Tanzania Marketing Development Bureau Dar es Salaam January 1992

a vacant lot or in an open field near one of the municipal retail markets In all six regional cities space is limited, there is no protected, covered area for the storage or sale of wholesale commodities, neither sanitary facilities nor garbage removal services are available, and access to the market area by trucks and other vehicles is difficult During the rainy season the only means of protection available for grain stocks and fresh produce alike is to stack the commodities in a pile which is covered by a plastic sheet During heavy rains with the movement of trucks, hand carts and foot traffic, the open fields become a quagmire Under these conditions, losses of perishable fresh fruit and vegetables are as much as one-third from the time they are harvested until consumed, and for grains, losses easily exceed 10 percent.

This deplorable situation of inadequate unsanitary wholesale market facilities in Tanzania's regional capitals highlights the great need (and the opportunity) to provide municipal markets facilities The portion of SAEDF's enterprise fund earmarked for micro enterprise development could be used to finance the construction of municipal markets in that the facilities could be leased too many AISMEs

It is envisioned that such a market facility would be owned by a private operator, with stalls and storage space leased to individual, small traders While this venture should be commercially viable with most of its operating costs offset by reduced spoilage and product losses, it is doubtful that it would achieve SAEDF's ambitious goal of rapid capital appreciation from investment projects yielding a 40 percent annual return Therefore, it is recommended that this, and other potential microenterprise development projects in SAEDF's portfolio emphasize "development" over high capital appreciation SAEDF should be willing to tolerate still-profitable, but somewhat lower returns from its investments in microenterprise projects

2 4 Export Horticulture Constraints and Opportunities

2 4 1 NATIONAL PRODUCTION

The domestic trade in fruit and vegetables is not well developed in Tanzania, despite the country's suitable soils and climate for a wide range of horticultural crops The actual level of trade is difficult to measure since accurate, timely production and consumption statistics do not exist In 1990 FAO estimated per-capita consumption in Tanzania to be 35 kg of vegetables and 17 kg of fruits Assuming a current population of around 28 million people and using these per capita consumption figures adjusted for losses and some amount of exports, annual production would be roughly 1 3 million tons of vegetables and 650,000 tons of fruits Converting these production figures to hectares by using conservative yield estimates of 10 tons of vegetables and 12 tons of fruit per hectare the annual crop area for vegetables is calculated to be 130,000 hectares and fruit, 55,000 hectares

Horticultural production takes place in five distinct agro-climatic zones in Tanzania, each with different production capabilities The primary producing regions are the following

Producing Region	Crops
Coastal areas (lowlands), Dar es Salaam, Coast, and Tanga Regions	Tropical fruit, citrus, coconuts, sweet potatoes melons, eggplant tomato, okra, grapes, onions mango
Lake areas (high rainfall) Kagera Kigona Mwaya and Ukerewe Island	Sweet potatoes, cabbage tomatoes beans onions, mangos, bananas
Central Plateau (low rainfall) Dodona, Singida and Tabora regions	Tomatoes, grapes, onions and mangos
Northern Highlands (reliable rainfall and several ecological zones) Arusha Kilimanjaro and the Usambara mountains	Tomatoes, cabbage, onions potatoes, avocados, bananas and temperate crops such as cauliflower, green beans, and stone fruit
Southern highlands (reliable rainfall and several ecological zones) Iringa, Mbeya, and the Uluguru mountain region near Morogoro	Similar to Northern Highlands

Another important source of fruits and vegetables production is around urban areas Horticultural production has become an additional source of income for many urban dwellers since they can serve the market for highly perishable fruits and leafy vegetables that could not survive the rough handling, bad roads and long, hot travel that more hardy crops normally undergo while being shipped to market Urban production takes place in backyards alongside public streets and roads, and in open areas of urban centers Major crops produced include amaranths lettuce tomatoes okra, bananas, oranges and papaya

2 4 2 HORTICULTURAL MARKETING

Unlike grain crops horticultural marketing has never been under Government control Produce marketing is free (although some of the larger cities require that traders obtain a license which costs about Tsh 500), and marketing is encouraged as a means of reducing unemployment

A trader will normally buy produce from the farmer at his farm, or nearby roadside When supplies are limited, the trader purchases at the farm gate, but during periods of heavy production, when supplies are plentiful the farmer must deliver his produce to the nearest market Payment is made on the spot, in cash

Abt Associates Inc.

Fruit crops are normally bought on the tree This suits the trader because first, he can better control the quality of the product and second, the amount discounted from the purchase price for harvested products generally exceeds the cost of harvesting and packaging Occasionally a trader will buy vegetable crops in the field, a practice followed primarily for products in high demand such as tomatoes, cabbage and leafy vegetables When a farmer's crop is purchased in advance of production, the trader will normally advance up-front funds amounting to 20-50 percent of the total purchase price This system of advance payment serves as a means of credit which enables the farmer to buy fertilizer and other inputs

After accumulating the desired quantity of produce the trader arranges for transport, typically from rural market areas where transport can be hired on market days Often the trader waits with his load alongside the road for a passing truck or bus willing to take some bags or baskets as freight Whatever the arrangement, the unreliable nature of transport is a major problem for the trader At the wholesale market product sales take place by the time-honored system of haggling between the trader and his or her customer Auction sales hardly ever occur

Almost all traders use hired transport Traders move a wide volume of produce, from as little as one-half ton per month to more than 1,000 tons per month for the larger traders The greatest amount of produce is carried on 7-ton trucks because of the difficulty of using larger trucks over bad roads

The load is transported from the rural areas to a municipal wholesale market There, the trader can sell his own product to retailers or he can contract the services of a commission agent or "dalali " who will sell the product on his behalf at a prearranged price and at a fixed percentage fee The fee ranges between 3 - 10 percent of the selling price, but the dalali can also earn (or lose) the "spread" between the guaranteed price to the trader and the price for which he actually sells the product If the trader sells his own product, he can sell at both wholesale and retail A trader will occasionally sell part of his product at wholesale in the morning, and in the afternoon the remaining product at retail

2 4 3 FRESH HORTICULTURAL EXPORTS

The lack of consistent, reliable, historical data also makes it difficult to analyze Tanzania's horticultural export sector Reliable information on horticultural exports is not available from public sources

According to the Board of External Trade (BET) export of fruits vegetables and floral products earned the country approximately US $2 5 million in 1992/93 Vegetable exports included fine green beans hot peppers and okra Fruit exports were primarily mango avocado and pineapple However based on a review of customs declarations for horticultural exports and also shipping documents at the Dar es Salaam and Kilimanjaro international airports, BET s value of exports appears to be understated, by a factor of two or three The authors estimate the value of exports at about $6 million For purposes of comparison, the value of fresh horticulture exports from Kenya where the industry has benefitted from more than 20 years of development, was US$ 70 million in 1992 Whatever Tanzania's total horticultural export value may be the following is an estimate of the relative importance of exports for different horticultural crops, based on interviews conducted in Tanzania

Relative Importance of Horticultural Exports from Tanzania

Cut flowers	60%
Fine green beans	35%
Other fruits/vegetables	5%
TOTAL	100%

2 4 3 1 Kilimanjaro Region

Most of Tanzania's fresh horticultural exports are produced in the Kilimanjaro region and shipped through the Kilimanjaro International Airport (KIA) In 1995 the total volume of flowers, fruit and vegetables lifted from the airport was nearly 1 400 tons Virtually all fresh produce shipped from Kilimanjaro was exported to EC countries Exports tend to be seasonal, with heaviest volumes during the winter

For the past year, since Air France suspended its passenger service to KIA, Kilimanjaro vegetable exporters have been forced to truck a large portion of their air freight to Nairobi for transshipment which takes about as long as the flight between Dar es Salaam and Europe Flower exporters have begun trucking most of their air cargo shipments across the Kenyan border to the Nairobi airport KIA is presently served only by KLM, Ethiopian Airlines and Gulf Air, and it is almost certain that Gulf Air will suspend its weekly flight to Kilimanjaro in the very near future Ethiopian airlines offers cargo service to Europe but its hub is Addis Ababa, where handling is deficient and spoilage often results, so exporters are reluctant to use its service Soon KLM will be the only reliable carrier with a lift capacity of about eight tons each on twice-weekly flights from KIA Even that limited amount will be on a space-available basis

Four exporters of cut flowers and two exporters of green beans account for most shipments from the region A relative ranking of their size can be determined by the amounts shipped by each exporter Following is a summary of shipments from KIA by the various exporters between January and March 1995

Exports from Kilimanjaro Airport
(three-month peak season, January - March 1995)

Exporter	Tons
Tanzania Flowers Ltd (roses Euphorbia)	86 6
Kiliflora (roses, bouvardia)	66 7
Sunripe Kilimanjaro Ltd (green beans, sweet pepper)	63 2
Hortanzia (roses, lizianthus)	55 0
Equatorial Progressive (green beans, egg plants)	50 3
Florissa (roses)	27.6
Total	349 4

There are three other exporters in the region, in addition to those included in the above list Continental Flowers and Kombe Roses were established in 1995 and only recently began exporting Nicky Exporter is a small vegetable exporter that occasionally ships from Kilimanjaro as well as from Dar es Salaam

As is the case for other East African countries, cut flower exporters in Tanzania began as production subsidiaries of foreign-owned, vertically integrated companies with expatriate managers using modern technology and exercising absolute control over all aspects of production, packaging, export and sales The two largest flower exporters Tanzania Flowers and Kiliflora are owned and managed by the Bruins family of Switzerland The Bruins family formed an investment partnership with EDESA, an organization for the Economic Development of East and South Africa Hortenzia is the Tanzanian branch of a Kenya flower producer owned by a Dutch company Florissa is a subsidiary of a Dutch company with the same name

Recently, however, ownership of the newer flower operations has begun to change Two farms were established recently by European residents of Tanzania and the latest farm, Kombe Roses, was started by a native African with funding from the Africa Project Development Facility (APDF) of Nairobi APDF is an enthusiastic partner in the joint venture and believes there will be a bright future for indigenous flower exporters The positive outlook for floral exports was confirmed by field interviews the team held with middle-level, African management personnel of the second largest exporter, Kiliflora Two managers expressed their desire, and appeared determined to start a rose export company They believe that they have learned enough from their experience with Kiliflora that they could be successful with their own company Their only constraint is a lack of investment capital

The larger vegetable exporting companies are also foreign-owned Equatorial Progressive is the subsidiary of a Belgium company, aptly called TANBEL The company, which also exports vegetables from Ethiopia, began its Tanzania operation in 1988 The company produces and exports fine green beans only, between mid-September and late June Its markets include Belgium, Holland, Germany and France

Equatorial Progressive rents approximately 300 acres of irrigated land for the production of green beans from nine estates owned by Cooperative Societies in the Arusha region Land is rented for a three to five-year term at an annual cost of around US $40 - $50 per acre

Sunripe Kilimanjaro is another large, foreign-owned exporter of fine green beans Sunripe is a subsidiary of Kenya Horticulture, based in Nairobi The Nairobi company is owned by the Shah family, who are Kenyans of Asian ancestry Sunripe Kilimanjaro is owned jointly by the Shah family and local partners The company is based in Moshi, and is managed by one of the Shah sons

Sunripe began its Tanzania operations in 1989 The company sees great promise for horticultural exports, primarily because of the excellent climate and growing conditions at higher elevations near Moshi Sunripe cultivates green beans on company farms leased from a number of estates Approximately half of its exports are grown on company farms and

the remainder is contracted with some 3 000 small farmers, some located as far away as 100 km from Moshi, in the highlands around Mount Kilimanjaro The company uses commission agents as its representatives in contracting with the small farmers A total of 12 agents are employed They are paid on the basis of contracted crop area and also earn a bonus based on the amount exported At the beginning of the season the agents will contract with individual farmers to grow beans on specified plots, providing each grower with a "kit' containing seed and farm chemicals in an amount corresponding to the size of his plot Beans are harvested by the farmer, bagged and delivered to the agent Grading and selection is done on the spot and payment is made for only those beans that meet export quality standards Sunripe ships to importers in France, Holland, Belgium and England

Sunripe produces and exports green beans for nine months of the year from September through May The company plans to diversify into the production of a broad range of fruits and vegetables for available export markets In 1994 the company leased a 40-hectare farm from the Tanzanian Sugar Company, located a few kilometers south of Moshi It has installed drip irrigation on the entire farm and has carried out production trials on new crop varieties of asparagus, passion fruit courgette papaya cherry tomato, hot pepper and okra The company plans to diversify into the production of the crops that prove most successful using out-growers to the maximum extent possible

The company has overcome many problems in learning to work with small-scale producers Initially, it purchased beans at a price which varied according to the European market The program worked well as long as the market price remained high However, when the price fell, the farmers refused to accept the reduced payment When it began operating in Tanzania the company provided farm inputs on credit However, company policy was soon changed to "no credit" because many farmers sold their inputs and did not deliver a sufficient quantity of beans to repay their cost In some cases, unscrupulous agents failed to pay the farmers for crops received, despite having collected funds from the company

Administering an out-grower program is difficult due to the large number of individual farmers involved Maintaining production discipline is critical because beans require attention every day, but the farmers "forget" to tend them during the maize harvest season or on market days Often the farmers improperly rotate their crops which results in reduced production yield The amount of product rejected because it fails to meet quality standards is high forty percent on small holdings compared to 10 percent on company farms The primary reason is that the beans are not harvested on time and arrive at a state of maturity beyond what the market will accept

2 4 3 2 Dar es Salaam

Compared to the amount of fresh horticulture exported from KIA, shipments through the Dar es Salaam airport are small Shipments in 1995 were no more than an estimated 200 tons including the transshipment from Kilimanjaro

Carriers offering freight service from Dar es Salaam include Air France, Alliance Airlines, Swiss Air, Air Tanzania KLM and Ethiopian Airlines Since most of the air cargo moving through Dar es Salaam is southbound, there is ample space for horticultural shipments on northbound flights

The Dar es Salaam seaport has excellent handling capability for sea containers, including electrical connections for refrigerated cargo, and stand-by generators in case of power failure Unfortunately, fresh fruit and vegetable shipments through the port are negligible Several international carriers serve Dar es Salaam, and shipments could easily be made to Europe or to the Middle East

Few exporters ship fresh products from Dar es Salaam Those who do include Sima International, Nicky Exporter, Said Hatim, and Chrismill Farms Sima International is owned by Simon Mutabuzi, a Tanzanian of African origin who exports small lots of hot peppers and mangos in the season to Holland, Switzerland and England Nicky Exporter ships Asian vegetables to London via Swiss Air Said Hatim ships small quantities regularly to the Middle East Chrismill Farms is a farming company jointly owned by Louis Kadri a native Tanzanian, with the Commonwealth Development Corporation (CDC) and the German Development Finance Agency DEG The company owns a 300-acre pineapple farm located some 45 kilometers from Dar es Salaam on the Morogoro highway The farm began production in 1992 and initially shipped fresh pineapples by air, first to Europe, then to the Middle-East About a year ago the pineapples developed an early ripening condition, and exports had to be suspended The problem still persists, even though experts have been brought from overseas to help resolve the problem Both Kadri and the CDC representative in Dar es Salaam emphasize that a major constraint to horticulture exports is the local know-how for horticultural crop production

2 4 4 OTHER HORTICULTURAL EXPORTS

2 4 4 1 Flower and Vegetable Seeds

In addition to fresh products, another important horticultural product is the export of vegetable and flower seeds Seed beans have been grown on a large scale for many years in the Moshi-Arusha area under contract with European seed companies The two major exporters are Pop Friend Seeds and Rotian and Schokte, previously known as Royal Schluss Smaller exporters include the Minyara Estate Baker Brothers of Idaho and Mr Sadik Malok who grows seed beans on part of his sisal estate Seed beans currently have an export value of about US$3-4 million annually
Another seed exporter is Cargill an international company that exports fairly small quantities of hybrid maize seed to neighboring countries grown under contract with farmers in Tanzania

The Dutch flower seed business is dominated by six or seven major importers, who see Tanzania as a likely source of products to meet their expanding business The newest seed company, and one that shows tremendous promise as a model for new businesses is Multiflower Seeds, owned by a Dutch entrepreneur The company was established in Arusha in 1994 It began exporting flower seed to Holland in mid-1995, and during the first four months of 1996 exported three high-value containerized loads of seed double its 1995 volume Multiflower chose Arusha due to its ideal climate for

producing many different varieties of flower seeds its pristine growing conditions and its low cost of production The company contracts with thirty different out growers for flower seed production, whose plots range in size from 200 square meters to three hectares One large farm has also been contracted to produce five hectares of seed In addition to exporting seed Multiflower ships genetically pure chrysanthemum cuttings to its Dutch clients which will be used by them as "mother plants" providing a continuous supply of planting material The entrepreneur believes that plant cuttings produced in Tanzania can compete with production from exporters in Kenya, South Africa and Brazil on both production cost and product quality

Experience over the past two years has made Multiflower realize that starting a new business in Tanzania is not easy, primarily due to the cumbersome procedures and outright harassment by government officials on even routine aspects of immigration applying for a business license and even being provided a telephone Now that the company is fully established however it has found that dealing with government officials is much smoother Some aspects of the business are still troublesome particularly obtaining the necessary licenses and certificates for the import of raw materials and the export of seed and cuttings The main problem is that petty bribes have to be paid to obtain a phytosanitary certificate, and government technicians are not qualified to make technical decisions on importing and exporting seed

Multiflower could serve as a model for local entrepreneurs Over time, local producers who grow seeds under contract with the company could evolve into full-fledged business enterprises exporting their own products to overseas markets

Flower and vegetable seeds are exported in dry cargo containers through the port of Tanga The seaport is used for exports of vegetable and flower seeds to Europe, as well as citrus to Mombasa, Kenya and neighboring islands Food legumes are also exported to the islands and some products trickle into the Middle East The port is shallow, so barges are required to transport containers from the wharf to ships at anchor, which makes refrigerated cargo virtually impossible

2 4 4 2 Food Spices

Food spices are used as condiments, seasonings and flavorings for food products The world market is growing primarily because the major spice consumers are developed countries with limited production capability which makes them import-dependent Increased demand for "ethnic' foods has contributed to rising usage of spices Additionally, the trend toward less salt in foods has stimulated more condiment use to compensate for flavor loss

The black and white pepper category is by far the largest condiment traded on world markets Both black and white pepper are produced by the same plant but processing is different While the United States is a major consumer of black pepper the greatest market for white pepper is Europe since consumers there prefer pepper seasoning without the appearance of black color in their food Other important items in world trade are capsicum peppers including paprika sesame seed cassia, cinnamon and mustard seed On a unit value basis, saffron vanilla beans and cardamom are the

most expensive spices Of the major spices traded on world markets, Tanzania exports a relatively large amount of cloves, produced on the island of Zanzibar, and also a limited quantity of cardamon, produced on Tanzania's mainland

The mainland of Tanzania can produce good quality black and white pepper cinnamon cardamon ginger nutmeg, and ground red pepper All these products are grown in small quantities in the producing regions of Tanga and Morogoro but with the exception of cardamon, none have been exported overseas Cardamon exports have been limited to small shipments of sun-dried white cardamon Tanzanian producers do not have the necessary equipment to export green cardamon, which has a much higher market value Expensive vacuum dryers are required for this product

A critical aspect of spice exports is the ability to properly dry the product after harvesting Drying technique is important since it is necessary to reduce the moisture content to around 8 - 12 percent without losing either flavor or aroma Drying is done at a relatively low temperature with heavy air flow

Spice importers prefer to handle a range of products so it is important that a credible exporter have the capability to ship a variety of spices Some importers purchase whole, dried spices so they can control the quality of grinding and packaging of their final product

Food spices offer great potential as an export business for Tanzania, particularly to markets in the U K , Holland, Germany and the United States Since food spices are normally dried during the processing stage, with adequate storage they have a remarkably long shelf life and are not as demanding in terms of post harvest handling as fresh horticultural products Therefore, a cold chain is not required and exports can be shipped routinely in dry cargo containers The marketing and distribution systems for spices are much simpler than for perishable food products Furthermore, given the relative ease with which many spice crops can be grown, they are suitable as a crop for small farmers and can be produced through an outreach program managed by spice exporters

A secondary business which could evolve from the production of food spices is the export of spice oleoresin Oleoresins are obtained from dried spices by extraction with a volatile solvent which later can be removed by evaporation Demand for spice oleoresin is increasing, as oleoresins offer certain advantages over natural ground spices, such as consistency of quality, freedom from microorganisms, uniform dispersion in the end product and easy handling and storage They are an important component in food processing, cosmetics, and pharmaceutical industries Once a spice industry has been established in Tanzania, an essential oils industry would likely follow

2 4 4 3 Pyrethrum

Pyrethrum is one of the oldest know naturally-occurring insecticides and the most widely used botanical insecticide Pyrethrum is produced from the flower heads of the plant *Chrysanthemum cinerariifolium* The flower can only be commercially used if climatic conditions allow the pyrethrin content of the flower heads to reach or exceed a minimum

level of about 1 percent Pyrethrum is usually grown in high altitude tropics where a combination of high daytime temperatures and low nocturnal temperatures are found

The main pyrethrum producers are Kenya, Tasmania and Tanzania Together they account for 71,000 tons or 92 percent of total world production Kenya is the major producer of pyrethrum flowers

Pyrethrum is a smallholder crop with the average land holding in Tanzania of five to ten hectares Small children normally do the harvesting of the flowers After the flowers are harvested the petals are pulled from the center of the flower which is dried and later taken to the processing plant The farmer is paid on the basis of pyrethrum content A farmer can produce 250-500 kilos per hectare, and the value is from US $0 60/kg to US $1 00/kg Kenya provides the farmer with good extension service and tested plant varieties Due to this assistance, farmers consistently obtain a pyrethrin content of 1 4 percent from the dried flowers compared to an average pyrethrum content of 1 05 percent for flowers grown in Tanzania

Dried Pyrethrum flowers are rarely exported, instead they are processed into crude extract and finally into refined extract The refined extract is used to manufacture insecticides Worldwide crude extract production is estimated at 8,916 tons at a value of $589 million Tanzania has 5 percent of this market The principal markets for crude extract are the United States and Kenya In Kenya the Pyrethrum Board processes the major part of its crude extract at its own facilities There are only two refiners McLaughlin Gormley King in the United States and the Pyrethrum Board of Kenya The refining technologies are patented

A major constraint to the industry is the few buyers and the fact that there are only two refiners The process is patented, and it is difficult to gain entrance into the USA market with an insecticide and obtain the necessary USDA and FDA approvals

Another problem is the utilization level of plant and equipment As pyrethrum cannot be effectively stored, an adequate supply of flowers is essential to keep the factory operating The supply of raw material is dependent on the producer price If the price goes too low the farmer will stop producing Prices in Tanzania have not been kept at a stable level

With the privatization of state-owned pyrethrum factories, a number of opportunities are unfolding in this subsector These are discussed in a subsequent section of this report

2 4 5 CONSTRAINTS TO HORTICULTURAL DEVELOPMENT

There are a number of constraints hindering the growth and expansion of horticultural exports from Tanzania The most important of these are as follows

i) With the exception of a few products, there is very limited knowledge about export crop production, processing and marketing in Tanzania An entirely new industry must be developed, starting almost from ground zero There is no 'critical mass" of knowledge and experience which could be used to launch a major horticultural export industry Information on production such as cultural practices, seed selection and plant varieties is very difficult to come by

Marketing information is also lacking While existing exporters know their customers and their market, there is little information or assistance available to help a potential new exporter begin exporting for the first time, nor is information available to help an exiting exporter penetrate a new market

ii) Under tight monetary policies and with banking conservatism, there is a lack of investment capital to finance crop pre-production, processing plants and equipment Working capital financing is nonexistent, which is a requirement for export crops The credit constraint is particularly severe for AISMEs While most international companies have access to capital, often at international rates, from foreign partners or even from their overseas customers, this facility is not available to local businesses trying to become first-time exporters

iii) In the short run, limited air cargo capacity is a constraint to increased shipments of fresh-cut flowers, fruits and vegetables from the major producing zones in Kilimanjaro, Moshi and Arusha As shipments from the region increase, the time will come when sufficient quantities of products become available to enable a full charter shipment However, this would require a much greater degree of organization and cooperation among the major exporters than has previously been the case

iv) The condition of many rural roads is deficient in the areas where crops are grown This constrains the movement of export products and causes bruising and transit damage which has a negative effect on the quality of fresh produce The supply of electricity is also deficient in many rural areas which can severely disrupt processing, drying, or cooling operations Unreliable communication within Tanzania makes it difficult to stay in contact with foreign buyers and suppliers

v) Government services are generally deficient and the all-too-often tendency among lower-level Government officials is to fleece' the businessman particularly foreigners whenever possible The attitude of many government officials appears more exploitative than collaborative Particularly burdensome are the procedures bureaucracy and delays for imports However some Government policies are extremely favorable such as the five-year investment tax exemption for new businesses

vi) Packaging material is not manufactured in Tanzania Carton boxes, plastic wrap and other material must be imported at considerably higher cost than would be available in other producing countries, such as Kenya

2 4 6 OPPORTUNITIES IN THE HORTICULTURAL SUBSECTOR

Horticulture is generally recognized as an effective vehicle for economic development due to its export focus, intensive requirement for labor and adaptability to smallholder production If developed successfully export horticulture can have a substantial impact on rural income and employment especially among women

Tanzania has three important advantages in the production and export of horticultural products

i) Current Government policies favor export In recent years, exporting has become progressively easier, so that now all that is required is a normal license from the Bank of Tanzania and a customs phytosanitary clearance for each shipment Foreign companies wishing to become established in Tanzania for export purposes are officially made welcome provided important tax incentives, and allowed to repatriate earning The bureaucratic interference problems mentioned above regarding imports are less severe for exports

ii) Production costs are competitive With devaluation, the cost (in dollar terms) of Tanzanian labor and other domestic inputs is low The cost of production in Tanzania is generally competitive with other countries in East and Southern Africa The cost of transporting products from Tanzania to foreign markets is also competitive as compared to the other origins in the Southeast Africa region Basic economic and agronomic conditions are in place which will enable export development to take place

iii) Soil climate and general growing conditions in the highlands regions around Mount Meru, Mount Kilimanjaro, the Usambara mountain region and the Uluguru mountains are favorable for export horticulture In the Kilimanjaro region alone five districts covering approximately 12 000 square kilometers are particularly suited for horticultural production and have easy access to the KIA airport

The following are examples of agribusiness ISME investment opportunities in Tanzania's horticultural subsector

2 4 6 1 Subcontracting to Existing Exporters

Subcontracting to supply products to existing exporters is a promising business opportunity for small/medium indigenous enterprises For example, Sunripe Kilimanjaro would like to concentrate its activity in Tanzania on value-added fresh vegetable processing similar to its Kenyan operations To carry this out, Sunripe would have to move a step away from the farmer, concentrating on the packing and marketing of prepackaged, microwave-ready, individual-sized portions of consumer vegetables for European consumers This change in Sunripe's business strategy would create an opportunity for "middlemen," or subcontractors, to link Sunripe with small producers It would be possible to establish a number of small to medium packing shed operators who would contract for vegetable production with small producers, and would select grade box and transport the finished product to Sunripe's export processing plant This would provide an excellent opportunity for AISME development at relatively low risk because Sunripe would provide a guaranteed local

market and would assume the risk of export marketing With time and training, some of the indigenous businesses might eventually become exporters themselves This arrangement would be beneficial to Sunripe as well, since it could expand its export business with little additional management, and with no investment required in packing sheds and farming operations

In a similar manner with the increasing importance of flower and vegetable seed exports it would be possible for indigenous "satellite" businesses to work between the seed exporter and his small farmers as a supplier of exportable seed

Either of these programs would provide investment opportunities for SAEDF's micro enterprise fund A small entrepreneur training program would be required, to prepare the subcontractors to bridge the gap between the small farmer and the exporter It is envisioned that a local partner, such as the National Income Generation Program would work closely with both the SAEDF and the exporting company to develop the required training program

2 4 6 2 Spice Production and Exports

The production and export of dried processed food spices hold great promise for small and medium scale agribusiness operators in Tanzania A model project recently developed by the Tanzania Exporters Association (TANEXA)[5] outlined the concept of contracting small scale producers in Tanga, Morogoro and Dar es Salaam regions to produce spices for export by TANEXA, through the Dar es Salaam port The spices to be cultivated, dried and exported include black pepper, ginger, white cardamom, green cardamom, cloves, chili peppers (Bird's eye and Buyango), nutmeg and cinnamon Given the assumptions of the study, the analysis showed that spice exports from the mainland of Tanzania could be highly profitable, would provide a strong boost to small holder income and would have a highly favorable impact on rural employment, especially among women While many of TANEXA's assumptions would require verification and a considerable number of problems overcome, the study does indicate that spice production and export could provide an excellent opportunity for SAEDF investments It is envisioned that SAEDF could become a joint-venture partner with a private entrepreneur linked to smallholder producers in the spice export business Technical assistance to the new business through SAEDF's TA facility would help overcome production and marketing constraints

2 4 6 3 Floral Exports

The cut-flower export business is highly capital intensive, extremely demanding in terms of production scheduling and crop cultivation, and relatively "high-tech" in its requirements for post harvest handling, transport logistics and overseas sales coordination However, with skilled managers who have solid experience in cut flower production, particularly roses, the business could be extremely attractive SAEDF would have to choose its Tanzanian partner with extreme care,

[5]A Feasibility Study for Enhancing the Production and Export of Spices Under the Auspices of the National Income Generation Program (NIGP) April 1996

and would need to provide some degree of technical assistance covering the specialized aspects of floral production and marketing

2 4 6 4 Pyrethrum

The State-owned pyrethrum processing plant and management structure is being privatized There is an opportunity to work with an investor who has knowledge of the pyrethrum industry and invest in the processing facilities, if there was a long term contract with one of the two refiners to purchase, at an acceptable price the crude produced at the Tanzania facilities

The Mafinga Pyrethrin Extract Plant was commissioned in 1982 It is designed to extract the insecticidal active pyrethrin from the dried flower heads of the pyrethrum plant The process is based on solvent extraction of the ground flowers (grist) with normal hexane to yield a dilute solution of the pyrethrin (miscella) The solvent is removed from the miscella under a vacuum to yield the major product which is a dark viscous oleoresin known as pyrethrum concentrate or crude extract The pyrethrum concentrate contains approximately 30 percent pyrethrins The extracted flowers (Pyrethrum marc) normally contain less than 0 1 percent pyrethrins which is the only by-product of the process The factory has the facility to burn marc to produce steam The plant has an annual rated capacity of 4 500 tons of flowers

Another opportunity would be to improve the quality of flowers by selling seed and seedlings of improved varieties or by cloning the better yielding plants

2 4 6 5 Opportunities for New Markets and New Export Crops

Certain new markets and a number of additional export crops hold great promise for Tanzania The Middle East is a large potential market for Tanzanian horticultural products Given the available freight capacity, relatively low airfreight cost and the proximity of Tanzania to the Gulf States this market is an exciting new possibility for the country

The market potential for new horticultural exports from Tanzania is also very promising Based on the results of a marketing study completed in early 1993 for USAID/Kenya[6], a number of new product ideas were recommended for Kenya The opportunities, which are listed below, would be available in Tanzania

Primary Opportunity Products and Markets

1) Fresh mangos shipped by sea freight into the Middle East,

[6] Overview Report for the Kenyan Horticultural Market Survey Series Prepared for USAID under the auspices of the Kenya Export Development Support Project February 1993

ii) Asparagus air-shipped to the U K , and

iii) Tropical fruit juices shipped by sea container to Holland and Germany

Secondary Opportunity Products and Markets

i) Tropical fruit juices shipped by sea container to Saudi Arabia and France,

ii) Avocados exported by sea freight to the U K , Germany and France,

iii) Strawberries shipped by air into France and Saudi Arabia,

iv) Snow peas shipped by airfreight into U K , and

v) Frozen beans shipped by sea container to Holland, U K , and Germany

In addition to the products mentioned in the USAID/Kenya study, four additional products warrant serious consideration as potential export products

Other Export Products

i) Fresh pineapple shipped to the Middle East,

ii) Fresh passion fruit for European markets (purple variety),

iii) Fresh papaya for European markets (Hawaiian variety), and

iv) Winter melons (galia) shipped to European markets

SAEDF s involvement in helping to develop new export products or new markets would be to provide investment and working capital for economically viable projects as well as assistance to help provide the technical skills required for growing new products and penetrating new markets

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2 5 Cashew Constraints and Opportunities

2 5 1 CASHEW PRODUCTION AND MARKETING

Cashews were introduced into Tanzania before World War II, when their production was promoted by the British Government Cashews at one point in recent years were one of Tanzania's six major cash export crops, currently they are the third largest contributor of foreign exchange earnings behind coffee and cotton Cashew trees are a source of income to nearly 280,000 families located in the poorer areas of Tanzania Raw cashew nuts and processed kernels are a small but significant component of global trade The global trade of raw cashew nuts is estimated at US $140 million and the processed kernel trade amounts to approximately US $500 million The areas where cashews are grown are the Northeastern region near Dar Es Salaam, the Southeast costal regions around Mtwara and Lindi, and in the Newala, Nachingwea, Tunduru and Ruvuma regions inland from Mtwara and Lindi The "best" cashews are said to come from the Tunduru area Cashews are predominantly grown by smallholders on a farm of from one to two hectares, and account for some 400 000 hectares of mono- or mixed-crop utilization Large-scale private plantations occupy about 2,000 hectares in the Lindi and Mtwara regions Most of the cashew trees were planted in the 1950s and 1960s, with a marked decline in planting since the mid-1970's Table 2 3 shows the regional production of cashews from 1986/87 to 1995/96

Table 2 3 Cashew Nut Production by Region, 1986/87 - 1995/96

(tons)

REGION	86/87	87/88	88/89	89/90	90/91	91/92	92/93	93/94	94/95	95/96*
MTWARA	6415	12423	11007	8548	14860	22125	17943	21834	27534	
LINDI	2667	2594	1613	846	3254	5613	7435	5944	9064	
RUVUMA	180	550	1354	319	1336	2854	5165	4981	6640	
COAST	5335	5811	2157	3541	5723	5068	2333	7468	14693	
DSM	252	987	2402	1872	2830	3827	4131	3576	3371	
TANGA	1661	1782	621	1837	1622	2271	2122	2148	1500	
OTHER	42	181	121	96	221	97	194	655	1600	
TOTAL	16552	24328	19275	17059	29846	41238	39323	46603	64402	82000

* regional information not available

Sources - Marketing Development Bureau, CBT and CIP

During the period 1962-1974 raw cashew nut production increased from 40,000 metric tons to 145,000 metric tons It was during this period that the State-owned Cashew Authority expanded Tanzania's processing capacity with the installation of 12 processing factories The initial processing capacity of 20 000 metric tons was increased to 112,000 metric tons by the end of 1982 This investment was financed in the following manner

Loans to the Cashew Sector for Purchase of Processing Equipment

SOURCE	AMOUNT
World Bank Loan I	Tsh 80 million
World Bank Loan II	US $13 2 million
Mecaiana Establishment Vaduz	US$ 1 2 million
Oltremare S P A	US$ 0 6 million
M/S Harbans Consult (UK)	US $ 0 25 million
Banco Di Scilia (Italy) Loan - lst Tranche	Lira 101 6 million
Banco Di Sicilia (Italy) Loan - 2nd Tranche	Lira 924 2 million

Source - Parastatal Sector Reform Commission

After 1974 (when raw nut production reached 145,000 metric tons) there was a subsequent decline and production dropped to only 16,000 tons in 1986 From that low point, production increased to 80 000 tons in the 1995/96 season During the period of low raw nut production the processing plant capacity utilization was so low that the factories closed due to a shortage of raw nut material, most processing plants have not operated since closing

The decline in raw nut production was the result of Government control over all aspects of cashew marketing Centralized control resulted in low farm gate prices, delayed payments to farmers by the Cooperative Unions, general inefficiency of Government processing and marketing, and perhaps most important, the neglect of orchards with a subsequent reduction in output per tree Poor orchard maintenance was in large part a result of the "villagization" process whereby farmers were removed from their small plots into distant villages and separated from their tree crops

In 1985 prices were liberalized and production slowly began to recover Despite improved prices, production response was slow due to mismanagement and lack of transparency in collection and payment transactions carried out by the cooperative unions and the Tanzania Cashew Marketing Board (TCMB) Prior to the 1991/92 season, exports of raw nuts, processed cashews and by-products were the exclusive domain of TCMB, with the cooperative unions acting as the farmers exclusive representative Starting in 1991/92, farmers were allowed to sell to private traders as well as to the cooperatives Traders were allowed to export directly outside the control of the Marketing Board

The gradual increase in private sector participation in the purchase and export of raw cashew nuts has resulted in greatly increased production, improved farm gate prices and increased farm income for the Tanzanian smallholder Greater income for small holders has made it possible to apply sulfur as a means of controlling mildew, and to generally improve the care of orchards Improved husbandry has had a substantial positive effect on production However, Tanzanian

cashew factories still under Government management are not able to compete in international markets, and exports of processed cashew nuts remain small due to the inherent inefficiency of processing plant design

The foreign exchange value of cashew exports declined to US $1 million in 1986/87 season, the year of lowest production, a slight increase was registered in the 1989/90 season with earnings of US $12 9 million Since 1989/90, production has steadily increased along with foreign exchange earnings Table 2 4 shows the quantity price and total value of Tanzania's annual cashew production since 1991/92 Table 2 4 also shows the total value of the crop to the farmer, i e , the total amount of money going into the farming community Most of the increases can be attributed to market liberalization and the increasing use of fungicide to control the debilitating powdery mildew disease In addition, the establishment of farm gate prices at between 60 and 70 percent of the export value of the crop, was a precondition of the Cashew Improvement Program which encouraged the farmer to harvest the crop Other research achievements have started to contribute to this increase but will become more important in the future to ensure a sustainable and quality production system

Table 2 4 Cashew Nut Foreign Exchange Earnings 1991 to 1996

Season	Annual Production	Farm Gate Price (Tsh/kg)	FOB Price (Tsh/ton)	Exchange Rate (Tsh/$)	Value to Farmer (Tsh mill)	Value to Farmer (US$ mill)	Export Value (US$ mill)
1991/92	41328	137	202153	233 9	5650	24 15	35 64
1992/93	39323	145	340000	335 0	5702	17 02	39 91
1993/94	46603	280	372000	479 9	13049	27 19	36 13
1994/95	64402	320	492000	523 5	20609	39 37	60 53
1995/96	82000	300	540000	558 2	24600	44 07	79 33

Source - Cashew and Coconut Tree Crops Project

Cashew Production

The Cashew Research Unit/Cashew Research Project has played an important role in increasing the production of cashews The project is based at Naliendele Agricultural Research Institute (ARI) where researchers have worked on the development of effective practical and sustainable solutions to farmers' production problems The Southern Zone Farming System Research Unit (FSU) has the aim of fostering a farming systems participatory approach to agricultural research in southern Tanzania and hence collaborates with all research sections at Naliendele ARI In recognition of the need for a holistic approach the FSU receives support from the Cashew Research Project for not only cashews related work but also for annual crops and livestock research

Some of the basic findings of this research are as follows

1 Sulphur dusting with powder is an inefficient method for controlling the major threat to cashew production - powdery mildew - since only 10 to 20 percent of the dust applied is deposited on the tree Following application, sulphur deposits decline by up to 80 percent within a period of three weeks Motorized blowers gave an uneven coverage with little sulphur reaching the upper canopy However, manual methods of application were even 50 percent less efficient

2 As good cashew growing soils are generally acidic and of low fertility, the use of sulphur to control powdery mildew increases soil acidity and further decreases its fertility Therefore, sulphur use is not sustainable In addition there are environmental problems associated with long term sulphur use compared to the use of improved cultural practices and/or alternative fungicides for disease control

3 Controlling powdery mildew by spraying water-based fungicides with motorized blowers has been shown to be more efficient with an estimated 60 percent of the spray being deposited on the tree However, coverage is still uneven and only a small amount reaches the upper canopy

4 There is tremendous "tree-to-tree" variation in yields in Tanzania, but yields tend to be consistent from year to year Even after thinning tree densities to reach optimal production and using sulphur dusting, most farmers' fields contain an appreciable number of low yielding trees which are not economic to dust Low yielding trees should be removed by selective thinning Selective dusting of the highest yielding trees should be encouraged where farmers do not have the ability to dust all their trees or where selective thinning has not yet been done Analysis of canopy diameter measurements have shown that the present spacing recommendation (12 x 12 mts) is appropriate for most areas

5 It has been demonstrated that selective thinning reduces inter-tree competition and increases production from the remaining trees Farmers should not waste scarce and expensive resources (labor capital and sulphur) on low-yielding trees Since less sulphur will be used, undesirable environmental side effects associated with sulphur use will be reduced Thinning should also remove the trees that create a favorable micro climatic conditions for this disease Where trees are overcrowded selective thinning of the lowest yielding trees can stimulate production by the remaining trees so that there is no net loss in production

6 Initial research on cashew tree preparation suggests that if farmers can be taught to produce their own grafted plants, new material will be accessible to a larger number of farmers Presently, many farmers cannot afford planting material or are too far from village nurseries to obtain them Greater use of grafted plants should lead to increased cashew production since they are likely to be higher yielding than seed material Teaching farmers to do top-working will allow them to obtain very early returns from their upgrading activities Using grafting, farmers will be able to make selections (for disease resistance or other desirable characteristics) from local

cashew material and multiply this up The best time for stumping is between mid-September and December since trees stumped at this time sprout readily and grafting is done during the rainy season when cloudy weather and high humidity are conducive to a high grafting success rate Trees having smooth, soft clean bark produce the most vigorous regrowth and should be selected for top-working Stump regeneration is enhanced by protecting the cut surface from desiccation Large cut surfaces heal slowly and so large trees may not be suitable for top working Stumping and heading-back may be useful upgrading techniques where trees are of good yielding potential but need relief from overcrowding or have poor canopy structure Growth of cashew seedlings is more vigorous and flowering occurs earlier when they are planted in areas where thinned-out cashew trees have been burnt

2 5 2 CONSTRAINTS TO SUBSECTOR REHABILITATION

Government

Table 2 5 shows a raw cashew cost breakdown worksheet of a cashew nut trader from the Mtwara area The chart shows the effect of the various expenses on the price the farmer receives and the low profit the trader earns when exporting There is some flexibility in the various line items but the table does indicate the areas the trader will concentrate on for his purchases in order to have a profitable trading business The table shows that higher taxes are hurting exports and the industry continues to suffer because of Government policies Effective December 1, 1995 all Tanzanian cashew nut exporters are required to pay an export stamp duty of Tsh 5 000 per ton and an export levy of 3 percent of the total value The trader estimated a cost of Tsh 17 500 for this levy The export levy is divided into three parts one percent to CMBT for marketing activities, 1 percent to the processing fund to help improve the existing factories and 1 percent for the Crop Improvement and Development Fund Growers are also being taxed at the village and district levels Cashew nut farmers are required to pay an additional levy of Tsh 39-80 per kilogram to be used for local development projects The trader will most likely include this levy in his purchase price to the farmer but Table 2 5 shows the levy as a separate line item

The cashew nut procurement and processing policy established under the Minister of Agriculture and Cooperatives (Hon P Kimiti) is now under consideration for change Cashew nut processors interested in leasing the closed processing facilities of the Government have prepared a formal request (5/28/96) which asks that the processors be given first and exclusive preference on the purchase of raw nuts as a condition to leasing the Government processing facilities The document also states "In the event that a processor fails to process because of capacity, technical or any other related constraints that processor will be licensed to export raw nuts " This means that the processors would have almost exclusive access to the cashew crop The Government has unofficially accepted this request as stated in the public newspapers By reducing market competition in the purchase of raw cashew nuts the farmers' income will be reduced and continued progress in cashew marketing will be stopped

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Table 2 5 Cost Breakdown of Raw Cashew Nut Purchases for Export

(1995-1996 season)

	Newala	Masasi	Mtwara	Nachingwea	Tunduru
Purchase price raw cashews (Tsh)	320,000	380 000	350,000	385,000	380,000
US $ Equivalent (US $1=Tsh 565)	$566	$673	$619	$681	$673
Handling expenses					
Village levy	39,000	49,000	45,000	75,000	35,000
Transport	15,000	20,000	10,000	20,000	36,000
Bags	7,000	7,000	7,000	7,000	7 000
Procurement cost	15,000	15 000	15,000	15,000	20 000
Handling	2,000	2 000	2 000	2,000	2,000
Port transport	2,500	2,500	2,500	2,500	2,500
Forwarding expenses	2 000	2 000	2,000	2 000	2 000
Wharfage	8,000	8,000	8,000	8,000	8,000
Export levy	17,500	17,500	17,500	17,500	17,500
Financial charges	25,000	25,000	25,000	25,000	25,000
Subtotal handling and transport	133,000	148,000	134,000	174,000	155,000
Subtotal cost - US $/ton	$235	$262	$237	$308	$274
Grand total cost - Tsh/ton	453,000	528,000	484,000	559,000	535,000
Grand total cost - US $/ton	$802	$934	$857	$989	$947
Selling price - Tsh/ton	522,625	522,625	522 625	522,625	522,625
Selling price - US $/ton	$925	$925	$925	$925	$925
Profit - Tsh/Ton	69,625	-5,375	38,625	-36,375	-12,375
Profit - US $ Equivalent/Ton	$123	($9)	$68	($64)	($22)

Source Mtwara cashew nut trader - Mehboob J Mawji

Note Amounts in US dollars are converted from Tanzania shillings at Tsh 565 = US $1 00

All figures per metric ton

The Government-owned processing facilities consist of 12 factories with Italian and Japanese equipment as shown in Table 2 6

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Table 2 6 Summary of Government Owned Processing Plants

Name of Factory	Capacity (Tons)	Type Equipment	Water Source	Time Operated	Season Closed
Tanita I	12,000	Italian	Shortage	5 yrs	1983-84
Tanita II	12,000	Italian	Shortage	4 yrs	1982-83
Mtwara	8 000	Japanese	Town-ok	6 yrs	1982--83
Lindi	10,000	Italian	Town-ok	4 yrs	1983-84
Mtama	5,000	Italian	Well-ok	3 yrs	1982-83
Likombe	10 000	Japanese	Well-ok	12 yrs	1993-94
Newala II	10 000	Japanese	Shortage	2 yrs	1982-83
Kibaha	10,000	Japanese	Town-ok	5 yrs	1984-85
Masasi	10 000	Italian	Well-ok	2 yrs	1981-82
Nachingwea	5,000	Italian	Well-ok	1 yr	1981-82
Newala I	10,000	Italian	Shortage	0 yrs	Never opened
Tunduru	10,000	Italian	Town-ok	0 yrs	Never opened

Source - Parastatal Sector Reform Commission

There are many problems with the factories listed in Table 2 6 The technology chosen is not appropriate for the conditions of the location All twelve units require large amounts of water (30/50 000 gallons per day) and require up to 400 kilowatts of electric power in areas where water and power are difficult if not impossible, to obtain

Current processing efficiency levels are not acceptable if Tanzania is to be competitive in world markets The nut recovery rate is an important factor in determining the processing efficiency of a factory An acceptable recovery rate is 23-25 percent (77 percent shell and 23 percent nut) In Tanzania the ratio of whole-nut kernels to total kernels produced is in the range of 57-65 percent, whereas 70-85 percent of whole kernels can be produced on "India type" equipment The following chart shows the average nut recovery rate and the percentage of whole-grade kernels recovered in four factories over a two-year period during the time when they were operating

Percentage Factory Recovery Rates

Name of Factory	1990 - 1991		1991 - 1992	
	Percent Recovery of Nuts	Percent Whole Kernels	Percent Recovery of Nuts	Percent Whole Kernels
Tanita I	17 1	47 7	17 3	45 4
Kibaha	17 6	48 6	N/A	N/A
Likombe	20 5	45 9	20 2	43 1
Lindi	N/A	N/A	20 3	34 9

Source - Cashew Nut Board of Tanzania

The above figures clearly indicate the difficulties in factory operations Without a high recovery rate and a large percentage of the whole kernels which command high prices, it is difficult to operate profitably

Two smaller systems are preferred, both having good recovery rates The U K based Natural Resources Institute (NRI) (see Appendix A Section 1 0 for details) has a unit operating in Mongu, Zambia that uses dry roasting This small plant achieves more than 85 percent kernels out turn with a high percentage of whole nuts The second unit is made in Brazil (Pearce Ind e Com De Maquinas Ltda), and uses steam for roasting Steam cooking is considered to be the new low-cost technique (US $250,000 per 2,500 ton capacity unit) which offers white kernels with an attractive appearance In both cases, the waste shells are used as fuel

Finally, there is a plant in operation by the company Joao Ferreira dos Santos (JFS), located in Nampula Province, Mozambique, that uses similar equipment manufactured in India This plant recovers 97 percent whole nuts from its semi-mechanized shell removal machines, and the entire factory has an average production of more than 70 percent whole nuts Equipment for the plant, with an annual capacity of 3,000 tons, costs only US $200,000

The Tanzanian Government seems locked into a position of restarting its 20-year-old processing plants that have demonstrated when they were operating unacceptable recovery rates

Processing plants in India are reported to operate at a cost of $40 per ton lower than in Tanzania Taking into consideration the low recovery rate and higher cost of operating the cashew processing factories when compared to India (the major competitor) it is advisable to look at highly efficient alternate technology that has the capability to provide a higher recovery rate

2 5 3 OPPORTUNITIES FOR SUBSECTOR REHABILITATION

The major opportunity in this subsector which depends on favorable Government agricultural policies, would be to open a small cashew processing plant using technology that is appropriate for Tanzania The best example of appropriate technology is the JFS plant, located in Nacala Mozambique This plant is energy efficient, has a good recovery rate and is not complicated to operate One important advantage of a labor intensive process is that the batch sizes fed into the autoclaves are much smaller than in the capital intensive system Any problems that arise can be detected by the supervisor and action taken to correct the situation A major hurdle of the labor intensive system in that factory labor has to be trained to cut away the nut without damaging the kernel The skill needed to apply the right amount of pressure has to be mastered by the workers Also, considerably more floor space and supervision are required due to the much larger number of employees However the cost of maintaining factory equipment, the energy used and the amount of water required is less than mechanical capital intensive systems In summary the labor intensive system can be easily adapted to local conditions and requires minimum infrastructure facilities in terms of electric energy, water and fuel The cost of maintenance is minimal and maintenance can be carried out without sophisticated training While there is a cost associated with employing more labor, at least the wages are retained within the local economy Provided that the value-added activity is profitable to the processor (profit is said to be greater with the labor intensive system) then the macro economic objectives of employment creation and income generation are fulfilled

2 6 Sisal Production and Processing Constraints and Opportunities

Between 1960 and 1970 Tanzania was the world's largest producer and exporter of sisal fiber, with an annual production of more than 200 000 tons which amounted to nearly one quarter of world production Since 1970 the production of sisal fiber has experienced a long slow decline In 1986 output bottomed at 30 000 tons and has since stabilized at between 30,000 - 40 000 tons, amounting to around 7 percent of the world's production

The primary reason for the decline in production was the nationalization of fifty-two sisal estates (60 percent of the area planted) between 1967 and 1973 and the creation of the parastatal Tanzania Sisal Authority with a monopoly on export marketing Government interference in sisal production and marketing was exacerbated by an overvalued shilling, which made Tanzanian sisal over priced in world markets Simultaneous with the decline in the industry's competitiveness in international markets, world demand slackened primarily due to the substitution of cheaper and stronger nylon cord for sisal bailer twine Additionally sisal bags are not competitive with jute bags in price nor in versatility, since they are not suitable for some grain crops Therefore, even local and regional markets are not assured

In 1991, world prices for sisal fiber collapsed, falling by one-third over the course of the year, from $540 per ton to $360 per ton This decline was caused by plummeting demand in Eastern Europe and the European economic recession As a result, local producers shifted from exporting fiber to spinning the fiber into higher value sisal yarn One bright spot

is the use of sisal fiber for production of high quality pulp, suitable for making paper A pulp factory established in Moshi exports around 1,000 tons of pulp a year, to markets in Canada

Sisal production is concentrated in the Tanga region with a few large estates operated in Morogoro and Arusha During the mid-1960s period of peak production, more than 275,000 hectares were under sisal In 1991 the area in production had fallen to around 75 000 hectares, of which approximately 65 percent was owned by the private sector The largest privately-owned mill, Bambini produces 60 percent of private sector fiber output, amounting to 36 percent of total production

The total annual spinning capacity in all the mills in Tanzania is approximately 70,000 tons Average capacity utilization is *only 30 percent*, but it varies tremendously among factories The privately-owned Bambini mill has a total annual capacity of 1,000 tons and operates at 100 percent capacity On the other hand, the parastatal Tancord mill has an annual capacity of 45,000 tons and operates only at 9 percent of capacity In general, private spinning mills are running close to full capacity while public sector factories are grossly under utilized

2 6 1 CONSTRAINTS TO DEVELOPMENT

The sisal industry in Tanzania has made much greater progress in freeing itself from Government intervention than has the cashew industry However, many of the problems confronting the two industries are similar Government intervention is still present in sisal production and processing, although markets are relatively free The problem is that Government-owned businesses are in direct competition with the private sector, and thereby receive preferential treatment and scarce financial resources from State-influenced banking and marketing services

The major current constraint to industry development is the Tanzania Government It owns the controlling interest in all sisal operations and makes all significant decisions This issue must be addressed before privatization can effectively take place

2 6 2 OPPORTUNITIES

The **Tanzania Sisal Authority** is divesting of its holdings through the sale of up to 70 percent of its business The suggested price ranges from US $8-16 million The business consists of 14 sisal estates covering more than 68,000 hectares Each sisal estate has a variety of plant and equipment including decorticators, tractors and related infrastructure The Authority also has a spinning mill with an annual capacity of 45,000 tons of bailer twine, a specialized carpet weaving mill capable of producing carpets, buffing cloth and geotextiles, a livestock division with 3,400 dairy breeding cattle which form a captive market for sisal cattle feed concentrate The Authority also owns 50 percent of the Mkonge Hotel in the city of Tanga An investment opportunity exists in the privatized company

Other opportunities relate to sisal production management and the new by-products that can be started along with new plant varieties and improved harvesting techniques Several by-products have good market potential, including

i) The use of the green waste from the leaves of the harvested sisal for animal feed This is being done in Kenya The product can be fed to the animals fresh dried or as a concentrate

ii) Sisal fields are harvested every 10 years There is a use for the pulp fibre from the bulb (center) of the sisal plant when the field is prepared for a new crop These fibers are shorter and therefore ideal for paper making They are usually planted 4 000 plants per hectare, and each bulb will produce 5 kilos of pulp

iii) The sisal plant is similar to the magay plant in Mexico which is used to produce alcohol A sisal-based alcohol drink could be developed in Tanzania

iv) Sisal leaves have medicinal properties Remedies extracted from the leaves of the sisal plant could be developed to alleviate health problems

v) The residue left after taking the fiber from the leaves can be made into bio-gas, a product which can be used as a fuel for the generation of steam for electric power or to burn as a gas

vi) The digested material from bio-gas can be used as fertilizer or to feed fish A 4,000 square meter pond 3 meters deep will produce 15 tons of fish per season and can be used for irrigation after the fish are harvested

vii) Sisal carpet is becoming popular because it is made from a natural fiber Also, there is less static electricity in carpet made from sisal compared to synthetic fiber

viii) There has been experimental work done on using better plant varieties (hybrids) as well as clones This information should be incorporated into new investments in sisal production

ix) Equipment has been developed that can remove the fiber from the plant leaf in the field, when the leaves are harvested This will improve soil fertility due to reincorporating the residual organic material This too, should be considered in new investments in sisal production

2 7 Other SAEDF Investment Opportunities in Tanzania

During the field interviews in Tanzania, the team reviewed a number of specific investment projects which are recommended for follow-up action by SAEDF A summary description of the potential projects and the name, address and telephone number of the investment partners, or beneficiary of SAEDF's microenterprise development funds are shown in Appendix A, Section 2 0 The following projects are described in that matrix

A Mwanza small-scale dairy, with a production capacity of 8,000 liters per day,

A small (200-ton capacity) cargo vessel to move freight across Lake Tanzania,

The expansion of an oilseed pressing plant in Arusha,

Intensive gemstone mining operations, and

Subcontracting to a large exporter for the production of superior quality green beans

2 8 SAEDF Linkage Opportunities with International Donors

Many organizations and institutions support private sector development in Tanzania The recognized leader is USAID, whose efforts are spearheaded by its Private Sector Advisor While USAID has no activity in the agricultural sector per se[7], it has a continuing private sector development program USAID's efforts in Tanzania are carried out under the umbrella of the Finance and Enterprise Development (FED) Program, which was initiated in 1992 The purpose of the FED Program is to foster income earning opportunities for the unemployed and underemployed, by stimulating private enterprise growth The five components of FED which, directly or indirectly, support private business are a) institutional support to the Bank of Tanzania b) the creation of the Social Action Trust c) the creation and ongoing operation of The Business Center (TBC) a business services and training center, d) the creation of the Risk Management and Profit Sharing (RMPS) fund, and e) support to the Tanzania Venture Capital Fund (TVCF) The last three of these interventions are directly relevant to SAEDF In addition TVCF is expanding into microenterprise financing through the LAZER project in Mwanza which is related to SAEDF's interest in microenterprise development Another relevant activity in Tanzania is the consortium of international donors headed by UNDP which provides business and financial assistance through the National Income Growth Program (NIGP)

[7]The only USAID program with an agricultural focus is the Agricultural Transport Assistance Program (ATAP) a rural roads construction and rehabilitation program which started in 1991

2 9 The Financial Sector in Tanzania

2 9 1 THE MACROECONOMIC ENVIRONMENT

In conformance with a World Bank / IMF structural adjustment program now underway Tanzania has attempted to reduce money supply One significant result of this restrictive policy has been high interest rates throughout the banking system 40 percent prime corporate rates were in effect until recently, and have only recently subsided by several percentage points The restrictive monetary policies seem to be working, however, money supply (M3) decreased 5 4 percent from a year ago according to official figures released in the May 1 1996 Bank of Tanzania report M3 is now put at 682 billion Tsh This was brought about by a TSh 38 billion decline in net domestic assets of the banking system At the same time there has been an increase in both foreign exchange held in the system and an increase in savings deposits

Restrictive monetary policies have also led to a decline in the value of the Tanzania shilling The value of the TSh at January 1994 was 494 5 per US dollar, the July 1996 exchange rate was 636 TSh a decline of 29 percent

Interest rates paid on deposits fell during April 1996, from an average of 17 4 percent in March to 15 7 percent Short term interest rates on loans increased slightly from 35 7 percent to 36 4 percent The Central Bank report notes that lending rates have not responded sufficiently to changes in the Treasury Bill rates (the yield of one year bills declining from 20 percent to 15 2 percent) while twelve month deposit rates have fallen in line with those rates

According to the same Central Bank report, the trade deficit increased 13 8 percent from the first quarter a year ago, to US$ 213 million This was due to higher imports of finished goods and a concurrent decline in raw materials export earnings, due in part to lower world prices for coffee and gold

GDP growth is forecast at 5 percent for FY 96, in line with IMF guidelines Inflation is forecast at 22 percent for FY 96, down from 27 percent in FY 95

It should be noted that the IMF announced in June that a new three-year US $ 200 million Enhanced Structural Adjustment Facility (ESAF) was approved and will be disbursed beginning in the third quarter 1996 The Tanzania Revenue Authority an autonomous body charged with the administration and collection of all taxes from the current revenue departments, is expected to begin operations in July

2 9 2 COMMERCIAL PARTICIPANTS

There are four main types of commercial participants in the Tanzanian financial sector

2 9 2 1 Supporting Financial Institutions

Three institutions support the financial sector in Tanzania

The Central Bank The bill granting the Bank of Tanzania (BoT) increased authority in regulating monetary affairs was approved by the Parliament in February 1995 While no interviews were conducted at the BoT, the consensus among the members of the formal financial sector interviewed is that the Bank is sufficiently prepared to accept these increased responsibilities

Capital Markets Legislation establishing the Capital Markets and Securities Authority (CMSA) was approved in March 1995 It is thought that the CMSA will become operational during the third quarter of 1996 This development is important as it will provide a transparent mechanism for the sale and purchase of private sector companies and the privatization of state-owned firms in compliance with current structural reform programs

State-owned banks The banking sector was dominated until recently by two state-owned banks, the National Bank of Commerce (NBC) and the Cooperative Rural Development Bank NBC accounts for over two-thirds of the banking assets in the country (more than 60 percent of these loan assets are nonperforming) These institutions have suffered from over staffing, poor internal controls lax credit collection efforts, and inconsistent or arbitrary credit policies and procedures Accumulated losses for NBC exceeded US $260 million as at June 1995 according to the Central Bank As part of a donor-financed restructuring package these two banks have been restricted from granting any additional new credits, collection efforts have been strengthened, branches have been closed and staff has been substantially reduced (a condition of the IMF US $200 million Standby Facility was that NBC had to reduce its staff of more than 7 000 employees by 3,000)

The restructuring efforts underway preclude SAEDF from considering utilizing these two banks in any capacity

2 9 2 2 Commercial Banks

Several commercial banks operate in Tanzania The following is a brief description of the most important banks, and their parent banking groups For a comparative analysis of their financial performance, see Appendix A, Section 3 0
Standard Chartered Bank (Tanzania) is a member of the Standard Chartered Group, a worldwide bank holding company with more than 100 years of banking experience in Asia, the Middle East and Africa Standard Chartered has banks in 39 countries worldwide, and additional representative offices in 12 others For the Group profits in 1995 in all of Africa were £ 51 million, an increase of 35 percent from the previous year Standard Chartered (T) is the largest full service bank in the country, and its client base consists largely of multinational corporations active in Tanzania It had profits for the full year 1995 of TSh 5 6 billion (US $10 million), with government T Bills contributing significant earnings The bank had total assets of TSh 65 billion (US $104 million) as at March 30, 1996

Standard Bank of Tanzania (Stanbic) is a wholly-owned subsidiary of the Standard Bank Group, a leading South African banking and financial services group Total assets for the Group as at December 31 1995 were R 101 Bn (US $28 Bn), ranking Stanbic as second-largest South African bank Stanbic traces its roots to 1862 and was, until 1987 part of the Standard Chartered Group based in the U K Stanbic offers a full range of financial services in South Africa and operates through subsidiaries and affiliates in twelve sub-Saharan African countries

Stanbic (Tanzania) was established in 1995 when Stanbic was invited by the Bank of Tanzania to take over the operations of the local Meridien BIAO subsidiary [It should be noted that the local subsidiary of Meridien was closed by the Government not as a result of weakness within the local bank itself, but rather due to the failure of the entire Meridien Group throughout Africa] Stanbic (T) offers a full range of financial services, including retail services, corporate lending, equipment lease finance and pre-export trade finance When the capital market in Tanzania opens, Stanbic (T) will offer merchant banking services such as securities underwriting, bridge finance and custodial services

Stanbic (T) has moved quickly to improve the condition of its local operations through the establishment of an improved loan portfolio management system staff training, better operations systems and the imposition of credit standards consistent with those found throughout the Stanbic Group At the same time they have been aggressively seeking out new credit relationships

Stanbic (T) currently operates a branch in Arusha and plans to open another branch in Mwanza Additional expansion of this branch network in the coming years is anticipated which will give Stanbic the most extensive commercial banking network in Tanzania

The bank's total assets as at March 30 1996 were TSh 54 billion (US $86 million) making Stanbic (T) the second-largest bank operating in Tanzania

Citibank opened a subsidiary in Tanzania in 1995 It offers a limited range of financial services, concentrating on the interbank placement and debt securities markets It does not offer commercial credit products (loans to companies) and has no plans to do so in the future Total assets as at March 30 1996 were TSh 22 billion (US $34 million)

Eurafrican Bank was established in 1995 as a joint venture with the following ownership

Banque Belgolaise	30%
International Finance Co	20%
PROPARCO	10%
TDFL	9%
Private Investors	31%

The parent group is Banque Belgolaise, which is the current incarnation of the Banque du Congo Belge, founded in 1909 Aside from its long affiliation with the former Belgian Congo (Zaire), Banque Belgolaise has operations in other African countries such as Burkina Faso, Burundi, Congo, Cote d'Ivoire, Kenya, Mauritania, Niger, Nigeria, Rwanda, South Africa, Togo and Uganda It offers a full range of banking services, including trade finance, commercial lending and retail banking (including private banking) Total assets for the consolidated group were BEF 74 billion (US $2 5 billion) as at December 31, 1995

Eurafrican Bank offers a limited range of banking services, concentrating primarily on trade finance They provided pre-export financing for a significant portion of last season s cashew crop, for example They do not provide commercial credit facilities for companies except in rare instances Total assets for Eurafrican Bank as at March 30 1996 were TSh 5 billion (US $8 million)

First Adili Bank was founded at the end of 1994 It operates primarily in the debt securities market Major share holders include the Provident and Pension Fund

First Adili was going to be a participant in the USAID/Tanzania RMPS Project (Risk Management Profit Sharing) along with The Business Center, another USAID project The RMPS project is to administer a US $2 million Enterprise Fund for lending to small and medium-sized enterprises This project is not yet operational since First Adili declined to participate Total assets for First Adili as at March 30, 1996 were TSh 6 3 billion (US $10 million)

2 9 2 3 Development Finance Institutions

The Tanzania Development Finance Company Ltd (TDFL) was established in 1962 under the joint sponsorship of the (then) Tanganyika Government, Britain's Commonwealth Development Corporation and the Federal Republic of Germany Current shareholders are

Government of Tanzania	36%
CDC	29%
DEG	18%
EIB	12%
FMO (Dutch)	5%

TDFL assists private-sector Tanzanian companies with long term debt equity investments or a combination of both The sectors in which TDFL has debt and/or equity investments include the following

- Food Processing
- Alcohol and Beverages
- Textiles and Knitwear
- Metal Industries

- Agro-Industries
- Plastics and Chemical Goods Industries
- Leather and Rubber Industries
- Service Industries

TDFL has undergone many of the same problems common with state-owned and development banks elsewhere on the Africa continent over staffing, poor internal operational controls and portfolio management systems, lax loan collection efforts and a "donor" mentality Efforts are currently underway to address these areas of concern

A comparison of TDFL's performance with other Tanzanian financial institutions is found in Appendix A Section 3 0

2 9 2 4 Venture Capital Funds

The Tanzania Venture Capital Fund (TVCF) is an equity fund that was established in 1993 USAID has provided funding for the initial feasibility study to establish the Fund and subsequent administrative activities TVCF is capitalized at US $7 6 million with share capital contributed from donor organizations as follows

Donor	US $MM
CDC	2 50
DEG	2 36
FMO	1 00
Proparco	0 50
Swedfund	0 50
NPF	0 50
TDFL	0.25
Total	7 61

TVCF is managed by Equity Investment Management Ltd (EIM), a fund management firm which charges TVCF a management fee The investment policies of TVCF are as follows

- Joint ventures (50 percent or less) with private sector companies in which Tanzanians have a substantial stake,
- Equity or quasi-equity instruments,
- Investment in all productive sectors except tobacco broadcasting, health, education, trading,
- Investment range US $50,000 - 500,000,
- Reinvested profits not taken into income until paid out as dividends, and
- Directorship representation plus active involvement in company management

Seventeen investments (15 ongoing projects) have been approved by the EIM board since the inception of the Fund, making TVCF one of the largest private investors in Tanzania As of May 1996 disbursements and commitments amounted to US $4 1 million Investments are made in both foreign exchange (US$) and Tanzania Shillings Current sectors of investment include transportation, agricultural product processing, telecommunications and water supply Additional investments in the approval pipeline include sectors such as transportation, export horticulture, rice milling and animal feed projects

2 9 3 MICRO FINANCE ACTIVITIES

National Income Generation Program

The National Income Generation Program (NIGP) was established by the UNDP and other donors to assist small entrepreneurs through the development and funding of a variety of projects These projects include assistance to tanneries and leather-working firms, road maintenance and rehabilitation, training services, small-scale horticultural gardens, livestock and animal husbandry, development of market centers for petty traders and oil presses for edible oil commercialization NIGP has a current portfolio of nine projects with a value of US $9 million, not consistent with their target customer size NIGP is also undertaking to establish an "umbrella" micro credit project that will enlist local NGOs active in micro finance The umbrella project will provide access to loan guarantee funds, as well as technical assistance for staff training and MIS system development accounting packages and auditing functions A key objective of this US $10 million project is to establish national standards for micro credit projects in accounting credit evaluation methods and loan management It will also seek to involve formal sector financial institutions in the micro credit process through referral of small-sized entrepreneurs and the establishment of a loan guarantee fund

2 9 4 OTHER INVESTMENT ACTORS

The Business Center is a USAID-funded undertaking designed to assist small and medium entrepreneurs in the establishment and operation of small businesses This includes preparation of business plans, identification of equipment sources, access to financing sources, training and sourcing expert consultants to resolve specific business development needs

The Business Center and USAID are developing the RMPS program to manage a US $1 million Enterprise Development Fund for lending to small and medium-sized businesses (First Adili Bank was an early participant, but later dropped out) This project's implementation has been slow, due to difficulties in establishing a suitable administrative structure to implement the program

The Business Center has been relatively successful thus far assisting 74 small businesses with customized services to-date, and training more than 1 000 small entrepreneurs

The **President's Office Investment Promotion Center** was established pursuant to the National Investment (Promotion and Protection) Act of 1990 It is charged with assisting investors (local and foreign) who need approvals for significant private sector investments In contrast to Investment Centers in many developing countries, the IPC appears to be effective in facilitating private sector investors After investment proposals are reviewed they are presented to an inter-Ministerial working group consisting of senior-level government officials Final approvals (including licenses, import duty exemptions, tax holidays, etc) are granted by this office in conjunction with the relevant government ministry Total investment approvals have been in excess of several hundred million dollars, the length of time required for approval (always an important consideration for a significant private sector investment) can be as little as 45 days after application

2 9 5 ANALYSIS OF THE BANKING SECTOR

The fragility of the Tanzanian banking system stems from a variety of causes, among them a recurring and unacceptably high level of nonperforming loan assets, sporadic liquidity problems over staffing and high expense burdens, lax internal bank management and an unsympathetic and poorly performing judicial system Restrictive government credit and money supply policies have also had an effect on the performance of the financial sector However given the general economic liberalization underway and the potential of Tanzania's economy in sectors including agriculture, mining and tourism, a number of new banks have been established during the last two years It is expected that the financial sector will continue to develop, with increased competition and expanded services in terms of both geographic coverage and market delineation

Six Tanzanian commercial banks and three parent banking groups were analyzed under the criteria of Liquidity and Capital Adequacy, and Profitability It was not possible to measure loan asset quality in the Tanzanian banks however it is generally felt that Standard Chartered has the best performing loan portfolio, followed by Stanbic Stanbic is attempting to reduce problem loans in the portfolio that was inherited through its takeover of Meridien The financial analysis also ascertained the relative financial strength of the parent bank groups with the limitation that an annual report for Citibank was not available First Adili is not part of an international banking group, and TDFL is a standalone development bank

Details of the analysis are shown in Appendix A, Section 3 0 A summary of the findings is as follows

a) The liquidity ratios for the banks are acceptable and in fact reflect an over liquid banking sector that is reluctant to increase its credit portfolio

b) The liquidity for the three parent bank groups analyzed (Standard Chartered Group, Standard Bank Group and Banque Belgolaise) is within acceptable ranges

c) The return on equity (ROE) for Tanzanian banks is generally lower than international standards The reason is that most banks hold a greater portion of their assets in lower-yielding debt securities than in loans

d) While Standard Chartered and Stanbic are well within profitability guidelines, TDFL is not The profitability of the other three banks is not comparable since they are in a start-up phase with high operating expenses Profitability and operating efficiency for the three parent bank groups are acceptable

2 10 Recommendations for SAEDF Intervention

2 10 1 COMMERCIAL BANKING PARTNER

It is highly desirable for the SAEDF to select a commercial bank as a partner in each country in which it has, or intends to make investments Commercial banks will perform the following services for the SAEDF

- Client identification, credit analysis and management evaluation

  Commercial banks will have a list of business clients with whom they have an existing banking relationship This is an ideal starting point for SAEDF to identify potential investment opportunities Banks will have (or can obtain) confidential information on the potential investment's financial condition and operating history and a knowledge of the management team The bank can perform a credit analysis based upon its own format and credit policies and/or those negotiated with SAEDF Thus a potential investment for SAEDF must also be an acceptable credit risk to the partner bank (under no circumstance should SAEDF consider funding a project that did not meet minimum bank credit underwriting criteria) In addition to financial analysis and credit criteria, banks can provide an assessment of the management and operating skills of the personnel involved in all potential investments This is an especially important selection criterion, given the relative lack of management depth in Tanzania

- Ongoing client monitoring

  It is standard procedure for banks to monitor their clients business operations on a regular basis This includes periodic review of financial results assisting clients in meeting financing requirements and other needs Good bankers in Africa regularly visit their clients' place of business (both announced visits and just popping round for a quick hello") This active relationship management can be an integral part of the services that a partner bank can provide SAEDF not only reviewing financial information (which is one-dimensional and easily manipulated) on a regular basis but visiting the plant or site or farm In this fashion bankers often become aware

of problems or issues facing the client before they reach the acute stage and allow the banker to intercede with recommendations for action or needed inputs (credit technical assistance) This ongoing client monitoring function will be invaluable to the SAEDF for investment management, and should be explicitly detailed in any management agreement with a partner bank (number of visits during the first year of investment, etc)

- Account maintenance

Any investment in companies by SAEDF will, of necessity, involve transfers and management of monies Thus, the SAEDF should maintain regular bank accounts at the partner's commercial bank All transactions (transfers in disbursements etc) can be monitored and records of these funds flows can be requested on a regular basis Any monies committed but not disbursed can be utilized in an effective manner (invested in the offshore interbank or treasury markets, for example) before they are actually disbursed to the company in which an investment is being made

- Custody and legal services

Partner banks can also provide non-financial services such as doing legal research and obtaining opinions (can SAEDF invest directly or does a local trustee hold the shares) and needed regulatory approvals Once investments are made share certificates and other legal documents can be held in country for safekeeping, trustees or directors appointed etc These services are then accounted for and it is the bank's responsibility to maintain them in a correct manner

- Additional financial resources

A partner bank should be willing to extend additional credit (for working capital equipment leasing, letters of credit) to supplement the equity injection made by SAEDF This is a function of utilizing a range of services offered by a partner bank such as credit analysis, client monitoring and so on In this manner, the investment client receives not only an equity injection but the possibility of additional credit facilities or other bank services (since additional equity could be leveraged by allowing incremental debt without increasing a firm's debt-equity ratio)

2 10 2 COMMERCIAL BANK SELECTION

It is strongly recommended that SAEDF select Standard Bank (Tanzania) as its commercial bank partner Both Stanbic (T) and its parent Standard Bank Group are conservatively managed strong financial institutions with a solid reputation Stanbic (T) offers an advantage via its planned geographic expansion within the country and in the range of services it currently offers as well as ones it anticipates offering (including merchant banking and leasing) It is further recommended that SAEDF contact the parent Standard Bank in South Africa to explore the possibility of replicating this

agreement to provide services throughout the region in countries where both Stanbic operates and within the geographic mandate of SAEDF (including South Africa itself)

Other banks in Tanzania are less suited to the role of partner bank for SAEDF Standard Chartered is sound financially, both as a bank in Tanzania and worldwide, however its clients are primarily foreign multinational corporations, and they are reluctant to extend credit to the SAEDF's target client group Eurafrican Bank is less strong financially (and its parent has been associated with questionable transactions elsewhere in Africa) and does not offer services to SAEDF's target client group Similar lack of interest was exhibited by Citibank (T) Finally, First Adili Bank is essentially a start-up operation, and without a strong parent to provide support It does not provide credit to the local target group, and its ability to manage an external donor-funded project should be questioned given the lack of progress in implementing the USAID/Business Center/Adili US $1 million RMPS project

2 10 3 VENTURE CAPITAL FUND/LEASING COMPANY

It is recommended that SAEDF consider utilizing the Tanzania Venture Capital Fund as a mechanism through which venture capital investments can be made in Tanzania The management of TVCF has demonstrated that they have the capability to analyze investment proposals, structure funding, and work closely with the entrepreneur to ensure success of the venture During the team's visit, however, a serious issue arose among the TVCF management group The General Manager was unhappy about his compensation package and was contemplating leaving the TVCF management team if his demands were not met While there is management depth at TVCF, it would nevertheless behoove SAEDF to investigate this matter before committing any investment funds of its own As far as the mechanics of an SAEDF investment in TVCF evaluation criteria would have to be agreed upon and responsibilities of TVCF personnel regarding client monitoring and financial reporting should be clearly detailed

A medium-term alternative means of managing venture capital investments for SAEDF in Tanzania would be to establish an investment "window" or program at the Tanzania Development Finance Co , Ltd However, such a move should be deferred until the current management changes underway at TDFL have a chance to take effect

An additional means of investment in Tanzania for SAEDF to consider is an investment in ULC Tanzania a new leasing finance company (the team was unable to conduct interviews with this firm) This company specializes in lease finance for small and medium-sized businesses, and is associated with ULC companies active in Botswana, Malawi and Zimbabwe Its parent group is EDESA, a well-known and respected Global 100 investment consortium based in Switzerland

2 10 4 MICRO FINANCE OPPORTUNITIES

It is recommended that SAEDF consider the possibility of investing in two initiatives currently being sponsored by the National Income Generation Program (NIGP), the Umbrella Project for Microenterprise Credit Development (ME/03/94)

and the Small and Medium-Sized Enterprise Credit Support Project (ME/11/96) Both of these seek to strengthen the institutional capacity of NGOs to effectively manage micro credit programs through training in credit analysis, loan portfolio management and accounting An important consideration is that the Umbrella project in particular is attempting to establish national minimum standards of performance staff qualifications and reporting procedures This is an important initiative and should be reviewed by the SAEDF for possible collaboration

2 11 Conclusions and Recommendations Summary

2 11 1 CONCLUSIONS

The following is a summary of the conclusions on the constraints to agribusiness SME development in Tanzania

i) Government itself is the biggest problem to be overcome in carrying out private business in Tanzania Old, socialist ideas and attitudes appear to never die While there is an apparent willingness to change to a market driven economy at the top levels of government, there appears to be deep resistance to change at lower levels Economic openness and free market principles are slowly, progressively making inroads, but the rate of progress appears to be proportional to the pressure applied by international lending and donor agencies A troubling fact is that most of the old socialist laws are still on the books While there is, of course de facto liberalization many of the changes which have taken place over the past ten years could be legally reversed under a different political environment

Under the present environment, the private sector is merely "nibbling around the edges" of the core Government involvement in business This attitude is brought home by Government's approach to privatization of the parastatal sisal and pyrethrum agroindustries Instead of logically dividing up the vertically integrated estates and processing facilities into manageable units and selling a reasonable percent of the outstanding shares to private businesses, they are attempting to sell shares in the entire parastatal The reason for this approach is to not give the appearance of "selling the national patrimony" - particularly State land, which is politically sensitive The inescapable conclusion is that Government is a reluctant participant in Tanzania's economic liberalization process

ii) Lack of credit is the second biggest constraint to business development in Tanzania Tight money and high interest rates are the result of structural readjustment and the country's prolonged transition to a free market economy The limited amount of available credit is used for quick turnaround transactions such as trading, which can absorb high interest rates through near-automatic price increases of the goods being traded The only commercial credit available for production (as opposed to trading) activity is allocated to large long established exporters many of which include parastatal organizations Other limited sources of credit are generally tied

to international organizations, often managed by PVOs with their own, specific agenda In general, indigenous small and medium businesses have, at best, recourse to only limited amounts of trade credit

iii) The lack of technical and managerial skills is another constraint to indigenous, small and medium business development There is a need to foster entrepreneurship by providing examples of successful entrepreneurs, supplemented by training programs aimed at developing indigenous business managers It appears that Tanzania does not have sufficient examples of successful, indigenous entrepreneurs to act as role models for other, aspiring entrepreneurs However, despite a general deficiency, there do exist "islands of entrepreneurship" in the provincial areas of Mwanza and Arusha It is possible that their success is related to their relative isolation from the capital city, Dar es Salaam, and that their distance and independence from central Government have enabled the natural business talents of the local population to develop

iv) Government services are generally deficient and there is a need to improve the transportation and communications infrastructure throughout the entire country This situation exists because Government insists on maintaining control over public services, but is unable to efficiently provide needed services due to poor management and limited funding The result is poor maintenance and limited upkeep of an ageing, antiquated infrastructure Another problem is "rent seeking" behavior by some officials who wish to profit from their authority to grant licenses and permits

The combined effect of all of these constraints has led to a downward spiral of business related services, whereby Government insists on maintaining control over the service but does not have the managerial capability, nor the financing available to effectively provide the service The solution of course, would be to privatize the entire delivery of services

2 11 2 RECOMMENDATIONS

The following is a summary of recommended actions for SAEDF to take to capitalize on opportunities that exist for the creation and expansion of private, indigenous businesses in the targeted agribusiness subsectors in Tanzania

i) It is recommended that SAEDF consider horticultural exports as an agribusiness subsector with high investment potential With the right local partner floral exports would be especially promising The export of dried herbs and selected flower and vegetable seed also show excellent potential Linking indigenous producers and middlemen to existing export companies is a recommended means of bringing small and medium agribusiness operators into the export business

ii) With the liberalization of grain marketing in Tanzania, investment opportunities are opening in grain milling, storage and distribution It is recommended that SAEDF also consider the possibility of joint venture investments in grain milling and warehousing Additionally, given the great need for municipal wholesale

markets in many cities in Tanzania it is recommended that SAEDF consider the possibility of a microenterprise development program in conjunction with a local partner such as NIGP It is envisioned that SAEDF would finance the construction of wholesale markets which would be operated as a commercial activity by a private operator and rented to small, wholesale traders

iii) It is further recommended that SAEDF consider investing in the production, processing and export of selected traditional export crops Market liberalization within these traditional industries has finally begun to provide opportunities, although in narrow, targeted areas Small to medium scale, semi-mechanized cashew processing is one possibility, the production, processing and marketing of sisal as a natural fiber for floor coverings and other household products, or as a source of raw fiber for the manufacture of high-grade paper is another opportunity, and the small-scale processing and export of pyrethrum as a natural pesticide is another possibility for investment in traditional crops

iv) While carrying out its field work in Tanzania the team encountered a number of specific investment opportunities which promise a high return and a big impact on employment in the local community Descriptions of these potential opportunities are shown in Appendix A Section 4 0 It is recommended that SAEDF contact the entrepreneurs listed in this matrix to explore investment opportunities

v) It is strongly recommended that SAEDF select as its commercial bank partner Standard Bank (Tanzania) SAEDF should negotiate a service agreement with Stanbic (T) whereby the latter would act on SAEDF's behalf for screening administering and monitoring investment projects in Tanzania

vi) It is recommended that SAEDF consider utilizing the Tanzania Venture Capital Fund as a mechanism through which venture capital investments can be made in Tanzania

vii) In providing support to microenterprises, it is recommended that SAEDF establish a partnership with the National Income Growth Program SAEDF should consider the possibility of investing in the Umbrella Project for Micro-enterprise Credit Development and the Small and Medium-Sized Enterprise Credit Support Project

viii) It is recommended that SAEDF tolerate lower investment returns from its microenterprise development activity than from its normal venture capital investments Using the standard of a 40 percent return from microenterprise projects would preclude its participation in many worthwhile development projects

3.0 Constraints and Opportunities for Agribusiness ISME Development in Mozambique

3 1 Basis for Selecting High Opportunity Subsectors

Narrowing the list of potential subsectors in Mozambique was difficult due to the myriad of available choices With the country beginning to rebuild and the economy in a prolonged postwar recovery, investment opportunities exist in virtually all economic subsectors

The final selection was four agroindustries cashew nuts, coconut products, cereals and edible oils, as well as a service industry, packaging, which cuts across all four agroindustries Cashew nuts and coconut-produced copra are historically important export products that have suffered a prolonged decline The production of both cashew and coconut crops are important to tens of thousands of smallholders in the northern provinces Additionally, with less Government involvement in processing and export and improved world prices during recent years, both crops are beginning to recover Provided that Mozambique's economic liberalization continues unchecked, the future for these two export crops is the brightest that it has been for many years

Locally consumed food grains and edible oils were the other two agroindustries selected for in-depth review The lives of all Mozambicans are touched by the cost and availability of these basic food items For several years, Mozambique has been heavily dependent on imports of both products However, with the country slowly returning to normal food production and with the emergence of private traders engaged in the distribution and sale of food products, opportunities are increasing for ISME involvement in marketing these essential food commodities There is a good possibility that Mozambique can become self sufficient in most food grains as well as oil seeds within the foreseeable future

The packaging industry was selected because the growth in packaging material must keep pace with all other economic subsectors and will provide new opportunities for the creation and expansion of AISMEs Furthermore, with State-owned manufacturing plants quickly being spun off to private operators, and the likelihood that domestic production of packaging material will replace imported products, the industry's growth prospects are bright indeed

Four other subsectors were chosen as secondary contenders for small and medium enterprises These were horticultural production and marketing dairy processing livestock and poultry production, and animal feed milling and distribution However, due to time limitations it was not possible to make a detailed analysis of new business possibilities in these subsectors

3 2 The Enabling Environment

3 2 1 RECENT HISTORY

A brief look at Mozambique s history will show why many of the old constraints to AISME development are still present

Mozambique was under Portuguese influence for nearly 500 years from 1498 to 1975 During most of this time, the Portuguese presence was limited to coastal enclaves since further penetration was fiercely resisted by native tribes In early 1900 Portugal conquered the indigenous people and colonized the entire country within today's borders, making it one of its overseas provinces By the end of the colonial period, economic activity centered around large-scale production and export of agricultural commodities grown on large tracts of land awarded under concession to farming companies Another export was labor first as slaves and later as free agents who worked in South African mines Under the Portuguese, the operation of railroads and ports provided access to the sea for Mozambique's landlocked neighbors as well as for its large estates Land was plentiful and only about 15 percent was cultivated Of the total amount cultivated about half was controlled by large estates for the production and export of sisal cotton tea sugar and cashew nuts One-quarter of the land was occupied by small and medium scale commercial farms, operated by Portuguese settlers and a few African farmers Native Africans used the remaining one-quarter for subsistence farming Most of the native population was engaged in subsistence production or was employed as laborers on the large estates

The colonial regime generally excluded native Africans from almost all positions in the modern sector Positions requiring technical or management skills were almost always filled by Portuguese even for skilled and semiskilled labor such as masons and taxi operators Trade and commerce was dominated by Portuguese or by Mozambicans of Asian ancestry

From 1930 until independence in 1975, the agroprocessing industry flourished, using agricultural commodities produced by the settlers' commercial farms By 1975, Mozambique was among the ten most industrialized countries in sub-Saharan Africa

In 1962 the Mozambique Liberation Front (FRELIMO) was formed, which marked the beginning of a long armed struggle for independence With considerable support from Eastern Block countries, over time FRELIMO developed a sizeable armed force and an effective, politically astute leadership which carried out guerilla warfare against Government and Portuguese interests

Following the Portuguese coup in April 1974 FRELIMO made a formal demand for full independence for Mozambique and for itself the total assumption of power The new Portuguese Government gave in to FRELIMO's demands and in September of that same year allowed the formation of a transitional government The transitional government led the country to independence on June 25 1975 when FRELIMO's leader Samora Machel took over as President

The months leading up to, and following independence, were chaotic due to a massive exodus of Portuguese administrators and business operators During a two-year period some 200,000 Portuguese citizens left Mozambique, sometimes destroying what they left behind Their departure created a dearth of mid-level managers and technicians that could not be effectively filled by native Africans The lack of management and administrative talent was a major obstacle to FRELIMO's efforts to create a new government and to establish State administrative structures to run the factories and businesses left by the Portuguese

At its third Party Congress in 1977, FRELIMO announced its transformation into a Leninist Vanguard Party with the goal of moving Mozambique into a socialist state The resulting economic policies called for the nationalizing of all land, the expropriation of all property that had been abandoned by its previous owners and otherwise placing the State squarely in control of a large part of Mozambique's production and all the distribution of goods and services for the entire country The consequent economic orientation and mismanagement had profound, long lasting, negative effects on the economy

Production collapsed between 1981 and 1986 Most enterprises were nationalized or taken over by the State as "intervened companies, and industrial output fell to one-third of the 1973 level The consequence was a sharp fall in Mozambique's import capacity as exports fell by 75 percent and imports by 30 percent The imbalance between imports and exports, aggravated by an increasingly overvalued exchange rate, led to substantial arrears in Mozambique's external debt service Large fiscal deficits and unconstrained bank financing of losses incurred by State-owned enterprise tripled the money supply, while domestic output withered Centralized control of prices and distribution further hindered the efficient allocation of resources, leading to shortages inflation and a widespread movement to barter and parallel markets for goods and foreign exchange External debt was unmanageable Mozambique's foreign debt was equal to 3 5 times GDP and 45 times its exports by 1986 Real GDP fell by an average annual rate of 3 5 percent over this period

The country's economic decline was exacerbated by the emergence of an insurgency movement The National Mozambican Resistance Movement (RENAMO) was an outgrowth of the undeclared war between Mozambique and Rhodesia between 1976-1979, when each side supported the other's insurgents After the Rhodesian regime collapsed in 1981, support to RENAMO continued from South Africa, partly in retaliation for Mozambique s support of South Africa's resistance movement the ANC Capitalizing on outside support and a growing, genuine disgruntlement to FRELIMO s policies RENAMO s strength increased steadily outside the major population centers particularly in the northern provinces

RENAMO s mission was to act as an agent of economic devastation It carried out attacks on infrastructure factories and goods in transit in most of the country outside the major population centers With a weak central government in Maputo Zimbabwean troops were sent to protect the rail line to Beira and Malawians protected the line to Nacala A few large companies in Nampula and Zambezia hired private armies to protect their facilities

Although subsistence farming proved remarkably resilient to the effects of the war and the centrally managed economy the overall agricultural sector declined severely Agricultural GDP fell by an estimated 5 percent per year Between 1981

and 1986, the marketed production of maize and rice declined by about 50 percent While difficult to assess, per capita food production by subsistence farmers may have fallen by as much as 30 percent over the same period due to a severe drought from 1982-84 and the massive displacements of populations As a result the country became heavily dependent on food aid in urban centers and also in some rural areas Aid dependency became extreme by 1986, 90 percent of marketed grain in the country had to be provided through emergency assistance

FRELIMO adopted a comprehensive Economic Rehabilitation Program (ERP) in 1987, which represented a dramatic change in the country's economic development strategy The ERP introduced major reforms to move back toward a market-based economy From 1987 to 1994 the Government established a more market-oriented foreign exchange system, initiated financial sector reform, freed domestic trade eliminated most controlled prices, began privatizing State companies and brought public expenditure under control However, implementation of the ERP was complicated by a number of deep structural problems and severe external shocks Aid from and trade with the former Soviet Union collapsed in 1991 and Mozambique lost key markets particularly textiles in Eastern Europe The civil war worsened, which caused an increase in the percentage of displaced households from 30 percent in 1988 to more than 50 percent in 1992 The agricultural sector was devastated by the most severe drought of this century in 1991 and 1992 further exacerbating the economic situation

On the political front fundamental changes in FRELIMO s economic philosophy began to emerge with the fifth party congress in July 1989 when the party renounced its Marxist-Leninist orientation and agreed to extend the right of membership to religious believers and property owners A new convention was drafted in 1990 calling for the direct election of the President and the People s Assembly through universal suffrage It also enshrined the separation of FRELIMO and the state, the independence of the judiciary, the right to strike, the outlawing of censorship, freedom of expression and the abolishment of the death penalty

In June 1989, the government launched a twelve-point peace initiative which formed the basis for mediation by Presidents Moi of Kenya and Mugabe of Zimbabwe and later by the Catholic Church After a long, arduous process a peace agreement was reached in Rome between FRELIMO and RENAMO in August 1992

The economic collapse of the previous period was arrested under the ERP Real GDP growth averaged 9 8 percent during 1987-1991 However real GDP growth contracted by 0 8 percent in 1992, primarily because of the drought and a slowdown in industrial activity All GDP expenditure components fell in 1992 except for public consumption, which increased by 8 9 percent, largely as a result of the emergency expenditures related to the drought In 1993, real GDP grew by 19 percent in response to the end of the drought, the establishment of peace and increased demand for services related to expanded activities of the United Nations Peacekeeping Force in the country Real GDP growth in 1994 was a respectable 5 4 percent and was estimated to be 4 3 percent in 1995

3 2 2 AGRICULTURE PROFILE

Mozambique's traditional cash crops are cashew, cotton, sugar, copra, citrus and tea In recent years, marine shrimp and prawns have been the country's primary export product In general, there is a huge gap between its agricultural potential and its production of commercial agricultural products, the unhappy result of government intervention and war A good example of Mozambique s problem is in sugar processing The country has the capacity to produce 425,000 tons/year of sugar, but current annual output is around 30,000 tons Only two of six sugar processing plants operating at independence continue to function, and these are highly inefficient Mozambique actually imports sugar from Swaziland and South Africa to meet its domestic market demand (around 50,000 tons) and to meet its export quota to the United States (15,000 - 20,000 tons at preferential prices)

Another example is cashew production In the early 1970s Mozambique produced more than 40 percent of the world's output of raw cashew nuts, reaching a peak of 216,000 tons in 1972 By 1983, production had declined to only 18,000 tons With economic liberalization, production has now risen to around 50,000 - 60,000 tons, but output has been hampered by government policies dictating minimum producer prices and export restrictions to ensure cheap supplies of raw nuts to inefficient processing factories Cotton production also declined dramatically during the 1980s, but has recovered somewhat after the sector was restructured in 1988 by distributing land from loss-making parastatal companies to individual smallholders Two large private companies, (in which Government is a minority shareholder) administer purchase contracts and provide seed and technical assistance to thousands of small farmers who produce cotton for ginning and export by the large companies Copra is produced mainly on immense coconut plantations on the coastal belt of Zambezia and Nampula provinces In 1972, copra exports were around 44,000 tons In 1993, exports were only 18,000 tons due primarily to low market prices Tea was a particularly important crop before independence but declined to nearly zero by 1987, since the large tea estates were easy targets for destruction by RENAMO guerrillas Only two (of twenty) factories are in operation These are run by EMOCHA, the State holding company, producing tea primarily for the local market EMOCHA is undergoing privatization, but the amount of investment required to rehabilitate the industry is huge - estimated at $40 million

Earnings from Mozambique's principal export products are shown in Table 3 1 Most export crops are still produced processed and marketed by large industrial companies or estates which have operated continuously since the colonial period Many of the companies were "intervened" during the Socialist period, and some of the privately-operated companies are still owned in part by Government In the case of cotton and tobacco, the large company or estate supplements its own production with crops grown under contract by small producers Cashew processors now purchase nuts directly from small producers in open competition with exporters and traders

Table 3 1 Primary Agricultural Exports
(US$ millions)

PRODUCT	1988	1989	1990	1991	1992	1993
Shrimp/prawns	38 4	39 3	43 4	60 8	64 6	66 7
Cashew nuts	26 5	20 1	14 3	16 0	17 6	16 3
Cotton	4 9	7 5	8 7	8 8	10 8	12 6
Sugar	4 6	5 3	7 9	9 8	6 7	6 0
Copra	4 5	1 9	2 6	4 7	4 2	6 0
Citrus	1 9	3 3	1 9	1 9	1 1	1 1
Tea	0 6	0 1	0 5	0 8	0 2	0 6
Total	2,069 4	2,066 5	2,069 3	2,093 8	2,097 2	2,102 3

Source National Planning Commission, Anuario Estastico

Food crops are produced by millions of farm families on small holdings which average about one hectare Food crops are the small producer s primary means of survival Surplus quantities are marketed as a means of generating cash The most important food crops grown ranked by production are cassava, maize, sorghum/millet, pulses peanuts and rice An estimated 80 percent of the population of the country is engaged in farming activity of one kind or another

Smallholder agriculture is still recovering from the effects of war and the wholesale destruction of the transportation infrastructure marketing channels for inputs and outputs, and productive assets of the farmers The destruction and disruption of war seriously curtailed agricultural production Before independence, smallholders marketed cash crops such as cotton, tobacco and cashew through a network of rural shops from which they also purchased consumer goods Under the socialist regime the operation of the private shops was discouraged, and with the violence of war the network almost disappeared The lack of market outlets for farm products, combined with a severe shortage of consumer goods in rural areas (which meant there was nothing to buy) resulted in a severe decline in marketed production

3 2 3 THE MACROECONOMIC ENVIRONMENT

During 1995, the money supply increased rapidly in Mozambique mainly as a consequence of excessive Central Bank lending to the two state owned banks This resulted in higher than anticipated inflation during the year (around 55 percent) Efforts by the smaller of the two state owned banks (Banco Popular de Desenvolvimento) to completely repay its overdraft by the end of April combined with efforts by the larger state owned bank to contain its Central Bank borrowing has led to a reversal of this trend in the early part of 1996
Although credit policy is theoretically restrictive under the IMF imposed system of credit ceilings, in practice that has only applied to the private banking sector with the two state banks continuing to have unlimited access to essentially

costless overdraft financing from the Central Bank The privatization of Banco Comercial de Moçambique (the larger of the two state owned banks) at the end of June 1996 to a Portuguese banking consortium (led by Bank Mello, the prime investor in MINCO, the Venture Capital Fund described in 3 1 2 5) and the projected privatization of Banco Popular de Desenvolvimento by the end of December 1996, will effectively stop this process -- and credit conceivably could become more difficult to obtain throughout the system Nonetheless, within the context of a rapidly evolving financial sector, including new private sector entries and the privatization of all the government-owned banks, there is also likely to be a realignment of credit allocations This is likely to have a more beneficial impact on the private rather than the public sector -- and this is certain to more than counter balance any impact in reduced credit to the economy flowing from the privatization of the two state banks

3 3 Food Grain Marketing and Distribution Constraints and Opportunities

3 3 1 FOOD CROP PRODUCTION

Food crops providing the most calories for Mozambican diets in order of importance are maize, cassava, millet, sorghum, rice and wheat All these crops are produced in Mozambique, with the exception of wheat which is imported primarily as wheat flour Maize is in first place in domestic cereals production and is the predominant cereal supplied as emergency food aid

Maize is predominantly a small farmer crop, and is produced mostly for family consumption Some amounts are sold in order to meet cash needs, usually within a short time after harvest However, most local maize entering the market is grown on medium-scale private farms of more than 50 hectares These private producers may also act as buying agents during the season, supplementing their production with purchases from their smaller neighbors Often they are the first link in the marketing chain

Table 3 2 shows the area in cultivation and the production of the most important food crops in Mozambique from 1989/90 - 1994/95 Table 3 3 gives a profile of the rural population and the area cultivated by small holders over the same period Table 3 4 tracks cereals crop production and imports over the past six crop marketing years (April - March)

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Table 3 2 Rural Population and Area Cultivated

ITEM	1989/90	1990/91	1991/92	1992/93	1993/94	1994/95
Rural Population (000)	11,271	11,424	11,725	12,348	13,299	13,903
Area Cultivated (000 ha)	2,760	3,187	2,901	2,644	2,994	3,328
No Families (000)	2,629	2,655	2,735	2,880	3,102	3,243
Average Area Cultivated/Family (ha)	1 05	1 2	1 06	0 92	0 97	1 03
Source Food Security Unit						

Table 3 3 Historical Food Crop Production by Small Holders

(000 hectares 000 tons)

CROP	1989/90		1990/91		1991/92		1992/93		1993/94		1994/95	
	Area	Prod	Area	Prod	Area	Prod	Area	Prod	Area	Prod	Area	Prod
Maize	1011	453	1,009	327	832	132	842	533	940	490	1,080	692
Rice	110	96	107	56	109	33	105	66	121	101	130	113
Beans	290	92	296	78	260	56	291	79	328	99	355	120
Cassava	944	4,590	972	3,690	973	3 239	842	3511	908	3,352	986	3,597
Mapira	404	175	462	155	417	70	345	143	383	170	430	194
Mexoeira								22	74	29	85	27
Source Food Security Unit, Ministry of Commerce												

Table 3 4 Cereals Production and Imports 1990/91 - 1995/96 Crop Marketing Years
(tons)

	1990/91	1991/92	1992/93	1993/94	1994/95	1995/96
Maize production-prior year	453	327	132	533	490	692
Maize food aid-current year	424	472	677	285	265	136
Total maize available	877	799	809	818	755	828
Rice production-prior year	96	56	33	49	97	113
Rice food aid-current year	1069	911	875	916	949	1054
Total rice available	1165	967	908	965	1046	1167
Sorghum/millet prod -prior yr	181	155	71	165	193	
Sorghum/millet aid-current yr	0	0	0	0	0	0
Total sorghum/millet available	362	310	142	330	386	0
Wheat production-prior year	0	0	0	0	0	0
Wheat food aid-current year	362	310	142	330	386	0
Total wheat available	362	310	142	330	386	0
Comm cereals imports	0	70	87	105	154	100
Total cereals available	2766	2456	2088	2548	2727	2095
Total food aid - cereals	1855	1693	1694	1531	1600	1190
Total national cereals production	730	538	236	747	780	805
National prod % of total avail	26 4	21 9	11 3	29 3	28 6	38 4

3 3 2 CEREALS CONSUMPTION

Crop production in Mozambique is monitored by the Food Security Department at the Ministry of Commerce Annual estimates of maize production are made for the entire country by the World Food Program (WFP) WFP's crop forecasts are made annually during April and May before the maize crop is harvested These form the basis for the organization's food aid program for the coming year

Mozambique has produced around 60 percent of its average yearly cereals requirement (approximately 1 25 million tons) over the past six years Food aid imports have made up the shortfall in production The availability of local cereals has increased dramatically since the war ended, with the exception of the 1991/92 drought years The availability of cereals following the drought during the 1992/93 marketing year was only one-quarter of the country s requirements Massive amounts of food aid and some commercial imports made up the shortfall With peace and relative stability in the producing regions the requirement for food aid is slowly shrinking

Commercial cereals imports consist primarily of rice, wheat flour and maize meal Maize was not imported commercially into Mozambique until 1994, when around 10,000 tons of white maize was shipped into Maputo from South Africa

Most maize is consumed in rural areas since it is grown as a subsistence crop and consumed on the farm Amounts grown in excess of the family's immediate needs are marketed as a cash crop In urban areas maize is the most important of four major staples, including maize, cassava, rice and wheat White maize is the consumer's preference, both urban and rural Yellow maize, which has been imported heavily as food aid in recent years, would be discounted by around 10 - 15 percent over white maize if commercially traded

Three main sources of maize have supplied the market in recent years a) farm surpluses sold by the producer, b) emergency food aid diverted into local markets, and c) commercial sales of yellow maize donated by the United States imported under Public Law (PL) 480 Of all maize currently sold on local markets (not counting that which is consumed on the farm) the majority is imported as food aid

3 3 3 GRAIN STORAGE

Most grain storage facilities are found around the ports, which reflects the government's heavy dependence on imports for the past twenty years International donors and/or private, voluntary organizations (PVOs) engaged in food distribution have little trouble finding storage facilities for imported food aid

Unfortunately the private marketing system does not have similar facilities Most farmers in Mozambique are too poor to store more grain than is needed for their own consumption despite the necessity of storing quantities for sale during the lean season Farmers are still reluctant to store grain on the farm, given their experience during the war years when grain stocks were likely to be stolen Furthermore, in recent years with large quantities of food aid, farmers have not had compelling reasons to store grains Nor are traders inclined to store grain for months at a time because this would tie up expensive working capital that could be used for other activities High interest rates and difficult access to bank financing discourages storage by traders

Before independence most of the rural stores ("loges") operated not only as retail merchants, but also as buying agents for the farmer's commodities The "loges" provided an important market outlet to the farmer and were also important for intermediate storage Under Socialism, the operation of these stores was discouraged, and after a long war in rural areas most ceased operations Those which remain, or have reopened, are financially strapped with limited ability to purchase and store marketed commodities

3 3 4 FOOD GRAINS BALANCE BY REGION

With abundant rains, the 1995/96 grain harvest (ending in June 1996) promises to be exceptionally bountiful This will bring Mozambique's cereals production more closely in line with the amount required to fill the caloric needs of its population The projected balance between supply and demand of cereals crops production for the 1996/97 marketing year is shown in Table 3 5 The table was developed from calculations made by WFP following its April 1996 survey of food production For the coming year WFP projects a total maize production of 935,000 tons and domestic consumption of around one million tons The shortfall of 66 000 tons is planned to be covered by food aid WFP calculates that surplus maize production in the northern provinces will be 199,000 tons and in the central provinces, 126,000 tons The southern provinces, including Maputo, show a deficit estimated at 391,000 tons

The WFP's food grains balance for the entire country assumes that grains will flow from surplus to deficit areas and that shortages will be eliminated Most of the grain crops which enter the cereals markets are grown in high-rainfall areas distant from the coast, in the provinces of Cabo Delgado, Nampula, Zambezia and Manica The most important area is near the border where Nampula, Zambezia and Manica meet Maputo is normally supplied from six southern provinces, located south of the Zambezi river Freight costs to Maputo make shipments from northern provinces prohibitively expensive compared to South African suppliers of white maize The following simple example will illustrate the point

COMPARISON OF DELIVERED COST OF MAIZE IN MAPUTO
(US$/ton)

MAIZE PURCHASED FROM SOUTH AFRICAN SUPPLIERS		MAIZE PURCHASED FROM SUPPLIERS IN NORTHERN MOZAMBIQUE	
Farm gate price	$90 00	Price at Nampula field collection center	$90 00
Collection, assembly bagging supplier margin	40 00	Transport to port, bagging, handling, supplier margin	53 00
Rail transport to Maputo	26 00	Ocean freight to Maputo	43 00
Discharging, handling	5 00	Port handling	9 00
Import duties (7 5%)	12.08		
Total delivered cost Maputo	173 08	Total delivered cost Maputo	195 00

Source Derived from estimates provided by WFP

A major constraint to grain shipments from the northern provinces to Maputo is the deficiency of ocean transport and the delays and stevedoring charges at the port in both Nacala and Maputo Alternatively, given the poor condition of the roads linking the southern part of the country with the northern provinces, road transport is slow and expensive

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Table 3 5 Food Grains Balance by Region for 1995/96

(000 tons)

Item	Maize	Rice	Wheat	Sorghum	Total	Pulses	Peanuts	Cassava
Northern Region (Population 5 8 million)								
1995/96 Production	345	22	0	129	469	68	50	3,013
1996/97 Utilization	146	23	18	129	316	68	50	3,013
Surplus (+)/Deficit (-)	+199	-1	-18	0	+180	-	-	-
Per capita Cons (kg/yr)	229	3 4	3 0	19 3	48 6	9 7	7 4	375
Central Region (Population 7 3 million)								
1995/96 Production	464	60	0	133	657	34	25	1 217
1996/97 Utilization	338	61	30	132	561	47	25	1,217
Surplus (+)/Deficit (-)	+126	-1	-30	+1	+96	-13	-	-
Per capita Cons (kg/yr)	42 0	7 3	4 0	15 7	69 0	5 6	2 9	117
Southern Region (Population 5 1 million)								
1995/96 Production	126	8	0	29	163	32	43	413
1996/97 Utilization	517	91	92	29	729	50	43	413
Surplus (+)/Deficit (-)	-391	-83	-92	0	-566	-18	-	-
Per capita Cons (kg/yr)	92 2	17 6	17 3	4 9	132 0	8 6	7 2	57
Total Country (Population 18 2 million)								
1995/96 Production	935	90	0	291	1289	134	118	4 643
1996/97 Utilization	1001	175	140	290	1606	165	118	4,643
Import Requirements	66	85	140	-1	317	31	0	0
Est Comm Imports	0	62	70	0	132	17	0	0
Food Aid Imports	66	23	70	0	159	14	0	0

A recent study[8] estimates the cost of road transport from Maputo to Nampula, a distance of 2,346 kilometers, at $260 per ton Given that back haul rates from north to south can be negotiated at around 60 percent of the rates from south to north the estimated cost for moving grain to Maputo is around $155 per ton This corresponds to a price per ton-kilometer of $ 066, which is near the industry standard rate of $ 07 per ton-kilometer To compete with the cost of maize from South Africa landed at Maputo, the maximum haul distance from Maputo that local maize can be transported is calculated to be about 950 kilometers, which limits the range of suppliers serving the Maputo market to the central

[8]The Challenge for Coastal Shipping in Mozambique Oceano Consultores June 1996

provinces Obviously, maize can be hauled from greater distances within Mozambique if the farm gate price falls below US $90 per ton (MZM 1,080/kilogram), or if the wholesale price at the Maputo grain market exceeds US $173 per ton (MZM 2,075/kilogram), or if supplies are not available from South Africa and the price at the Maputo market is bid higher A combination of these factors can sometimes make it economically feasible to ship maize from as far away as Lichinga to Maputo, traversing Malawi These shipments are generally limited to a short period before harvest when local prices are at their peak for the year

The following chart shows the relationship between the price of maize at the village collection center and its delivered cost to Maputo As shown, if the farmer is paid a "fair" price ($90 per ton) and if the maize is sold at a competitive price in Maputo ($173 per ton), the maximum distance it can be transported is about 950 kilometers

ITEM	COST (US $/TON)
Price of maize at local collection center	$90 00
Cost of collection, bagging and trader profit	20 00
Transport (US $ 066/ton/km distance of 950 km)	63 00
Total Delivered Cost - Maputo Market	$173 00

3 3 5 CEREALS MARKETING AND DISTRIBUTION

As shown Table 3 4 above imported food aid has been a major factor in the availability of cereals in recent years It is remarkable that the donor community and the Mozambican Government (GRM) have been able to manage massive amounts of food aid without greater disruption of the marketing systems for locally produced cereals

3 3 5 1 Food Aid Imports

The following is a brief description of the various distribution channels for the different programs under which cereals are imported

Emergency food aid is handled predominantly by the World Food Program (WFP), with close monitoring by and in coordination with the donor community Its purpose is to distribute food grains, primarily maize, to famine-prone areas Areas are targeted and emergency food requirements are determined by an annual crop survey taken in the cereals producing areas, shortly before the crop is harvested The amount of grain to be distributed as emergency aid is calculated based on the estimated number of inhabitants in each district or subdistrict and their daily caloric requirements

WFP is approaching a point where it will soon be able to declare victory and leave Mozambique It estimates that emergency aid for the 1996/97 year will amount to no more than 66,000 tons of maize of which slightly more than half will be used for ongoing (non emergency) development projects

Commercial food aid is another important source of cereals for Mozambique In general, these are Government-to-Government programs in which donated stocks of grains are turned over to the GRM, which sells the grain to private traders Donations made by the United States are under the authority of PL 480 Title III administered by USAID In recent years, U S donations under Title III have been exclusively yellow maize

Importers may be large millers, or medium to large scale grain wholesalers Lots purchased typically range from 100 tons to 1 000 tons Once the importer takes possession of the commodity, it flows through normal (formal) distribution channels from the processor or wholesale to retail shops or municipal markets

Of all commercial food aid shipments, wheat merits special mention since it is not grown in Mozambique and therefore has a unique distribution system Donated wheat, normally supplied from Canada, Australia or the European Union, is imported and "monetized" under the process described above There are only four wheat millers in Mozambique, all privately owned Three were recently (1995) privatized Two mills are in Maputo (CIM-Matola and SOCIMOL), one is in Beira (Mobeira) and one is in Nacala (CIM-Nacala) These mills refine wheat into flour and also have their own bakeries which bake bread for the local population

Previously wheat was "monetized" at amounts well below the import parity price A recent report completed for the Canadian Government[9] concluded that GRM was making wheat available to (then) government-owned mills at around 45 percent of its import parity value Of the total "subsidy,' the proportional benefit to the mills was approximately 80 percent, bakers received about 10 percent and consumers benefitted from lower prices by the remaining 10 percent of the subsidy The result was profitable milling operations and lower-than-normal wheat flour and bread prices in major urban centers especially in cities where the mills are located Throughout 1994 and 1995, the price of wheat flour and maize meal have been closely aligned with the price of wheat flour never exceeding the price of maize meal by more than 10 percent and on occasion falling below the price of maize meal This, of course has encouraged the consumption of wheat products and has resulted in some substitution of bread for maize meal

In conversations with the newly-privatized millers, they are upbeat about the future of the milling industry and see an increasing demand for wheat flour One miller estimated that he could double his capacity and still profitably market his entire flour output

"Monetized" food aid falls somewhere between emergency food aid and commercial food aid Basic food products are donated to the people of Mozambique for humanitarian purposes, but the host government is not involved in the distribution process Under this procedure the donors exercise more control over the use of the funds than they would for budgetary support Typically commodities are donated by an international organization and their importation is managed by a PVO acting on behalf of that donor Funds generated from the sale of donated products are used by the PVO to finance its humanitarian and rural development activities Over the past three years USAID has donated

[9]Review Report Mozambique Wheat Study prepared for the Food Aid Center Multilateral Branch Canadian International Development Agency January 1995

shipments of rice, maize vegetable oil, wheat and wheat flour However, millers have complained that they are being undercut by the importation of refined wheat flour Similarly, the oil processors complain that their business is being hurt by the importation of refined vegetable oil As a result most of the commodity imports contemplated by USAID in the future will be in crude form, for processing, packaging and distribution in Mozambique

While necessary for humanitarian purposes, imported cereals food aid undoubtedly distorts the marketing system and slows the development of a private dealer network

3 3 5 2 The Private Distribution Network

Until the end of the 1980s, the marketing of all grain crops was dominated by the marketing board, AGRICOM, which later became the Mozambican Cereals Institute, ICM AGRICOM purchased grain crops through a commercial network of licensed rural stores and wholesalers Since the early 1990s, ICM's activities have been severely curtailed due to a lack of operating funds and a huge number of unlicenced, informal traders have moved in to fill the vacuum left by the retrenching State agency This movement gathered momentum during the drought of 1992 when numerous small traders became involved in the marketing of food-aid shipments of yellow maize With the peace settlement and the improvement in transport, many of these traders have expanded their operations into production areas which can economically supply Maputo Few of these itinerant traders have their own transport, and are required to rent transport on a per-bag basis The informal traders now dominate the local trade of grains throughout the entire country Although they are unlicenced and therefore are illegal the government grudgingly tolerates their existence Only in the northern provinces are some remnants of the old structure still intact The situation in the north has been perpetuated, to some extent, by WFP food aid purchases which support the formal distribution channels there

Licensed traders are still required to comply with cumbersome, time-consuming procedures to become registered The Ministry of Commerce requires that the traders provide a satisfactory police record a certificate of literacy, a bank statement indicating solvency and a description of his or her business facility and numerous fiscal stamps Government control is still strongly exercised through this licensing procedure This is probably the main reason why many informal traders do not become registered However since they are not legally sanctioned, they are subject to harassment by officials

This new class of entrepreneurial interregional trader has linked the consumption regions of the south with the production regions of central and to some extent northern Mozambique Integration between these three regions has increased substantially since 1994 attesting to the effects of interregional trade The larger traders are wholesalers who are able to buy by the truckload and sell to retailers based in urban markets Maize is sold as either grain or meal usually ground by the same retailer at a nearby hammer mill The increased flow of grain crops has led to a proliferation of small scale hammer mills in urban areas, which provide for-fee milling service to individual purchasers of maize and other grains

An active cross border trade was carried out by informal traders during the war years particularly in Maputo Since the war ended, small scale trade has thrived particularly with imports from South Africa Maize is the predominant import, but quantities of refined and semi-refined maize meal are imported as well Some amount of maize has been imported from Malawi in recent years, over the northern rail link Refined maize meal, which is consumed in the major cities, is also imported through informal channels from South Africa, Zimbabwe and Malawi The amount of imports is not monitored, but is estimated to be around 30,000 tons per year Until recently, there were no formal, commercial maize imports The first formal shipment was made at the end of 1994 when approximately 10 000 tons of white maize was imported into Maputo from South Africa

3 3 5 3 Government Intervention in Cereals Marketing

After independence, all rural trade was controlled by the State Provincial and District wholesalers were appointed, and retail traders were assigned their exclusive territory by Government Each trader had nearly exclusive trading rights The final purchaser was AGRICOM, the State marketing board Throughout the 1980s, AGRICOM was the Government's means of providing inputs to farmers and for purchasing surplus production While state farms were responsible for their own production AGRICOM provided marketing outlets to small farmers in isolated communities and also distributed consumer goods in rural areas The organization was required to procure at government-mandated pan-territorial prices and to distribute at stipulated margins which usually did not cover storage and transportation costs As a loss-making entity, AGRICOM was kept afloat throughout the 1980s by government subsidies, transfers and uncollected bank loans as well as by support from foreign donors This organization dominated maize marketing until the early 1990s Since 1990 both government and international support has dried up and AGRICOM's activities have been severely curtailed

In early 1994, Government abolished AGRICOM and created the *Instuto de Cereais de Mozambique* (ICM) which assumed AGRICOM's staff and physical assets but without its debt ICM's mandate is to act as a buyer of last resort at the official minimum price, ensure food security by managing strategic stocks and to help stabilize grain prices While ICM has scaled-back its involvement in cereals marketing it still purchases relatively large quantities in the northern provinces and provides for-fee storage fumigation and transport services In recent years ICM has acted as a buying agent to procure local grain stocks for food-aid purchases by international organizations The main client for these procured stocks has been the World Food Program In 1994, ICM bought over half the locally-procured food aid purchases amounting to more than 40 000 tons

ICM's current situation appears unsustainable Lacking the resources to fill its mandate, its current role is primarily that of a supplier to food aid donors, in competition with other traders ICM's survival depends on foreign donors' involvement in the local procurement of food aid in Mozambique and their willingness to source their purchases from ICM, as opposed to private suppliers

In addition to its intervention in cereals marketing through ICM, the GRM publishes pan-territorial minimum farm gate purchase prices for a number of crops which, officially at least, must be honored by the formal marketing sector There is considerable doubt as to how strictly this is applied, even by traders selling to ICM Minimum prices are almost certainly ignored by the informal sector, particularly in times of excess supplies In light of the current (June 1996) controversy over the need to export excess maize grain supplies from Nampula Province in the face of an excessively high minimum price to the farmer, there is some indication that the minimum price will be scrapped

3 3 6 MAJOR CONSTRAINTS TO DEVELOPING THE CEREALS TRADE

The most important constraint to cereals marketing is the poor condition of the transport infrastructure in Mozambique Informal trading networks can flourish where there are good road and rail service, particularly given the relatively low-cost of back hauls from north to south While rural access roads are a major problem, even bigger constraints to movement arise from the primary and secondary road networks

Ports are also major logistical bottlenecks, due partly to lack of infrastructures, but primarily due to serious management shortcomings In addition to poor port services, coastal shipping services are poor, with an inadequate number of vessels Coastal shipping is entirely out of reach for the informal trade which relies exclusively on road transport

There are also problems due to a shortage of trucks, which is in turn related to the poor condition of roads Farmers generally do not have access to either tractors or animal power to move their cereals crops from their farm to rural access roads There is also a shortage of small trucks to haul products from access roads to regional collection points
The network of informal traders is weak and undercapitalized By virtue of their "informality" they are locked out of formal credit sources, and even if they could afford to invest in means of storage or transport, it is doubtful that they would do so in order not to become exposed to scrutiny by the authorities Banking services are deficient, and with the exception of large, well-established wholesalers is not oriented toward rural trade

In view of their previous vulnerability to losses, farmers have lost the habit of storing grain crops, which limits the amount of supplies available during the lean season Neither are traders disposed to store grain crops, given the problems of obtaining credit described above

Official minimum purchase prices distort the market mechanism and constrain market development Fear of prosecution may discourage licensed traders from buying at below the official price, which reduces market demand

3 3 7 INVESTMENT OPPORTUNITIES IN THE GRAINS SECTOR

With inexpensive (subsidized) imported wheat a large demand for wheat flour has evolved particularly in urban areas This provides a great opportunity for the newly privatized milling companies It is estimated that production could double and still not fill unmet demand

Maize milling is another growth industry Small hammer mills could be encouraged under the microenterprise development program, and large scale milling and refining of maize flour would constitute an opportunity within the larger cities and regional capitals

Storage facilities near the major consumption areas provide another investment opportunity Storage facilities would enable grain crops to be stored from time of harvest for sale during the "lean" period A visit to the "Bazuka" grain market in Maputo revealed that the cost of leasing secure storage space in small sheds located near the market complex is US $ 30 per 70-kilogram sack for overnight storage For a 15 square meter wooden shed with the capacity of storing 100 sacks, the annual rental income would be the equivalent to US $1 000[1]

There is a great need for municipal market facilities in Maputo as well as the capital cities in most provinces This could be encouraged by SAEDF's microenterprise development facility

3 3 8 EXPORTING SURPLUS MAIZE FROM NORTHERN MOZAMBIQUE

With the exceptional maize harvest in the northern provinces during the 1995-96 crop year an immediate opportunity existed for maize exports from the provinces of Nampula and Cabo Delgado This section summarizes information gathered in Maputo, Nampula and Ribaue provinces and outlines a maize development export strategy The objective of this research was how to determine how to establish a market for the surplus maize being produced in these provinces and then move the maize off the farm to the international buyer following the principles of a free market, with open competition for the farmers' maize The implementation of this strategy should result in investment opportunities for AISMEs

3 3 8 1 Field Visits

A field visit was made to the Ribaue area (time did not permit going to the Cabo Delgado area) The general estimate is that there is a surplus of approximately 2,000 tons in this area Ribaue is the start of a major maize growing area that continues east and north This visit did verify a surplus of maize but one not as large as the projection of 300,000 tons made by FAO After many discussions with traders, PVOs, NGOs, department of agriculture officials individuals interested in food security in Maputo and the visit to several villages to talk to farmers, a more realistic projection is closer to 100,000 tons However, this is only an estimate and the actual amount will not be known until the purchases have been made

There is one railroad track starting in Nacala that goes into the maize area bypassing Ribaue The train can be used for transporting the maize to Nacala but an agreement or contract with CFM (railroad company) will have to reached allowing the rail cars to be dropped off at the various stations along the route These rail cars can be filled with maize and then taken directly to the warehouse in Nacala Other areas not serviced by rail will need to have the maize transported by truck which is more expensive

The system of maize collection is for a micro buyer to take a few empty sacks to the village to be filled These sacks are then collected and taken by any transport possible (top of a bus, truck, train, etc) to the nearby city or collection point of the trader All agree this system needs to remain in place and serves a useful purpose

The quality of the white maize in the field is excellent Little insect damage was noticed, and the seeds on the ears were dry and hard The maize is stored upside down with the husk covering the seeds on the cob, usually outside There is maize stored inside which is more desirable, and hopefully more will be stored inside in the future It is difficult to determine if the buyer's specification of 12 percent - 14 percent moisture content will be reached at time of shelling the maize This is a critical issue as well as meeting all other buyers' specifications All contracts issued by the buyer to the traders will contain quality standards A training session will be conducted on how to test for these standards with the understanding that all maize not meeting the quality standards will be rejected This was discussed during the meetings with the traders, and all seemed to agree with the exception of one trader (Gani) who seemed to think that "maize was maize" regardless of the condition (he was convinced differently)

When the empty bags arrive from the micro buyer the seed is taken off the cob by placing the cob in a sack and pounding the sack on the ground The farmers visited in the villages are aware of the difference between a whole seed and a broken or damage seed These farmers plan on leaving the broken seeds at home and not pack them with the whole seeds They didn't have a problem understanding the need to control quality but the standards need to come from the micro buyer to the farmer at the time the farmer sells his maize Again this points to the need of educating all participants throughout the system, which has to start with the trader under contract

3 3 8 2 Costs

At the price the international buyer is offering (US$135 / metric ton), a study was done to see what would be the approximate price the farmer would be paid The results were as follows

Purchase price for maize	Mt 760 /kg (suggested Government Price 1,500/kg)
Margin for the trader	Mt 100 (6 6% on purchase price)
Finance cost for the trader	Mt 55 / kg (40% per year amt is for one month)
Sack cost	Mt 70 / kg
Transportation	Mt 400 / kg
Warehouse	Mt 20 / kg
Handling of bags	Mt 20 / kg
Loss	Mt 68 / kg
Fumigation	Mt 10 / kg
Purchase price at warehouse Nacala	Mt 1503/kg (135/ton US @11,135 Mt/$)

Source Joao Ferreira dos Santos

Abt Associates Inc.

Note The price to the farmer of 760 Mt/kg was suggested to be too low The seller suggested the buyer increase the price by US$9 / ton to US$144 / ton in order to increase the purchase price to the farmer by 100 Mt/kg or 860 Mt/kg All other estimated costs would remain the same

3 3 8 3 Sellers (Traders)

Joao Ferreira dos Santos (JFS) (Joao Ribas tel 1 420123)
Could deliver 10,000 tons to Nacala, 5,000 tons to Pemba, wants price up $9/ton, 7 day terms, two months time frame, 50 kg bag a problem

Mahendrasing Jamnadas
Indian Trader tel 6 212189
5 000 tons, wants Pemba Port, bags ok, payment in US$, 10 percent OK to hold until contract completed

Rajahussen Gulamo - Al - Owais
Gani tel 6 215937
10,000 tons (possible 30/40,000 tons), needs bags quality control re size of grain and fumigation, wants bag sewing machine, parts and thread, money for a truck load in advance,

Sarrafa Ali D Ibramugi
Indian Trader 6 21492
20 000 tons (Zambezia) 12 trucks (USAID funded), money for 2/3,000 tons in advance, needs bags, can purchase one month to arrive

World Vision
Renato Gordon
5 000 tons estimate help to organize/pay freight to Nacala help with quality control in Nacala (no $ in budget to pay for a professional consultant), the 19 PVOs and NGOs in the area will work together with World Vision taking the leading role

Issufo Nurmomade
Indian Trader tel 6 212185
2 500 tons, bags a problem, 30 days to deliver money for 100 tons on a revolving basis payment in US$

*** Total estimated tonnage of maize that could be put under contracts is currently 57 500 metric tons (10 000 tons to be shipped from Pemba)

3 3 8 4 Buyers

Louis Dreyfus Africa (Pty) Ltd
15/20,000 metric tons, $135 US delivered buyers warehouse, offer to 6/28/96, delivery to 8/31/96

Seaboard Trading & Shipping
5/10,000 metric tons/month, price competitive with world prices on a CIF basis

Cargill International
300,000 metric tons, price competitive with world prices on CIF basis

3 3 8 5 Quality Standards

Crop - 1996 Mozambican white maize
Bags - 50 kg net new poly woven
Moisture - max 12 5% (14 5% second buyer)
Damage - max 5%
Broken/F M - max 3%
Other colored - max 2%
Infestation - free from live insects and larvae
Weight - certified certificates by buyers warehouse
Quality - inspected by Societe Generale de Surveillance
Source Louis Dreyfus Africa

Questions remaining on quality what fumigation material can be used? How many seeds per kilo, or is the size of the seed a criterion in quality?

3 3 8 6 Other Buyers

ICM (Instituto Cerales Mozambique - government owned) has reached an exclusive agreement with V&M Import and Export Agents (Pty) Ltd (Swaziland) to purchase only for them The manager of the ICM Nampula office Mr Giramo, said "we have reached an agreement with V&M and we must satisfy their needs first We are not interested in renting our warehouse or providing any services to anyone other than V&M " ICM is talking to traders and is reported to be offering bags and working capital ICM is reported to have a bad reputation in the trade

3 3 8 7 Warehouse in Nacala

There are several warehouses of approximately 10 000 ton capacity A rail spur goes directly into the warehouse The manager said not more than 1 500 tons can be loaded in the vessel per day in bags The buyer needs to take this into

consideration when doing the charter with the vessel company Jute bags are preferred to poly woven as they can be stacked higher An apartment is available on the premises where the quality inspector can stay during the delivery of the maize to the warehouse Payment can be made by the Manica warehouse after the quality is approved by SGS and the quality control consultant The reason for the consultant is the need to assure the buyer(s) of high quality maize for this first exportation of maize from Mozambique

3 3 8 8 Suggested Model

Manica warehouse will be the receiving point for the maize There will be as many buyers for the maize that is practical and all will be given contracts The farmers will be given the information about the prices being paid at the Manica warehouse in Nacala Farmer wanting to go direct to Nacala to the Manica warehouse can work with World Vision or other PVOs or NGOs This will be a completely open and transparent system that provides a guaranteed market for the maize This guaranteed market has already interested the traders, and some are ready to make a contract Credit to the traders may not be a problem as was anticipated The steps that are required follow

1 Establish an agreement with the buyer(s) to use the Manica warehouse for receiving the maize from the traders The buyer will be responsible for the maize once it has entered the Manica warehouse Establish the purchase price based on the world market price - should be more than $144 per metric ton to be viable

2 Obtain an export license in lots of 15,000 tons

3 Issue contracts from the buyers to the six sellers mentioned above and to others that can verify their potential to bring maize to the Manica warehouse Hold out a percent (i e 10%) until the contract is completed

4 As lots of 15 000 tons are reached, export this quantity

5 Hire a full time quality control inspector to be at the Manica warehouse (live in the apartment located on the premises) to inspect each load as it arrives SGS will do the buyer's final inspection

6 Bags are a major problem See if the buyer will accept 90 kg jute bags or assist in obtaining the 50 kg poly woven

7 World Vision will coordinate the activities of the NGOs and PVOs These are important players in order to reach the farmer with the price information that is being paid in Nacala

8 Make payment in both US $ and Meticais

3 3 8 9 Financing Structure

The following suggestions are offered for managing the financing of maize exports

Project Coordinator is Selected

A Project Coordinator will be selected who is acceptable to the bank(s) and USAID The role of the Coordinator is twofold ensure timely delivery and quality control of maize to the grain exporter, and control intermediate transactions from the maize producers, traders and others An important task of the Coordinator is monitoring the prices paid to the producer Thus the ability to manage the logistical aspects of this project is important, as is the ability to serve as a financial intermediary for the levels from producer to the Coordinator

A Grain Exporter is Selected

Preliminary discussions have been held with several well-known multinational grain trading companies, notably Cargill, Louis Dreyfus, and Sea Breeze A firm commitment will be required by one of these firms to purchase the maize from the project coordinator on commercial and clearly defined terms (for example, delivery to the exporter's warehouse in Nacala)

Financing for the Grain Exporter is Established

The grain exporter will establish credit facilities with its bank based upon the performance criteria set forth above These credit facilities could take the form of letters of credit, bankers' acceptances or direct credit to the exporter The opening bank will inform the local bank of the amount terms and conditions of these facilities

Local Bank Establishes Financing for the Project Coordinator

Based upon the credit facilities established for the exporter, the local bank establishes credit facilities for the Project Coordinator This will be done by placing a US dollar account offshore in favor of the Banco de Moçambique (Central Bank) which will supply the local bank with the equivalent amount in meticais The local bank will then advance the Project Coordinator meticias sufficient to commence operations and to finance the purchase of commodities for delivery to the exporter Security for the local bank will be the assignment of the proceeds from the delivery of the commodities by the Project Coordinator to the exporter Dollar proceeds from the delivery of the commodities to the exporter will be used to reduce the credit exposure of US dollar offshore account in favor of the Central Bank This offshore account can be replenished if the exporter wishes to purchase additional commodities for export

3 4 Edible Oils Constraints and Opportunities

3 4 1 EDIBLE OILS CONSUMPTION

After cereals, edible oil is the next most important nutritional component of the Mozambican's diet Unlike maize and beans, oil must be refined from either animal or vegetable sources It is seriously lacking in the diets of rural and urban people, and is a scarce and expensive commodity in markets around the country

The availability of vegetable oil is extremely low Commercial purchases are estimated to be 1 5 kg of oil per person per year in rural areas and 2 5 kg per person per year in urban areas Estimated nutritional needs are 10 grams per day, or about 3 7 kg per year per person Estimated consumption throughout Southern Africa is around 4 6 kilograms The U S Department of Agriculture (USDA) estimates that in China, annual per capita consumption is 10 kilograms and in the United States, around 25 kilograms Although domestic production of oil seeds has been increasing since 1991, the production of oil from local seed amounts to no more than one-quarter of the market demand Table 3 6 shows the current (1995-96) balance between the supply and demand for vegetable oil Total demand is estimated to be approximately 30,000 tons This annual demand estimate is less than half the calculated nutritional requirement of 65,000 tons for the entire population of 17 5 million, based on per capita daily consumption of 10 grams It is known that as late as 1977/78, national consumption was around 40,000 tons per year

Demand is constrained by income levels and is also affected by supply, price and distribution difficulties In 1995/96, the shortfall in supply was estimated to be around 14 000 tons Most of the time, oil is under supplied on the market but with periods of gluts, primarily created by the simultaneous arrival of donor-supplied products and with trader imports In rural areas oil is generally not available due to the difficulty of distribution and its high price takes it beyond the reach of most consumers

3 4 2 INDUSTRIAL PROCESSING

Last year the local refining industry supplied approximately 37 percent (7,160 tons) of the marketed amount of edible oil Trader imports are expanding faster than is the ability of domestic processors to refine oil Domestic production remains very small and the factories operate well below capacity Capacity utilization is approximately 20 percent of the installed amount

There are four large-scale edible oil plants operating in Mozambique a) FASOL (Maputo), b) GINWALA (Maputo), c) Mozambique Industrial (Beira), and d) Monapo (Nampula) All four plants are privately owned FASOL was an 'intervened" plant previously managed by government, but was privatized in 1995 by selling 80 percent of its shares to a Portuguese group, Grupo Melo The other three plants are owned by the large Grupo Entreposto Two other oil producing plants in Quelimane and Inhambane only process copra for soap manufacturing

Table 3 6 Estimated Market Demand, Nutritional Requirement and Availability of Edible Oil - 1995/96
(tons of vegetable oil)

ESTIMATED DEMAND		ESTIMATED AVAILABILITY	
Rural population	14,025,000	Commercial sale - local seed	3,160
Urban population	3,520,000	Home production - local seed	1,500
Total population	17,545,000	Processed, imported crude oil	4,000
National nutritional requirement for edible oil	65,000	Commercial imports (legal)	160
Calculated market demand	29,835	Commercial imports (illegal)	3,000
Estimated available supply	0 80	Monetized donor imports, food aid leakages	7 710
Estimated market shortage	10,305 00	Total available supply	19,530 00

Source Calculated from information provided by Department of Food Security, USAID/Maputo Bellmon Amendment Disincentive Analysis, Michigan State University, May 1996, Report on the Oil Subsector in Mozambique by Jane Tomlinson, February 1996

FASOL imports crude vegetable oil which is refined and bottled at its plant Oil seeds are not readily available to the factory The company has expressed an interest in working with small farmers to organize sunflower seed production Competition between the two plants in Maputo is fierce

Entreposto's Monapo plant is linked to the Company's ginning operations and processes cotton seed only, although it has the capability to process other oil seeds as well

In 1995, GINWALA crushed approximately 2400 tons of seed which provided approximately 800 tons of oil Some of the seed was transferred from Entreposto's cotton operations in Nampula The remainder was bought in the central and northern regions and shipped on small cargo ships along with copra used for soap making

The Mozambique Industrial plant at Beira was established to serve the central region of the country, and provides an outlet for seed produced by Entreposto at Monapo The plant crushed approximately 1,100 tons of seed in 1996, from which it produced around 360 tons of oil Approximately 90 percent of the seed was from cotton, provided primarily by Entreposto's cotton gins in Nampula

All four edible oil plants possess old and inefficient equipment which operates well below both rated (nameplate) and actual capacity However, the plants are well managed and considerable attention has been paid to equipment

maintenance, including in-plant manufacture of spare parts Therefore, their operating efficiencies are higher than they otherwise would be, given the age of the factories

The installed capacity of the four factories is shown in Table 3 7

Table 3 7 Available Factory Capacities

ENTERPRISE	CRUSHING	REFINING	BOTTLING/FILLING
FASOL	15 000 tons/year	15 000 tons/year	40 000 units (0 5 and 1 0 liter bottles)
GINWALA	20,000 tons/year	5,000 tons/year	40,000 units (1 0 liter bottles)
Mozambique Industrial	20 000 tons/year	11,000 tons/year	40 000 units/day (1 0 and 5 0 liter containers)
Monapo	30 000 tons/year	11 000 tons/year	40 000 units/day (1 0 and 5 0 liter containers)
Total	85 000 tons/year	42 000 tons/year	160 000 units/day

Source Report on the Oil Subsector in Mozambique by Jane Tomlinson February 1996

The edible oil industry is operating well below capacity and consequently meets only a portion of the demand for edible oils in the three major cities served The industry is still recovering from years of civil war and government interference Major problems include a shortage of operating capital old equipment, the lack of foreign exchange for spare parts and equipment, and competition from oil produced in neighboring countries and imported illegally, duty free into Mozambique

The domestic industry is constrained by a shortage of domestic raw materials (oil seeds) and the lack of imported equipment and spare parts needed to repair and upgrade the plants The industry's ability to import both raw materials and equipment is made difficult by problems of accessing foreign exchange in a timely manner and in the amounts required The problem of erratic supplies of raw materials is exacerbated by market disruptions created when large volumes of related commodities are imported and monetized as food aid, and the difficulty that domestic production faces when it must compete with illegal imports For example, imported crude oil pays a 7-1/2 percent duty, and as the refined oil products move through the distribution system there is a 5 percent ' imposto circulao, ' or circulation tax on each transaction between the factory and the consumer Under the pending legislation to reform the structure of import duties, the industry is proposing a tax of 20 percent on imports of refined oil Illegally imported oil sold through informal channels escapes most of these assessments

The processing plants would derive great benefit from the importation of crude oil (as opposed to refined oil) as food aid by international donors USAID is currently looking at the possibility of providing around 90 percent of its PL 480 vegetable oil shipments as crude oil, for the next five-year period

3 4 3 SMALL-SCALE PROCESSING

Since the mid-1980s, Appropriate Technology International (ATI), working with other organizations, has been developing the ram press, a small-scale hand-operated machine for the production of edible oil In Tanzania and elsewhere, the presses have been installed by rural entrepreneurs in areas where edible oil was unavailable or unaffordable Mozambique, with its extremely difficult transportation network and highly depressed industrial sector, appeared to be a natural habitat for the development of small-scale oil processing These small oil presses seem to be commercially viable and can provide a steady income stream to their owners as well as a much needed food product in difficult to reach rural areas

In 1994 Care International a private, voluntary organization (PVO), began a USAID-supported pilot project in Nampula Province to test different presses, seeds, and the rural markets' response to them The pilot project was designed to stimulate interest in small scale oil conversion and to test the market for both the oil and the machine, but not to assess the ultimate commercial viability of small scale oil production The pilot phase, which ended in March 1996, will be followed by local institution building and technology dissemination to pave the way for widespread, commercial dissemination of oil presses

Thus far, in the targeted area of four districts, Care has shown that the presses can be commercially sold and operated and that farmers can grow commercial crops of oil seed for conversion into oil, which is sold on local markets The ram press machines hold great promise as a village-based industry which provides a market outlet for oil seeds The production of oil fills a great unmet demand in rural areas where edible oil is simply not available due to its high cost and difficult marketing logistics

In light of Care's initial success, a number of PVOs, including Care itself, Africare and the Adventist Development and Relief Agency (ADRA) have proposed development projects to USAID to expand the small scale oil presses If their efforts prove successful, the PVOs could provide an important stimulus to the local production of oil seed, which could become the nucleus of independent production of oil seeds by small farmers, outside the concession areas of the large industrial companies

3 4 4 OILSEED PRODUCTION

Production of oilseed is mostly by the smallholder sector The primary source of local vegetable oil is cotton seed, a by-product of cotton lint production Cotton seed for oil extraction is primarily grown by smallholders in Nampula and Cabo Delgado Provinces, under contract with the large agroindustrial companies The lint is exported and the seeds are sold to the oil refiners in Monapo Beira and Maputo These large companies are promoting increased cotton production in

their concession which will naturally, increase cotton seed production as well Sunflower and sesame are promoted by a number of PVOs and are being grown in increasing amounts in many parts of the country The promotion of the village level ram presses by PVOs should also stimulate oilseed production by small scale holders Gradual increases in domestic raw material availability can be expected over the next few years as the industry continues to expand and marketed production from the family farmer increases While a few attempts have been made to grow soybeans, these efforts have not been very successful In Zambezia and Nampula Provinces copra is an important source of high-fat edible oil which is produced mainly by rural families

Due to increased seed production, the amount of edible oil being refined from local oilseeds is gradually increasing Of the 3,160 tons of domestically-supplied edible oil in 1995/96, about half was refined from locally produced oil seeds, primarily cotton seed Only 120 tons (4 percent of the entire 3,160 tons) were refined from sunflower seed

3 4 5 MARKETING CHANNELS FOR EDIBLE OIL

At present vegetable oil in Mozambique cannot be characterized as a freely traded commodity Imported crude oil pays a tariff of 7-1/2 percent As long as the supply of foreign exchange is rationed by government it is impossible to import unlimited quantities of oil Over the last few years most imported oil has arrived as donated commodity which is subsequently monetized through sale on local markets However once in country, the distribution commercialization and pricing of oil from all sources are completely deregulated There is a multiplicity of distributors and retailers, and strong competition exists at the retail level

The formal marketing system for edible oil begins with the processors and flows through their network of wholesalers and distributors into retail shops throughout the major population centers Rural sales are limited due to the difficulty and cost of transport and the limited number of retailers in rural areas The limited amount of oil sold in rural areas is normally distributed by the wholesaler that controls sales of most consumer goods in the area

In addition to the formal distribution network, a thriving informal market exists that is composed of small private traders These traders sell edible oil which they import on their own account from neighboring South Africa Zimbabwe and Swaziland This trade is both legal and illegal, as some imports use legal channels, but the majority of transactions are undoubtedly illegal, given the selling price of the product in the Maputo market The oil may enter Mozambique on undervalued customs documents, or under the fairly well established system of payments to officials responsible for regulating the entry of products into the country These traders also purchase oil from distributors when supply is plentiful It is almost certain that oil is diverted from emergency food programs as well and is often sold by these traders in the provinces and rural areas at inflated prices

3 4 6 CONSTRAINTS TO ISMEs IN EDIBLE OILS

A number of important constraints hamper the development of AISMEs in the edible oils subsector The most important of these are as follows

i) An inadequate, erratic supply of raw material is the biggest constraint to the processing industry The only assured source of oilseed supply is that controlled by the large industrial companies Grupo Entreposto uses the seed processed by its cotton gins as the primary input into its Monapo oil refinery, and also provides seed to its other refineries at Beira and Maputo The other large industrial company which produces cotton, JFS, is allegedly planning to install its own oil mill in its cotton production areas in Nacala This will undoubtedly divert substantial quantities of seed from Entreposto's mills in Beira and Maputo As described earlier, FASOL has no access to oil seed and must rely on imported crude oil as its raw material The requirement to spend scarce foreign exchange on imported raw materials coupled with the administrative difficulty of arranging for imports and funding them through letters of credit, surely puts FASOL at a huge competitive disadvantage compared to GINWALA, its major competitor

A separate, but related problem is that given the present shortage of livestock and poultry in the country, there is hardly any market for animal feed The by-product from oil production, seed cake, which can be produced and marketed to great advantage in other countries, has no market in Mozambique Therefore, the by-products must be dumped at zero value, or shipped at great cost to markets in neighboring countries The inability to profit from by products makes the Mozambican processing industry less competitive than it otherwise would be

ii) The second largest constraint to the development of the sector is limited, expensive credit Investment credit is not available through normal banking channels Short term trading credit is also scarce Even when available, it normally is of brief duration, and at interest rates of around 40 percent is prohibitively expensive for food processing Informal credit is also in very short supply

iii) The third constraint is the market disruption created by large imports of donor-provided commodities (which create short-term market gluts, oftentimes at commercial values below their shadow prices) as well as the "unfair" competition from illegal imports Illegal imports carry only a fraction of the duties which are legally required, and also avoid the turnover tax since they are never "officially" in the country This provides a huge competitive advantage to smaller operators, and keeps downward pressure on retail prices (and margins) of the legitimate processors

iv) With extremely low salaries, many Mozambican workers fight a daily battle for survival Living near the edge of economic survival makes them vulnerable to personal and family problems, which can have a great impact on absenteeism and job performance This has an effect on worker output and plant efficiency While wages are low in Mozambique, this does not necessarily translate into low labor costs when productivity is considered

A similar problem highlighted in numerous conversations with plant managers is that skilled workers are extremely difficult to find Workers require lengthy training to develop the needed technical skills The plant managers fault the educational system in Mozambique as unsuited to produce skilled technical workers

v) Government officials and the government bureaucracy are still geared toward socialist control, even though economic liberalization is taking place This is manifested by a myriad of time-consuming procedures, permits, licenses, and stamps which are required for the simplest transaction The greatest cost of these bureaucratic procedures is in the time and expense of compliance, and the delays which often result For example, stamps with a value of only a few cents are required for most official documents, but if stamps are not available from the normal suppliers (which happens frequently) then administrative procedures grind to a halt while waiting for stamps to be replenished from the Government printing office

For imported items, the burden is particularly onerous Licenses are required for all imports, which can take months Once an import license has been issued, the process of opening a letter of credit is also burdensome If the imported item comes by ship, wharfage costs are exorbitant, particularly in Maputo Service is slow, and demurrage on containers (at a cost of around $100 per day) is the all-too-frequent result

All-pervasive corruption by government officials is a further problem for legitimate businesses Many government officials will not provide effective, timely service without a personal gratuity

vi) Edible oil pricing was decontrolled in 1992 in compliance with World Bank and International Monetary Fund agreements While the complete deregulation of processing and market prices has been positive, the Ministry of Agriculture continues to set pan-territorial, minimum prices to the farmer for the purchase of oilseed This creates distortions in oilseed marketing, and is an obstacle to the steady development of the industry

3 4 7 INVESTMENT OPPORTUNITIES IN THE EDIBLE OILS SUBSECTOR

The edible oil subsector is a potential growth area for the Mozambican economy The edible oil industry could become an important stimulus to agricultural production marketing and rural incomes Not only is vegetable oil an important factor in the national diet it is an important input into the industrial and food processing sectors In addition to domestic consumption, an important export market could be developed to neighboring countries South Africa, for example, imports an estimated 25 percent of its vegetable oil requirements

With an overall industry capacity utilization at a mere 20-25 percent there is little room for additional large-scale processors, except for purely strategic reasons such as the JFS Company s plan to process its own oil seed to the detriment of its competitors The supply of domestic oilseed must expand further to become more closely aligned with processing capacity before additional capacity could be used effectively The development of the edible oils subsector must begin with increasing the production of oilseed

Oilseed production is highly suited to small farmers To stimulate small farmer production, the only requirements would be an assured market at a prearranged price, a supply of selected seed, and a modest amount of technical assistance for crop production Smallholders in Mozambique normally produce oilseed under completely natural conditions, without benefit of farm chemicals or chemical fertilizers If "organically grown" certification should become available in Mozambique, oilseed grown by smallholders would qualify for this product category

Opportunities exist for small and medium intermediaries to link vegetable oil processing plants with small oilseed producers Indigenous "satellite" businesses could be created around the oil processor, as a contracted supplier of oilseed SAEDF's microenterprise funds could finance vehicles, seed drying and cleaning equipment and a warehouse for seed storage With the collaboration of USAID and its PVO partners, a small farmer outreach program could be organized for the commercial production of oilseed under contract with the small/medium intermediary

A second opportunity for the SAEDF microenterprise funds would be to finance the purchase of "T press" hand-operated oil crushers for village-level production of edible oil These show great promise as a means of stimulating the production of oil seeds by small farmers which could eventually become a commercially viable, important crop in rural areas

3 5 Cashew Constraints and Opportunities

3 5 1 OVERVIEW

Between World War II and the early 1970s, Mozambique emerged as the world's largest producer of cashew nuts, accounting for some 40-50 percent of total world production As production grew in the 60's and 70's, investment in processing plants also grew By 1973, the year of peak production, Mozambique had an installed processing capacity of more than 130,000 tons of raw nuts annually Following independence in 1975, the cashew subsector went into decline Production fell from 200,000 tons/year in 1974 to only 25,000 tons/year in 1985, though it rebounded to approximately 55,000 tons recently As part of this decline hundreds of thousands of rural households lost their major source of income that came from cashew production and related off-farm employment

After independence from Portugal in 1975, the new Government nationalized nearly all cashew processing plants In addition to managing the processing industry the GRM also imposed price controls at the various points in the marketing chain and required that all raw nuts be sold to the processing plants During the civil war (1975-1992) many of the producers of cashew nuts were forced to abandon their plots for safe havens Over the last 25 years, there has been little incentive to invest in maintenance (proper pruning, disease control, new plantings) of the cashew tree stand in Mozambique During the war years not only was production neglected, but the marketing infrastructure was also destroyed The GRM-owned processing plants were operated with little concern for maintenance and replacement of worn-out machinery

Whereas world production and demand have reached record levels in the 1990s, Mozambican share of production has drastically declined Even with reduced production, cashew exports accounted for almost 22 percent of the total value of Mozambican exports in 1994 Table 3 8 shows the value of cashew exports over a four-year period

Table 3 8 Cashew Exports Compared to Total Exports

	1991	1992	1993	1994
Population (millions)	15 3	15 6	15 9	16 3
GDP (millions of current US$)	1,433	1 285	1,467	1,467
Agriculture's Share of GDP (%)	38 7	35 2	36 0	32 8
Total Exports	162 3	139 3	145 8	164 9
Cashew Exports*	16 0	21 5	14 8	36 0
Cashew Exports / Total Exports	9 85%	15 4%	10 1%	21 8%

*Cashew figures are based on FAO data of kernel exports and JFS estimates of raw nut exports

Sources African Development Indicators 1996, The World Bank

Trends in Developing Economies, Extracts, Volume 3, Sub-Saharan Africa, 1995 The World Bank

3 5 2 CASHEW PRODUCTION

The cashew tree is indigenous to Brazil and was taken to the West Africa, East Africa and India by the early Portuguese navigators in the 15th and 16th centuries The trees were originally planted on poor soils along the coastal belts and were used as an anti soil erosion measure It is from the progeny of these trees that the nuts are now used for the cashew industry Due to their high genetic variability, the growth patterns, disease resistance, quality and yield of nuts are correspondingly variable among trees in different locations Their performance will also vary depending on soil, agro-climatic and other external factors

Cashew nut production is not organized along the lines of other agricultural products Rather the typical small producer may have one or a few trees, widely scattered around the vicinity of his dwelling In most cases, cashew nuts are not the principal crop cultivated, since food crops are the first priority for the farmer Many producers also cultivate other cash crops such as cotton and coconut While the other cash crops compete with food crops for the farmers' labor and capital cashew trees require only minimal attention Ideally, trees should be pruned occasionally and dusted to control mildew The cost of these measures is not expensive, but most producers have insufficient income for even modest inputs The greatest cost to the producer is harvesting the nuts Gathering is highly seasonal The trees set flowers and

bear fruit in about a three-month period each year If the fruit (i e , the cashew apple) of the tree is to be used, it must be processed immediately after harvesting

If the fruit is to be discarded, the nut must be immediately separated from the fruit In either case, some amount of daily labor is required for the duration of the harvest period In addition, raw nuts must be dried in order to avoid deterioration of the kernel

Traditionally, traders have not used a formal grading system when buying cashew nuts from farmers It is not clear to what extent farmers understand the importance of quality, since they are neither rewarded nor penalized for the quality of nuts produced

Mozambique still has some 30 million cashew trees which produce a yearly yield of 1 5 to 2 0 kilograms per tree Production in past years has been as high as 10 kg per tree with good trees producing up to 15-plus kilograms per year At the yield levels of the 1970's, the 30 million trees should be producing at least 100,000 tons instead of the current 40,000 to 50,000 tons The fastest and most effective way to increase national cashew nut production in the shortest term is to obtain more production from existing trees

Low yields are caused by old age of most of the trees (60-70 percent older than 25 years, 80-90 percent older than 16 years), severe damage sustained by many trees from bush fires or other natural disasters (in parts of Nampula, a 1994 hurricane destroyed branches and trees in a large area), poor phytosanitary conditions, including poor mildew control, a general state of abandonment and neglect, and inappropriate harvesting procedures that became prevalent due to the war and a decline in production practices

A significant proportion of the cashew tree population in Mozambique (estimated to be 20 to 30 percent) is unproductive However, the trees generally have a strong and well-developed root system, which could support much greater production Experience in Tanzania indicates the best approach to increase yields is to revitalize the orchards This requires the farmer to stump (cut down the old trees at the base) and graft on cuttings from trees that are good producers and resistant to diseases The trees where grafts are used should be unproductive or seriously damaged trees New techniques, developed over the last few years, allow suckers to grow from the base of the tree and to graft these suckers with buds from higher performance trees The grafted trees grow very fast can be in production in 18-24 months and may produce high nut yields for many more years The main requisites for this option to be realized are making enough high-performance clonal material available and training on the proper selection of cloning material for grafting and the best grafting techniques

Another method to increase yields is to reduce insect and pest problems It has been estimated that 25 percent of crop production is lost to pest and disease The trunk borer (*Mecocorynus loripes*) is the most serious cashew pest in Mozambique Branches infested with trunk borers lose productivity and eventually die, while becoming a source of infestation for other trees and branches Pruning infested branches eliminates the source of further infestation and by exposing them to sunlight, leads to increased production on neighboring branches Severely infested trees must be

stumped and burned Farmers traditionally killed borers by physical destruction or by pouring readily available materials, such as cashew nut shell liquid (CNSL) paraffin or diesel fuel into the borehole when they are first seen, and by pruning infested branches Control of pests is related to orchard management which consists of farmer training in borer detection and consistently reliable pruning

Powdery mildew (*Oidium anacardii*) is the most serious disease To bring in a national plant protection program applying chemicals to the 25 million trees is not possible, cost effective or environmentally acceptable A preferable course of action is to start plant protection treatment with a biologically friendly chemical on the trees that may respond to it Since most of the national cashew tree population has not had any plant protection over the past 30 years, it should be possible initially to strike a biological balance on the trees for most of the main pests and diseases by applying Sulphur WP 80 percent at 20 grams/10 liters of water six times per season This would control mildew, anthracnose, and small insects, while not harming the larger predators (spiders, ants ladybirds) which consume most of the remaining harmful insects Sulphur in wet able power form (WP) at 80 percent is recommended as the initial basic chemical to protect cashew trees from pests and diseases In Tanzania sulphur dust was recommended instead because no one could envisage sourcing and carrying the water to apply Sulphur WP on millions of cashew trees Sulphur dust requires 10 times more active ingredients per tree to have the same effect as Sulphur WP This continuous heavy application eventually causes a build up of sulfates in the soil and an increase in soil acidity which has a detrimental effect on the land and other crops In contrast Mozambique's coastal plain tends to have abundant water resources, and the fact that peasant farmers normally live near a water source means they should be able to provide water for spraying Knapsack sprayers and motorized mist blowers are the best means of application

Proper harvesting of the cashew nuts will also increase the yield The harvesting technique currently practiced is to hit the branches with sticks to get nuts in the tree to fall off These nuts are immature, leading to lower yields (in weight) and lower-quality nuts Further, hitting trees with sticks fells flowers and small nuts as well reducing production later in the season Farmers need to return to the traditional practice of gathering nuts from the floor every day (or every few days), thus collecting fully grown, mature nuts, retaining flowers in place, and letting nuts in the tree grow until maturity Again, farmer training may help Extension workers and local police can also support local communities to start theft surveillance and control activities

Under current conditions the heterozygous cashew tree population of Mozambique is unlikely to react to the application of inputs such as fertilizers and pesticides However, they should respond to irrigation Since the tree population is widely dispersed there is no possibility of implementing a district-wide cashew irrigation program Farmers should grow cashew trees near natural water sources and should be trained in the construction of mini or micro irrigation schemes

Cashew trees are dying at a rate of around one million trees per year The national tree population is old, and most existing trees will progressively die during the next 10 to 25 years Massive replanting programs are urgently required This would become the basis for Mozambique s cashew nut production in the early decades of the next century While some replacement trees are being planted most plants are open pollinated heterozygous seedlings taken from traditional

trees This will perpetuate the wide variation in yield performance among individual trees Yields will not improve from these plants, beyond what would be accepted due to their younger age verses that of the unproductive trees being replaced There should be a selection of high-performance individual trees for cloning materials along with the introduction and further testing of Brazilian dwarf varieties This would require the installation of observation plots for germ plasm and clonal gardens

3 5 3 CASHEW PROCESSING

As mentioned, cashew trees in Mozambique have a genetic variability which effects the quality and yield of nuts Therefore, when the nuts are taken to the processor their variability creates processing problems, particularly for mechanized processing systems Difficulties are caused by significant differences in the size and shape of the nuts, the thickness of the shell, the amount of CNSL produced and in the proportion of kernel material available

Proper processing extracts the kernel from the raw nut as a whole piece while retaining its original appearance and color without contaminating the kernel with CNSL or with any other undesirable contaminant or microorganisms The final product must be safe and acceptable for human consumption

The raw nut consists of the shell or pericarp (comprising the epicarp, mesocarp and endocarp) and the kernel which is covered by a thin membrane known as the testa The honeycombed structure of the mesocarp contains a natural resin - CNSL A fresh raw nut typically consists of

shell	- approximately 74%, (of total weight, of which 25% is CNSL)
kernel	- approximately 24%, and
testa	- approximately 2%

The fresh kernel weight can vary from 18-28 percent of the total weight, depending on the quality of the nut

Nuts for processing should be clean, sound and dry It is essential to grade the nuts into different sizes, usually into at least three main sizes The moisture content should be 9 percent or less, but equipment is not available to measure kernel moisture content quickly and easily

The outer shell of the raw nuts is difficult to decorticate (open) without pre-treatment A prevalent pre-treatment method involving steaming the raw nuts (often by using pressure cookers) softens the shell thereby making it is easier to decorticate Steaming time is critical Otherwise, the nuts will become partially cooked In heating the raw nuts, CNSL is exuded and collected as a by-product

Several methods are used to decorticate nuts including

* Semi-manual shelling with steaming pre-treatment ("Indian style" method),
* Mechanized cutting of individual nuts using hot oil bath roasting pre-treatment ("Oltremare" method),
* Mechanized en-masse centrifugal decorticating using hot oil bath roasting pre-treatment ("Sturtevant/Peabody" method), and
* Mechanized en-masse centrifugal decorticating using dry roasting ("NRI/Zambia" method)

Semi-manual operations involve processing each nut individually This typically involves a specially shaped two-piece cutting tool which has a profile closely matched to the particular size of the nuts to be opened Single roasted nuts are placed in the device which is usually foot-operated leaving the operators hands free to load the nut and remove the shell/kernel The upper and lower pieces of the tool cut into the nut and then move slightly apart to split open the nut allowing the kernel to be removed by hand

Mechanized cutting of individual nuts involves similar treatments and requires nuts to be very carefully graded by size (typically into at least 12 sizes) Graded nuts are individually fed into cutting machines which cut around the natural line of cleavage using nut-shaped blades, one blade is twisted to separate the shell halves Those not properly decorticated are re circulated Since there are many cutting machines, the process is continuous The technique is relatively complicated, and it is difficult to properly process small-sized nuts (less than 18 mm in diameter)

Mechanized en-masse centrifugal decorticating involves an enclosed rotating device which throws the nuts against target plates The fragments produced from the impact are screened and those not decorticated are re circulated through the device The process is continuous with nuts pre treated by a hot oil bath The technique is simple and can accommodate a range of raw nut sizes Hot oil bath roasting and dry roasting pre treatments are used by different equipment suppliers

Peeling is done by various methods depending on the equipment used However, the efficiency of removing the testa and retaining kernel as whole pieces is generally poor All systems require some kernel to be peeled manually The advantage of manual peeling is that a good quality product can be achieved with the minimum of kernel breakage, although a large number of operatives are needed Mechanized systems are known to notably increase breakages

Kernel grading is invariably carried out manually and requires a large number of workers although there are many designs of equipment which could, in theory, be used for cashews without increasing breakages However, the industry seems reluctant to consider new methods and assess them through local experimentation and development

Factories use key processing standards to assess their performance and profitability These data include kernel recovery, factory out-turn and amount of whole kernels obtained (after decorticating, after peeling, after grading and as packed)

Kernel recovery is the ratio, expressed as a percentage of the total weight of kernels available to the total weight of nuts It can only be assessed by taking samples of finished kernels and weighing the constituent parts

Factory out-turn is the ratio, expressed as a percentage, of the weight of all kernels packed for shipment to the weight of raw material actually processed Material rejected before processing is excluded from the calculation and is taken into account separately

The amount of whole kernels obtained is the ratio by weight, of whole nuts processed to the total quantity of kernels packed These should be recorded after each stage of operation as it is the quantity of whole nuts which is important to factory profitability

3 5 4 CASHEW MARKETING

World trade in cashew nuts, considered a "luxury" product compared with peanuts, pistachios, and almonds, has been expanding steadily With the reduction of supplies from Africa, India and Brazil are the leading producers Vietnam, a long-term supplier of raw cashews, has moved aggressively into processing and may become a major supplier of kernels (processed cashews) within the next few years India is the world's largest cashew producer and exporter, producing an estimated 385,000 metric tons of raw cashews on more than 500 000 hectares in 1994 India imports raw cashew nuts from Mozambique Tanzania, Nigeria, Benin, and Cote d'Ivoire as well as from Brazil, Vietnam, and Indonesia India has been increasing its exports of kernels, and shipped 76,900 metric tons valued at US$ 400 million between April 1994 to March 1995 India accounts for approximately 65 percent of the US$ 600 million world market for processed kernels Table 3 9 lists the major importers of kernels and amount imported by each during 1994

Major suppliers to importing countries are shown in Table 3 10 Note that the production of cashews by Vietnam has risen from 15,000 tons in 1987 to 100,000 tons in 1995 Some traders believe that the country will soon be importing and processing cashew nuts, thereby competing with Brazil and India for the sale of kernels Table 3 10 shows that Vietnam sells most of its processed kernels to China This situation may change in the future as Vietnam increases its production of kernels, stimulated by its Government's increased tariff on raw nut exports Table 3 10 also shows that China imported 7,191 metric tons of kernels while exporting 2 400 metric tons to other countries

Cashew production in Mozambique is mainly for the raw cashew market, which is primarily exported to India The export of processed kernels is low even with an export tax on raw nut exports Mozambique's success in increasing its cashew production will be determined largely by external market factors The major issues are a) Can Mozambique produce cashew kernels at a cost sufficiently low to become a competitor in world markets? , b) Will India increase its production by 220,000 metric tons to become self sufficient in the production of raw cashew nuts? (Required raw material would be approximately 540,000 metric tons), c) Brazil produced 160,000 metric tons of kernels in 1995 and is expected to

produce 208,000 metric tons in 1996 Will Brazil take a bigger percent of the world cashew kernel market? , and d) Will Vietnam increase its production of kernels to become competitive with India?

Table 3 9 Major Importers of Cashew Kernels

Importer	Import Volume	Import Value	Portion of Total Import Value
United States	40,685 metric tons	US$ 185,756,000	33%
Netherlands	16,109 metric tons	US$ 65,400,000	12%
Germany	10 008 metric tons	US$ 42 697 000	8%
United Kingdom	7 280 metric tons	US$ 29,586 000	5%
France	2,747 metric tons	US$ 10,856,000	2%
Japan	5 665 metric tons	US$ 29,000 000	5%
China	7 191 metric tons	US$ 13,660 000	2%
Hong Kong *	5,433 metic tons	US$ 21,751,000	4%
Total	**95,118 metric tons**	**US$ 546,610,000**	100%

Source Market Asia, Volume 3 Issue 1, March/April 1966

* major re export traders

Table 3 10 Major Suppliers of Fresh or Dried Cashews to Importing Countries
(metric tons for year 1994)

SUPPLIER	IMPORTING COUNTRY							
	U S A	**Netherlands**	**Germany**	**U K**	**France**	**Japan**	**China**	**Hong Kong**
India	20,519	13,892	6,495	5,755	969	5,407		1,507
Brazil	18,248	666	293	380	219			
Indonesia	332	60	74	35		216	117	1,200
Kenya	207	63	18	71				
H Kong	137	119						
China	86	131	99	211		29		1,844
Singapore	139							32
Nether	62							
Vietnam	64	140		38	87	8	4,298	57
Nigeria							857	679
Cote d' Ivoire							1,436	
Other	397	261	73	181	12	4	210	33
Thailand							170	
Philippines							104	50
Intra-EU		777	2 957	610	1,460			
Total	40 685	16,109	10,008	7,280	2,747	5,665	7,191	5,433

Source Market Asia Volume 3 Issue 1 March/April 1966
U S A figures from January to September 1995

The driving force for the world cashew industry is the demand for kernels in developed markets Raw cashew nuts are sold to intermediate markets for processing and then exported to end-use markets A sustainable cashew industry must not only be competitive in world kernel markets but also must be competitive in intermediate markets which purchase raw nuts India is an example of an intermediate market with numerous suppliers Table 3 11 shows India's major suppliers and confirms the competitive nature of an intermediate market

Table 3 11 IMPORT OF RAW NUTS INTO INDIA

Country	1994 (Jan-Dec)		1995 Half year (Jan-June)	
	Tons	**As Percentages**	**Tons**	**As Percentages**
Cote d'Ivoire	19,128	7%	1,757	2%
Guinea Bissau	31,410	11%	nil	0%
Mozambique	**19,908**	**7%**	**nil**	**0%**
Nigeria	11,361	4%	2,021	3%
Singapore	39,219	14%	15,058	21%
Tanzania	55,658	20%	35,298	49%
Vietnam	43 898	16%	2,926	4%
Others	29 966	11%	2 919	4%
Total	**276,369**	**100%**	**71,347**	**100%**

(Source Published data from India 1995) * a conversion rate of 53 rupees to one US$ was used

To be competitive in world markets for kernels, it is first necessary to produce high quality cashew nuts The second step is to use appropriate processing technology Table 3 12 shows the major cashew nut producing countries which are Mozambique's competitors for both the raw and processed kernels All the countries shown can either process kernels for export or export raw cashew nuts

Table 3 12 Main Cashew Nut Producing Countries	
Country	Potential Production
India	350,000 Metric Tons
Brazil	208,000 Metric Tons
Vietnam	100,000 Metric Tons
Tanzania	82,000 Metric Tons
Mozambique	**60,000 Metric Tons**
Thailand	30 000 Metric Tons
Indonesia	25 000 Metric Tons
Guinea Bissau	25,000 Metric Tons
Nigeria	20,000 Metric Tons
Ivory Coast	10,000 Metric Tons
Benin	10,000 Metric Tons
Kenya	9,000 Metric Tons
Others	30 000 Metric Tons
Total	847 000 Metric Tons

Source CEPC / Utinho Holdings B V

3 5 6 CONSTRAINTS TO DEVELOPMENT

The following section reviews the most important constraints to the development of the cashew subsector in Mozambique

3 5 6 1 Raw Nut Production

A nursery is needed to produce oidium resistant planting material and other new varieties such as the Brazilian dwarf cashew trees Trained extension people are needed to advise the producer on proper orchard management such as pruning, insect and disease (e g , powdery mildew) control including proper harvesting techniques

At present Government interference in cashew marketing is a constraint to raw nut production The export tax on raw nuts along with Government's heavy-handed attempt to force farmers and traders to sell raw nuts to inefficient processing facilities reduces competition and drives down the price to the producer There should be free competition in purchasing, and the price to the farmer must be based on international market prices, without Government intervention

3 5 6 2 Processing of Whole Nuts

The total installed processing capacity at all 14 factories in Mozambique is 135,000 tons, which is mostly mechanical processing The majority of the existing factories are suffering from disuse and lack of maintenance

The major constraint with mechanical processing is the lower ratio of whole kernels that is recovered, compared to the labor intensive (semi-manual) method For example the Tanzania Cashew Board estimates that four of its best plants using mechanical (Oltremare) equipment will recover 57 percent whole cashews from the extracted kernels in the whole nut received at the factory, compared to a typical labor intensive system which will recover more than 85 percent wholes (reported by JFS for their labor intensive "steam type" plant at Geba) The lower percent of wholes reduces the income of the processing plant since a significantly higher price is paid for whole cashews and a lower price is paid for broken or pieces of the cashew kernel

The mechanical process uses a large quantity of water (30 000 gallons per day for a 5,000 ton capacity processing plant) and electricity (280 kilowatts at full production) In comparison the labor intensive system uses cashew nut shells as fuel for steam boilers Manual labor is used for the rest of the process, with the exception of packaging or mechanically sorting the raw cashews for processing

Future Government intervention in Mozambique is not defined, but it seems to be taking the form of a processing subsidy While the subsidy will provide short term relief to the major problem of low industry profitability, it will be a long term constraint to the development of a sustainable processing industry

3 5 7 OPPORTUNITIES IN THE CASHEW SUBSECTOR

The following section reviews the most important investment in the Mozambique cashew subsector

3 5 7 1 Cashew Nut Production

The recovery of cashew plantations established during the 1960s and early 1970s by traders and other businessmen, which were abandoned during the 1980s, provides a major opportunity for the rapid recovery of cashew nut production No national or provincial inventory of these abandoned plantations exists An outdated and incomplete inventory taken in Nampula Province identified 60 abandoned plantations with 27,000 hectares (which may contain some 1 2 to 1 7 million cashew trees, or about 5 to10 percent of the national population) Of the entire group of 60 plantations, 37 plantations contain between 100 and 1,000 hectares, and 21 large farms range from 200-500 hectares These plantations could be offered to potential investors either for sale or as joint ventures, and rehabilitated by the stumping/grafting procedure described above With an injection of capital and under professional management, these plantations could be producing large volumes in only two years

3 5 7 2 Processing Opportunities

The opportunity in processing would be to develop a semi-manual processing models that could be replicated at the village level or introduced to the current Mozambique processors as an alternative to their mechanical cashew processing equipment

3 5 7 3 Cashew By-products

The kernel by itself is the largest revenue earner from a cashew tree However, the by-products from cashews are also in demand in different industries ranging from the high technology chemicals and paints plastics, automobile and ship building industries to the fruit juice and homeopathic sectors

The list of cashew by-products is as follows, ranked by degree of potential

1 Cashew Nut Shell Liquid (CNSL),
2 Cashew Apple Juice,
3 Testa (Husk of the kernel),
4 Cashew Alcohol,
5 Dried Cashew Fruit, and
6 Anacardium extracts for homeopathy

The Cashew Nut Shell Liquid The most important by-product is the CNSL which was exported in relatively large quantities from India in the late 1960s and 1970s Exports began to decrease in the 1980s and have remained for several

years at their present low level Conversely, Brazil began increasing its exports in the late 1970s and now sells almost entirely to the United States

Primary markets are the United States, U K , Japan and South Korea and some markets in Eastern Europe The Japanese have found uses for this product especially in the lacquer industry, where their interest was sufficient to induce the Cashco Company of Japan to invest in three raw nut processing factories in Tanzania in the 1970s each with a capacity of 10,000 tons

The properties of the CNSL, particularly its preventive qualities against rust and its high capacity to resist heat are the basis for its demand in the automotive, paint and polymer industries

The demand for asbestos-safe brake linings has led to the creation of medium scale industries which manufacture brake linings for the automobile industry

CNSL has been used in Africa against ringworm, psoriasis and scurvy The success of these treatments is not documented but it still remains a popular treatment method

Cashew apple juice is highly nutritious and is produced in Brazil as a fruit drink Other producing countries such as India have not begun to market the juice of the cashew apple

Testa is the skin around the kernel from which tannin can be extracted for use by the leather industry There is a good market for the product in India especially in southern regions where many tanneries are located Another common use of testa is the adulteration of domestically sold tea in India

Cashew alcohol is a fermented alcoholic beverage usually made at home and consumed in the local area

Dried Cashew Apple The cashew apple is dried under the same procedure as prunes and the final product resembles a dried prune It is popular as a sweetened snack product at some health food outlets

Anacardium is an extract from the cashew nut shell which is used in the homeopathic industry The Chinese followed by the French have been pioneers in this field The success of the initial tests against certain forms of cancer has put great value on the shell from which the Anacardium is extracted

3 5 7 4 Organic Cashews

Mozambique has a marketing advantage for a specialty organic products market because almost all cashew production in the country has been without the use of chemicals This advantage could be promoted by stressing that cashew nuts

are produced in Mozambique without chemicals, and under techniques that protect the environment Furthermore, they are processed without using child labor

Both Europe and the United States have growing markets for organic cashews Presently, there are only a few projects in the world with certified organic cashew nuts, one is in Brazil, one is in El Salvador, Sri Lanka has two projects and India has one To be certified as "organic" the crop must be free from synthetic chemicals for a three-year period The certification must be made by a third party agency approved by the importing country It should not be difficult for cashews grown in Mozambique to qualify as a certified nonchemical crop, since the trees have grown for years without any form of inputs

The Mozambique cashew crop is protective of the environment since most of the pest and disease problems are controlled by orchard management and small producers grow cashew trees inter-planted with other crops on the same plot of land The cashew tree protects the plot from soil erosion, provides shade, and is also a cash crop for the farmer

In Mozambique, cashew processing, or separating the kernel from the shell does not use child labor as is the practice in India

These marketing advantages are ideal for promoting "Safe, Sound, and Healthy Nut Kernels from Mozambique " This promotion should be based on a detailed study of organic markets and would place the promotional material directly into the hands of the cashew nut packer or importer of organic products A dynamic promotion would help create demand for organic products that would pull the nuts processed in Mozambique directly into this specialized market

3 5 7 5 Opportunities for Integrated Development of the Cashew Subsector

The cashew sector holds many investment opportunities However, to fully develop the potential of the entire industry as a major source of exports, foreign exchange and employment, these opportunities should be linked to an industry association capable of administering a "Cashew Development Fund " Investment opportunities could be exploited and sustainable investment projects could be developed, provided that the "Cashew Development Fund" is administered in a businesslike manner The "Fund" could initiate opportunities in specific areas in cooperation with private businesses

An example of the activities envisioned for the "Fund is as follows In Mozambique cashew trees are ageing and most orchards need to be revitalized Tanzania could be a model to Mozambique since the country has made progress in orchard improvement but is concerned with the excessive application of sulfur Producers in Mozambique could benefit from Tanzania experiences and with proper training, they could learn to control pests and disease with improved orchard practices The 'Fund' could provide technical assistance and training in cashew production needed by the small farmer Higher quality cashew nuts would be produced with improved agricultural practices With improved quality, the exporter of these nuts would be more competitive in the intermediate market Processors would also benefit from higher quality

cashew nuts since their production efficiency would increase as well as the quality of their finished product This would help the processor to increase profit margins

Another area where the "Fund" could provide assistance is at the processing plants These plants must be revitalized order to be competitive in world markets The current technology used by the larger mechanical plants not only makes them costly to run but also produces a lower yield of whole cashews per kilo of raw nuts compared to the semi-manual "steam" processing plant The "Fund" could provide technical assistance for plant modification, or could even build a pilot plant to demonstrate more appropriate technology

3 6 Coconut Subsector Constraints and Opportunities

3 6 1 INDUSTRY PROFILE

Seventy percent of Mozambique s coconut industry is concentrated along a 50 kilometers wide coastal strip in Zambezia Province The remaining area is mainly concentrated along the coastal areas of Nampula Province, although some trees can be found along most of the coastline of Mozambique The livelihood of approximately one million people is affected directly or indirectly by the coconut industry

The entire area in commercial production is estimated to be around 105,000 hectares, containing more than 10 million palm trees, with small family plots constituting the major portion Four large plantations control the remaining area The breakdown of coconut ownership is shown below

Mozambique Coconut Ownership Profile

Small, family owned plots	60,000 hectares
Plantations	45,000 hectares
Total	105,000 hectares

Family-owned plots are typically composed of about 100 coconut trees of varying ages and sizes interspersed with food crops and fruit trees in a sustainable ecosystem The large plantations are planted exclusively in coconuts and are characterized by ageing plantations that depend on the application of chemical fertilizers to replenish nutrients found in the soil The plantations were planted mostly between 1900 - 1930 when copra production was highly profitable An estimated 50,000 hectares were planted during this period

Abt Associates Inc.

Of the four companies that dominate the industry, the largest is Compagnia Borror, currently owned by Government, but in the final stages of privatization The second largest is Compagnia da Zambezia, which is privately operated under joint ownership by Government and private interests The next largest coconut producer is Group Madal, which is privately owned with the majority of the shares held by Norwegian interests Madal is in the final process of acquiring the majority ownership of Compagnia Borror The smallest of the coconut holdings is Morroa, Ltd which is entirely privately owned These companies have extensive plantations and also purchase copra from smallholders In addition to their holdings in the coconut industry, they also have assets in other crops such as citrus, tea and sisal The remaining participants in the industry are a few private traders who also purchase copra from smallholders which they sell to local processors, as well as to processors overseas

During the colonial period, copra was a principal export commodity from Mozambique There was also a significant production of dried coconut products as food, as well as coir fiber (extracted from the coconut shell itself) and charcoal, produced from the coconut tree, as well as the shell

Copra is currently the only coconut derived export Most exports are to South Africa, with some shipments to Europe and Japan, where the product is made into coconut oil The greatest part of the available coconut products is consumed in Mozambique Considerable numbers of fresh coconuts make their way into local markets where they are consumed as fresh, whole nuts Coconut oil, and other edible copra products are used in the daily life of families which live in the coconut producing areas Some copra is processed locally for the manufacture of soap The estimated total copra production for commercial use is currently about 30,000 tons per year, of which approximately 60 percent is produced by the four plantations and 40 percent by family farms

In 1972, copra exports from Mozambique were nearly 44 000 tons Exports declined during the 1980s due to falling world prices and the effects of the civil war The war had a devastating effect on the large plantations They suffered from a widespread destruction of plant and equipment, and maintenance and repairs were reduced to a very basic level Particularly hard hit was the Borror plantation since it was owned by Government Since 1989 there has been a modest increase in both the value and volume of exports, despite lower world prices The main factors behind the recovery were improved security conditions in the copra regions in Zambezia and increased output of the smallholder sector in Inhambane

The following chart shows the variation in exports over a ten-year period since 1984 Export value is expressed in millions of dollars, and volume is expressed in thousands of tons

Value and Volume of Copra Exports Over a Ten-Year Period (1984 - 1993)

(value in million US$ volume in thousands of tons)

	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993
Value	19	51	21	33	45	19	26	47	42	60

Volume	4 2	12 7	11 7	14 8	13 7	5 2	11 2	17 2	12 4	15 0
Unit value	291	298	265	325	292	289	174	268	229	220

The normal method of preparing copra in Mozambique is by drying the coconut meat in the shell At the plantation, the coconut is harvested and brought to a drying plant serving the immediate area At the drying facility the husk is removed, the coconut shell containing the meat is broken into pieces and the coconut water discarded Drying is done in large-scale ovens, fueled by coconut wood and husks The half-shells containing the coconut meat are typically held at a steady temperature between 50 - 60 degrees centigrade for 48 hours After the initial drying period the shell is removed and discarded, and the partially dried coconut kernel is further dried for an additional 24 hours The drying ovens are vented so that warm air flows over the drying coconuts but smoke from the burning fire does not contaminate the copra With proper care and handling, this method produces high-quality, uncontaminated copra which is white in color This method also lends itself to centralized processing of copra and other by-products at the same time

Copra drying on the family farms is typically done over an open pit containing a smoldering fire Drying is from the direct heat of burning coconut husks and shells so smoke discolors the copra and causes a smoky odor Further degradation of the copra results from the way it is handled Without adequate sanitation, a concrete floor or dry storage facilities, the finished product is of poor quality, dark, smoky, dirty and occasionally moldy

Jute sacks are used to bag and transport the finished copra A full sack contains about 55 kilograms of dried copra For export the full sacks are normally emptied into the ship's hold and the copra is shipped in bulk, with the sacks retained by the exporter All sacks used in the industry are imported at a cost of approximately US $1 00 each Since the sacks can be used, on average, about three times, the annual requirement for copra production of 30,000 tons is approximately 200,000 sacks

3 6 2 COCONUT PRODUCTS

In Mozambique the primary commercial product from the coconut is copra, which is processed locally into soap, or exported Coconut oil for family use is occasionally boiled from copra at home Coconuts are readily marketed as a whole fruit in the larger cities With the exception of these products little use is made of the range of available by-products from the coconut industry

The main product extracted from copra is coconut oil, which is a highly saturated fat The general perception among consumers in developed countries is that saturated coconut oil causes arteriosclerosis Despite medical evidence that coconut oil is harmless and may actually be medically beneficial the perception continues that coconut oil is unhealthy Furthermore the world market for edible oils is becoming increasingly competitive The closest substitute for coconut oil is palm oil, made from a perannual crop whose production has increased substantially in recent years, particularly in Malaysia and Indonesia Additionally the production of soybeans is increasing in South America and India, and the production of oilseed such as sesame and sunflower is increasing in Europe as well as parts of Africa The combined

weight of these factors makes it likely that the long term trend for coconut oil (and copra) prices will continue downward To survive, coconut processors clearly must diversify

The Philippines, one of the world's largest producers of coconuts, reportedly make more than sixty products from coconuts Some of the products for which technology is readily available, and which could be adapted to Mozambique are the following

Coconut wood raw logs, electric and telephone poles, lumber, crafted and carved wood products, laminates, hardboard roofing, furniture,

Transformed wood products such as coconut shell charcoal, briquettes, and activated carbon,

Beverages coconut water, syrup, fermented or distilled alcoholic beverages from coconut water and sap cooking milk or cream vegetable substitutes for milk and dairy products,

Food products fresh mature drinking nuts for urban consumers, edible coconut meal, coconut flour as animal feed, heart of coconut palms, dried (desiccated) coconut products for confectionery, bakery, frozen foods, general food processing, home food mixes, candies, and snacks,

Products manufactured from coconut coir such as coir pith ("coco peat"), erosion matting ground cover, coir and cement tiles, yarn, bristles brushes, brooms, and fiber,

Coconut oil products such as highly refined edible oil, bland cooking oil, natural "virgin" unrefined oil, and industrial oil,

Energy, including heat and electricity from solid fuel-fired water boilers and the production of combustible gasses such as methanol from solid-fuel gasifiers, and

Other soap products, differentiated copra, hybrid coconut seed gardens

3 6 3 CONSTRAINTS TO DEVELOPMENT

If the coconut industry in Mozambique is to do more than barely survive it must undergo a process of rehabilitation and transformation The engines for the required change must be the privately-owned plantation companies

The industry s immediate need is to rebuild its productive capacity after years of warfare and economic deterioration This will require major expenditures of energy time and effort as well as a substantial amount of investment capital It will be necessary to rehabilitate the coconut plantations as well as the infrastructure in roads bridges and means of

communication It will also be necessary to reconstruct buildings and drying ovens and to replace pressing equipment and vehicles

After its productive capacity has been restored, the industry's greatest need will be to diversify away from the production of a single commodity, copra which is processed into oil and in turn sold into increasingly competitive markets Those in the industry must learn to produce a wider range of products with a much greater value added than a commodity such as copra

The greatest constraints to the rehabilitation and transformation of the coconut industry are the limited availability of investment capital the absence of technical information which would provide the know-how to make the transformation and the management skills needed to bring about the required change

3 6 4 INVESTMENT AND DEVELOPMENT OPPORTUNITIES

Coconut palms make an excellent wood for a variety of products In the entire coconut producing regions of Mozambique, approximately 3 6 million palms (covering an equivalent 45 000 hectares) are old trees which need to be replaced in order to rehabilitate the plantations This area is larger than the total of all other wood plantations in the country, yet it has been ignored in all forest resource assessment studies which have been carried out so far

Developing the coconut wood segment of the industry is vital to its rehabilitation Commercially harvesting old trees will provide an economic incentive as well as the cash flow needed to rehabilitate old plantations

The Mozambique coconut has an especially thick shell and is particularly suitable for making the highly valued activated carbon used for gold recovery in the mining industry There is a market in southern Africa for an estimated 8,000 tons per year of high grade, activated carbon Furthermore, coconut shell charcoal and activated carbon provide excellent filter media for water and air purification systems The entire output of coconut shells from the nation's copra production could be used in making high value charcoal and activated carbon South Africa has developed batch charcoal production and activation systems that could be easily adapted to Mozambique

A market presently exists for fresh coconuts among the Indian community in Durban, South Africa The market is currently supplied by Sri Lanka shipping through Singapore Whole coconuts could be shipped from Mozambique with at least a 25 percent cost savings over those from Sri Lanka Another export product would be to trim the husk of the coconut into the shape of a cube, with a pyramid top and enclose it in a six-pack, attractive consumer package Although the shipping time from Mozambique to Durban is only two to four days the product quality would be greatly enhanced by shipping in refrigerated containers The advantage of fresh coconut exports would be its minimal investment requirement and its ease of implementation With effective sales promotion the demand for fresh coconuts could be increased substantially

New AISME Business Possibilities and Recommended Means of Intervention

As part of the field work carried out to analyze the opportunities for AISMEs in the coconut subsector, interviews were held with two plantation companies and a private, voluntary organization (PVO) These interviews revealed a number of specific, new business possibilities in the coconut industry A description of the most promising of these follows, with recommended investments for SAEDF and interventions for the USAID Mission in Maputo

Companhia de Zambezia is a privately held company that owns 77,000 hectares of land used for cattle, tea and copra production. At one time the company was a major foreign exchange earner, but since the mid-1970s it has exported no tea, and only small amounts of copra

The company feels that it can easily re-enter the copra export market by rehabilitating its coconut plantations While it believes that copra will continue to be an important crop for Mozambique, management sees a better future in related products such as virgin oil production, activated charcoal, wood for pallets and utility poles, and other value-added products Zambezia acknowledges that small and medium sized agribusinesses have always played an important part in its operations, and believes that with these new products and improved technology, many small, medium and even micro size businesses will have an opportunity to participate in the growth of the industry

Zambezia has entered into an agreement with Outspan, the South African citrus marketing company, to produce and export wooden pallets in kit form to serve South Africa's citrus industry Boards would be sawn from coconut trees, cut to the proper size and shape, and drilled with screw holes for later assembly The unassembled pallets could be shipped in full container loads at low cost to South Africa Outspan uses 3 2 million pallets annually

Zambezia calculates that a daily harvest of 800 - 1,000 trees, producing approximately 500 - 700 cubic meters of wood would enable rehabilitation of the nation's coconut plantations Cutting wood for pallets could open up opportunities for dozens of small agribusiness enterprises These would include falling and topping trees, transporting trees to saw mills, operating saw mills and transporting pallet kits to the port for export Another opportunity that could be developed for small agribusiness would be the production and treatment of wooden poles used for electric power lines

To encourage new, small and medium enterprises to enter coconut wood processing, it would be necessary to develop methods of training the potential entrepreneurs, to finance their investment in a saw mill or means of transport, and to provide technical assistance to help establish their new enterprise A possible scenario would be for SAEDF to provide venture capital through a local partner, such as Standard Bank, which would provide working capital loans to the new business The loans would be guaranteed by a mortgage on the assets of the new company Companhia da Zambezia would provide a ready market for the lumber and other wood products and would also contract for transportation services Zambezia would also be the intermediary between the lending institutions and the entrepreneur, by withholding a percentage of the amount owed the small/medium business to ensure repayment of its bank loan To further ensure the success of the program, the USAID Mission in Maputo would contract with Compagnia Zambezia to establish a nursery for coconut seedlings, which would be sold to replenish the coconut plantations The company would also be contracted

to train the new entrepreneurs in saw milling and transport operations The Mission would also contract with a private, voluntary organization (PVO) such as World Vision or CARE International, to organize palm replanting on the smallholder plots The cost of planting material would be paid by funds generated from the sale of old trees

Madal is a large farming company with seven agricultural estates located throughout Mozambique The company was well integrated with small copra producers and traders prior to the civil war During the war Madal's exports were minimal but since 1992, copra shipments have been increasing Earlier this year copra, purchased from small, family farms for export to Europe, was found to contain toxins caused by improper hygiene during processing As a result, Madal suspended purchases from all small producers Although the company recognizes the importance of small holder production and would like to continue its purchases from small producers, it does not have adequate resources to provide the low-technology dryers along with the training and supervision needed to ensure that appropriate drying and handling practices are followed by small holders for the production of copra Madal has found that if small holders follow proper drying techniques, contamination is minimal Further drying can be done at company warehouses to prepare copra for safe, onward shipment

To ensure the continued participation of small holders in the export of copra, it would be necessary to develop a small producer outreach program for the production of high quality copra Under this program, Madal would continue to be the copra exporter with production contracted to small farmers Madal would be responsible for quality control USAID/Mozambique would contract an experienced PVO such as the Cooperative League of the U S A (CLUSA) for forming and training small farmer groups The PVO would train the affiliated small farmer groups in the installation, use and operation of appropriate dryers, and in the correct handling and sanitary procedures for producing high quality copra The SAEDF microenterprise development fund, under the administration of SAEDF's local partner would finance the installation of a roof-covered concrete slab, appropriate dryers, storage racks and equipment needed for sanitary copra processing "Graduates from the program would be assured a market outlet with Madal, as long as the quality of their product was suitable Technical assistance would also be provided as necessary to help Madal install a quality testing lab and to implement quality control procedures

World Vision International (WVI) is a PVO that has operated in Mozambique for many years, primarily in emergency food distribution and famine relief With diminishing need for emergency food aid, the organization is turning its efforts to development projects One of the groups assisted by WVI is the Barone Association, a woman's group that purchases copra from small holders for further drying and processing The copra is dried to a moisture content of 9 percent and squeezed through a T press to produce coconut oil The "T" press is the same hand-operated machine used in other locations for processing oil seed into edible oil Barone sells the coconut oil to small entrepreneurs for manufacturing soap Stimulating more of these small entrepreneurs to process copra into coconut oil would be beneficial to the entire industry

New village-level oil processing and soap making businesses could be encouraged by a collaborative effort between SAEDF and USAID/Mozambique Similar to the proposed small producer outreach program described above, the

SAEDF microenterprise development fund, administered by its local partner would finance the purchase of "T" press equipment, as well as the equipment and supplies needed for the small, soap making enterprise USAID/Mozambique would contract with a PVO to administer and direct the program, and to provide training and assistance to the small entrepreneurs

3 7 Packaging Industry Constraints and Opportunities

3 7 1 INDUSTRY PROFILE

As late as 1975, Mozambique was among the ten most industrialized countries in sub-Saharan Africa Its packaging industry kept pace with the output of industrial and consumer goods Under Socialism, packaging output shrank proportionally with the general decline in economic activity and overall production It is expected that future progress of the subsector will closely track that of the overall economy As is the case with other subsectors, packaging is beginning to show signs of renewal An important part of recent improvements can be attributed to Government's privatization of moribund State packaging enterprises

The structure of the packaging industry has changed little from the colonial period The Portuguese established private monopolies to serve certain segments of the economy, without troublesome competition This avoided duplication of production capacity and also ensured that finished goods would be provided to captive markets This practice was continued during the Socialist period, with the difference that the prices of most packaging materials were controlled by Government During this period, the general philosophy was to produce as many finished goods as possible without concern for marketing the products Many products were sold below cost Financial losses and/or shortfalls in working capital were covered by loans from collaborative banks Macroeconomic difficulties created foreign exchange shortages which made it extremely difficult to import raw materials and spare parts Many companies closed their doors, or operated in name only Those that survived did so through innovative means, such as creating metalworking shops to produce equipment spare parts, and even to manufacture production equipment

Before independence most of the firms in the packaging industry were foreign-owned After independence, faced with ever-increasing difficulty in operating their companies in the face of Government intervention the majority of the owners and managers of these firms quietly left Mozambique leaving their manufacturing plant intact In response the GRM intervened' by taking over company operations placing them under the control of the Ministry of Industries and appointing local managers to operate the newly-acquired factories These managers had the impossible task of maintaining production and output while faced with limited working capital and the non availability of foreign exchange Many factories operated in name only, producing little or no output, yet providing jobs for workers with little to do In some cases, payment of employees' wages was delayed for months due to a chronic shortage of operating funds Many of the factories fell into severe disrepair Factory graveyards were composed of buildings with leaking roofs and broken windows with rusted equipment, surrounded by weed-infested yards, litter, and decaying walls Those factories that continued operating under these difficulties did so by heroic efforts

3 7 2 CURRENT SITUATION

The packaging industry in Mozambique today is marked by a tight relationship between suppliers and their customers, and even between suppliers and their competitors In the words of one manufacturer, the market is too small to compete on a normal basis " With few exceptions, the industry is concentrated in Maputo Many of the large processors have established in-house manufacturing capability for their own packaging needs For example, all four major vegetable oil processors have installed (or are in the process of installing) blow molding equipment for making plastic bottles for their vegetable oil production Most of the large cashew factories in the North have installed machinery for vacuum packing cashew nuts in 5 kg tins, or shrink-wrapping packaged nuts inside a film of heavy plastic In general, the industry is on the verge of a renaissance fueled by increased economic activity and by the privatization of most State-owned factories involved in manufacturing packaging material

The following describes the current situation of the four major sub-components of the industry

3 7 2 1 Cardboard Box Manufacturing

The projected 1996 annual market demand for cardboard boxes in Mozambique is around 3,000 tons, which is double the 1,500 tons produced in 1995 By the end of the century, demand is projected to be around 5,000 tons By comparison, annual demand in South Africa is around one million tons The largest user of cardboard boxes in Mozambique is the citrus industry, which requires approximately 800 tons of boxes annually However, the citrus industry in Mozambique is affiliated with Outspan, the South Africa Citrus Board In South Africa, the industry benefits from low-cost cardboard boxes which are subsidized by the Citrus Board Citrus exporters in Mozambique are provided cardboard boxes by Outspan, since the Citrus Board markets all exports from Mozambique The imported boxes pay no duties as long as they are re exported containing citrus fruit Due to its large production volumes and its subsidy, Outspan can ship boxes into Mozambique at a price that local manufacturers find impossible to meet Other large users of cardboard boxes are seafood exporters, cashew exporters and vegetable oil manufacturers

The only box corrugating plant in Mozambique is owned by the company CARMOC This company was started in Maputo more than 20 years ago by the NAMPAC Group of South Africa The South African Group is one of the largest manufacturers of corrugated boxes in all of Africa NAMPAC is CARMOC s majority owner, holding 55 percent of the company A local company, MOPAC, owns the remaining 45 percent CARMOC has operated continuously, under private management since its creation The company imports kraft paper from South Africa which it laminates into corrugated cardboard sheets Most of the board is further processed by CARMOC to produce cardboard boxes but some 15 percent of the company's production is sold to Holdains a small competitor, which converts the board into cardboard boxes A fraction of CARMOC s output of corrugated sheets is supplied to its subsidiary in Beira CARBEIRA, which makes cardboard boxes for customers in the north of Mozambique With the exception of the boxes imported by the citrus industry, CARMOC and CARBEIRA control about 85 percent of the formal market for boxes in Mozambique

Even though CARMOC was privately operated under the socialist government, it did not remain free from government influence Pressure was applied by Government to make 'political" sales of boxes to State owned enterprises which were often unable to pay for the product received As a result, the company accumulated massive bad debts, which were "sanitized" with the assistance of Government in 1993 For the past two years, CARMOC has had an arms-length relationship with GRM, although since it is a quasi-monopoly it comes under intense scrutiny by government officials if for some reason it cannot produce sufficient quantities to meet its customer's needs

The company sees a steadily increasing demand for cardboard boxes for the next few years, and is optimistic about the future of the industry However it faces a myriad of problems, some which relate to its dominant position in the industry Its number one problem is that limited working capital severely constrains its operations While CARMOC's maximum credit line is equivalent to US $250,000, its average import order is around US $500,000 The limited available credit carries an interest rate of around 40 percent Credit needs may be heightened by an occasional lapse in payment, or by a slowdown in projected orders by one of CARMOC's customers As long as CARMOC believes that its customer is acting in good faith, it will work out a debt repayment program with them, and will continue to meet their entire requirement for boxes This puts an additional squeeze on CARMOC's financial position since it must maintain the full amount of inventory required for that customer, without receiving the equivalent cash payment A further problem is that under current bottlenecks and red tape required for imports, it is simply not possible to maintain a low paper inventory that can be replenished frequently Even though the paper is supplied from nearby South Africa, the time it takes for import licenses and permits, and the difficulty of obtaining letters of credit makes it necessary to import at least three months supply of paper at a time

To defend itself against high interest and the progressive devaluation of the Metical, CARMOC quotes prices in US dollars, convertible into Metical at the exchange rate in effect when the transaction is made It asks for 50 percent payment when the customer places an order and the remaining payment within two weeks after the order is delivered Late payments are charged interest of 1 percent per week

Another problem facing the industry is illegal imports, and informal trading in finished boxes made in South Africa The current structure of import duties on kraft paper, corrugated board and finished boxes is under revision by GRM, but the industry's (i e , CARMOC's) recommendation is to provide a level of protection to domestic manufacturers of 25 percent The following level of duties is recommended, and most likely will be approved, for the company's three products

Recommended Import Duties

Kraft paper	15 percent
Corrugated board	30 percent
Finished boxes	40 percent

In addition to import duties, box manufacturers are required to collect a turnover tax amounting to 10 percent of sales Finished boxes which are illegally imported and enter "informal" marketing channels avoid both duties and taxes since there is no record of their existence A similar, but less severe problem is that sometimes imports are declared, but at a value below cost In either case the imported products have an unfair cost advantage over local production

Company officials believe that the recommended level of duty protection is necessary because CARMOC's manufacturing operation is more costly and less efficient than similar plants in South Africa First, its costs are directly affected by import duties and the turnover tax Second, since CARMOC is the dominant producer, it must make a myriad of box sizes and types which tends to increase manufacturing waste and losses over what they would be if the plant were more specialized Finally the plant suffers from frequent stoppages and costly downtime due in part to the age and condition of its equipment and the skills and level of training of its workers Although manufacturing wages are low in Mozambique, this does not necessarily translate into low labor costs due to the relatively low skills and inherent inefficiency of the workforce Furthermore, training is expensive Due to language differences, Mozambican workers cannot be trained in nearby South Africa - instead they must be sent to far away Portugal

CARMOC's management believes the problem of illegal imports and insufficient protection of national manufacturers will soon be resolved Oversight of Mozambique's customs operations will shortly be "privatized" to a foreign company, and the GRM has indicated its willingness to collaborate with the company by establishing protective duties on imported material

3 7 2 2 Metal Containers

The only viable manufacturer of metal containers in Mozambique is Metal Box Co , also a subsidiary of NAMPAC of South Africa The company is located in Maputo Similar to its sister company, CARMOC, Metal Box is privately operated, although GRM as a minority shareholder Metal Box manufactures welded metal containers in a variety of shapes and sizes up to a capacity of twenty liters for diverse products such as condensed milk paint glue paraffin and cashew nuts Due to the high cost of transporting empty cans the company can serve only those customers located a short distance from Maputo The company has World War II vintage equipment which it manages to keep operating reasonably well Its entire production is only around 5 - 10 percent of rated output Annual sales amount to approximately US $500 000 With the recent opening of two new paint manufacturers and a pesticide factory in Maputo, the company expects an increasing demand for metal containers Modest growth in demand is also seen for the food processing industry The company plans to invest US $150 000 in welding equipment that will enable it to manufacture continuous seam, lead-free welded cans suitable for tomatoes and other food products

A second manufacturer of metal containers is Van Leer Industries located at Machava a few kilometers from Maputo Van Leer started in mid-1960 as the fully-owned subsidiary of a Dutch multinational company of the same name The factory manufactured large metal drums and tins larger than twenty-liter capacity In 1985 the Van Leer management team left Mozambique leaving the factory fully operational The Ministry of Industry intervened appointing an

administrative manager to manage the factory Without access to foreign exchange to purchase tin-plate, spare parts and equipment, the factory slowly sank into oblivion Van Leer is still operating with the same management and has a total of 150 employees However, it has little production except for an occasional order to manufacture a few dozen 50-liter drums Due to its inability to obtain raw materials for oil containers, the company recently lost its oldest customer, British Petroleum The GRM recently opened negotiations to sell the company back to Van Leer of Holland, its original owner

Due to the high transport cost of empty containers, there is little competition to manufacturers in Mozambique from illegally-imported metal cans For the same reason, however, a manufacturer located in Maputo cannot ship formed metal containers to the cashew nut processors in northern Mozambique Most of the northern cashew factories have their own manufacturing facility for turning tin-plate into metal containers Some have installed more modern equipment which produces 5-kg packages of cashew nuts in vacuum-packed, shrink-wrapped heavy plastic film

3 7 2 3 Plastics Packaging Materials

The plastics industry in Mozambique is composed of eighteen manufacturers, which, with the exception of three or four small producers, are located in Maputo With a larger number of participants, the plastics industry is more competitive than the other packaging subsectors Most manufacturers extrude plastic film that is printed and made into bags, sheets or wrapping materials Some of these manufacturers are small scale operators that produce exclusively for a particular market, such as garbage bags Others have injection molding and blow molding equipment which manufacturers a range of household and industrial products such as bottles, jerry cans, trash containers, toys, and even inexpensive plastic shoes The industry is characterized by a lack of quality control a marked absence of border control and the avoidance of duties on imported, finished products A particularly severe problem is that substandard plastic bags in South Africa are bought by informal traders and smuggled into Mozambique where they are sold at prices well below local manufacturing costs As is the case for other packaging material, the market for plastics material in Mozambique is small

The largest plastics packaging manufacturer is Topac, owned 65 percent by the Portuguese plastics giant of the same name The company began operating in September 1995 with the purchase of majority control of the Government-owned Implama plastics manufacturing facility Implama was the creation of the previous Socialist government which brought four separate intervened companies together into one manufacturing complex under single management Similar to other State-owned manufacturing facilities the combination of mismanagement lack of foreign exchange and limited working capital forced Implama into inactivity

Since it reopened the factory, Topac has concentrated on rehabilitating the factory building and grounds, which had seriously deteriorated under Government ownership It has also upgraded factory equipment, reestablished its product lines and in general placed the manufacturing complex on a businesslike footing The company has begun to manufacture dozens of plastic packaging and household products, including a wide assortment of plastic film, sheets, bags, heavy-duty roof covering bottles, jerry cans watering cans closed and open containers and plastic footwear

Topac faces stiff competition from illegal imports, particularly for plastic bags and film The company pays a duty of 7-1/2 percent on imported plastic resins as well as a wholesale circulation tax of 5 percent Some products, such as jerry cans pay a consumption tax of 20 percent as well Smuggled imported products, of course, pay no tax

Despite these difficulties Topac management is upbeat about the plastics industry, and expects to see a growth rate in production of 25 percent per year for the foreseeable future

3 7 2 4 Sacks - Woven fiber and/or Plastic Twine

By far, the packaging materials in greatest demand in Mozambique are large sacks, woven from material such as jute, sisal, or plastic twine Sacks are used for wholesale packaging (50 - 90 kg) of most commodities such as food grains, cassava, coconuts, copra, charcoal and most other products sold in truckload quantities There is no manufacturing facility for large sacks in the entire country At one time there was a factory which made sisal bags in Beira, but it ceased operating many years ago Currently all sacks used in Mozambique are imported, either new or used primarily from India Annual consumption is approximately 10 - 15 million sacks at an average cost of about US $1 00 each

3 7 3 MAJOR CONSTRAINTS TO THE PACKAGING INDUSTRY

The following constraints must be overcome for the packaging industry in Mozambique to develop

i) Economic activity and the production of goods must continue to increase to further expand the size of the market for packaging materials Presently, the market for most products is too small to support more than one manufacturer which negates the possibility of healthy competition Therefore, the small size of the market is a significant constraint

ii) There is little information available within Mozambique on the latest available packaging technology Furthermore, packaging equipment is generally antiquated and needs to be modernized

iii) As is the case for other economic subsectors packaging manufacturers are constrained by the lack of investment capital needed for plant renovation, as well as working capital needed for inventories and for accounts receivable It is no accident that most new investments in the packaging industry are made by foreign packaging companies, given their access to modern technology and foreign capital

iv) The lack of trained workers and technicians is another constraint to the packaging industry The educational system in Mozambique does not provide the basic skills needed in the manufacturing sector

v) A convoluted system of import duties overlapping circulation and consumption taxes and Government s inability to control illegal imports which pay no duties place legitimate manufacturers at a severe disadvantage compared

to informal traders These traders have the ability to flood the market with inexpensive plastic packaging material at a price lower than the cost of production in Mozambique

3 7 4 OPPORTUNITIES FOR PACKAGING INVESTMENTS

The following are examples of planned and potential investment opportunities in the packaging industry

i) CARMOC is studying the feasibility of investing in equipment to produce double-wall (lined) heavy-duty paper bags capable of holding 25 kilograms of food products such as flour, meal, or animal feed The bag would be formed from imported kraft paper and sewn shut, except for a specially constructed fill chute, or sleeve, sewn into the top of the bag After the bag is filled by the miller or animal feed mixer, the fill chute would be tucked inside the bag and glued shut CARMOC is interested in partners for what they believe will be a profitable and acceptable return on investment business

ii) Palmeloc, a recently privatized dairy cooperative will soon reopen in Maputo Daily production capacity of the rehabilitated plant will be around 20,000 liters of milk and milk products A second dairy is under construction, which will also serve Maputo, with a daily production capacity of 25,000 liters Metal Box plans to invest in blow molding equipment to produce high density polypropylene milk containers, one-half and one-liter size, and also 250-gram yogurt containers, to serve both dairies Metal Box is also seeking investment partners

iii) A plant to manufacture heavy duty woven bags, made from a combination of plastic and natural twine material such as jute or sisal, is under consideration by Mozambican Agency, Ltd , a manufacturer of quality clothing The factory would have the capacity to produce 10 million bags annually The company would begin production by cutting, forming and sewing bags from imported tissue material The second phase would be to expand into weaving the tissue material from imported twine The final phase would be to extrude plastic twine at the factory from imported poly resins, which would be combined with natural twine and woven into tissue material The company is interested in investing with a partner

iv) Future opportunities will become available on a selective targeted basis as other manufactured and processed products evolve from an expanding economy Likely opportunities would be waxed boxes used by exporters of fish and shrimp freezer bags for frozen food products and UHT packages for milk

3 8 Other SAEDF Investment Opportunities in Mozambique

As in Tanzania several specific investment projects were encountered in Mozambique which are recommended for follow-up action by SAEDF A summary description of the potential projects and the name, address and telephone number of each potential investment partner or potential beneficiary of SAEDF's microenterprise development funds are shown in Annex D, Section 4 0 In addition to those projects the following specific projects are suggested

- Mr Yunus A Gafar of Gani Commercial, Ltd in Nampula has a chicken-and-egg operation with 8,000 breeding and laying hens His company would like to expand into poultry broiler production and to start a poultry feed operation using locally grown maize as its primary input The company is looking for an investment partner in its new operation

- Messrs Joao Serrano and Jose Alcobia are the driving force behind Frutisul, a Maputo-based association of fruit growers that has seventy members Frutisul provides technical services to its members and guards their interests in dealing with government officials During the 1995-96 season these two entrepreneurs made trial shipments of exotic fruit to South Africa, from the Vandezi area located in the highlands along the Beira corridor Based on successful trial shipments they would like to develop an integrated fresh fruit export operation which would produce and ship seasonal fresh fruit on a year round basis to regional markets Private growers affiliated with Frutisul would provide fruit to the export company Fruit which has been grown in the area includes lychee, mango, papaya avocado and strawberries The two partners are seeking external financing for their export business

3 9 Linkage Between SAEDF and International Donors

SAEDF s impact in Mozambique will be greatest if it can find a means to leverage its efforts by working closely with the international donor community, in particular, USAID SAEDF's primary objective of expanding indigenous business development and ownership is most closely aligned with USAID/Mozambique's Strategic Objective No 1, which is to increase rural household income in its targeted areas of Mozambique's northern provinces USAID expects that three major accomplishments will result from its efforts to achieve this Strategic Objective a) access to markets will be increased, b) rural enterprises will be expanded, and c) agricultural output will be increased

USAID s programs in the rural/agricultural sector include the provision of food aid, infrastructure development (particularly roads and commodity imports) a variety of grassroots interventions, and implementation of policy reform particularly as it relates to agriculture marketing and pricing policy and to land tenure

Its partners in this work have been the Land Tenure Center on land access and Michigan State University on agricultural pricing and marketing issues A number of PVOs and NGOs are in the final phase of their work with USAID on emergency programs and the resettlement of refugees and internally displaced households They are now beginning to work on market development increasing rural business activities and increasing agricultural output through the use of inputs, extension adaptive research These institutions have worked with USAID for many years and are strong potential partners for achieving SAEDF s objectives of private sector development and ownership, particularly for microenterprises

In those areas where its interests coincide, SAEDF should consider leveraging its efforts by linking with other donors While SAEDF's primary objectives are return of principal and return on investment, it could leverage its efforts in microenterprise development by working closely with the USAID Missions within the region, and local PVOs In addition, these organizations could provide a valuable service to AISME development by acting as a conduit for information and by referring promising investment opportunities to SAEDF

A summary of other donor activities is shown in Appendix A, Section 5 0

3 10 The Financial Sector in Mozambique

3 10 1 THE MACROECONOMIC ENVIRONMENT

During 1995, the money supply increased rapidly in Mozambique mainly as a consequence of excessive Central Bank lending to the two state owned banks This resulted in higher than anticipated inflation during the year (around 55 percent) Efforts by the smaller of the two state owned banks (Banco Popular de Desenvolvimento) to completely repay its overdraft by the end of April, combined with efforts by the larger state owned bank to contain its Central Bank borrowing has led to a reversal of this trend in the early part of 1996

Although credit policy is theoretically restrictive under the IMF imposed system of credit ceilings, in practice, that has only applied to the private banking sector, with the two state banks continuing to have unlimited access to essentially costless overdraft financing from the Central Bank The privatization of Banco Comercial de Moçambique (the larger of the two state owned banks) at the end of June 1996 to a Portuguese banking consortium (led by Bank Mello, the prime investor in MINCO, the Venture Capital Fund described in 3 10 2 5 below) and the projected privatization of Banco Popular de Desenvolvimento by the end of December 1996, will effectively stop this process -- and credit conceivably could become more difficult to obtain throughout the system Nonetheless, within the context of a rapidly evolving financial sector, including new private sector entries and the privatization of all the government-owned banks, there is also likely to be a realignment of credit allocations This is likely to have a more beneficial impact on the private rather than the public sector -- and this is certain to more than counter balance any impact in reduced credit to the economy flowing from the privatization of the two state banks

3 10 2 THE FORMAL FINANCIAL SECTOR

The following section profiles the most important participants in the Mozambique formal financial sector

3 10 2 1 Central Bank

The Banco de Moçambique plays a regulatory role for the formal financial sector This includes approving credit allocations for financial institutions and special programs such as those dealing with pre export commodity finance and

micro finance initiatives Banco de Moçambique also manages a micro finance scheme the Program for the Development of Small and Medium Enterprises (PDPME) described elsewhere in this report (See 3 10 4)

3 10 2 2 State-owned Banks

Banco Comercial de Moçambique (BCM) was created in 1992 following the division of the Central Bank into two institutions the Banco de Moçambique, which is charged with purely regulatory, classic Central Bank functions, and BCM, which is the country's largest financial institution, controlling 75 percent of the credit in circulation through nearly 50 branches and offices throughout the country

BCM has suffered from many of the weaknesses noted in state-owned financial institutions elsewhere in the developing world large inefficient staff, high recurring expense levels, poor internal management controls, including lax loan collection efforts leading to an unacceptably high level of nonperforming assets, and so on BCM is slated to be privatized by the third quarter 1996 It is interesting to note that while many foreign bank groups (from South Africa, the Netherlands Portugal) examined the tender documents only one foreign bank consortium made a bid The presumed winning bidder Banco Mello is a small but well-regarded Portuguese banking group It seems quite likely that the privatization of BCM will involve some degree of disruption to the banking sector as staff levels are reduced, branches closed, and new management policies and procedures are put in place

The Banco Popular de Desenvolvimento (BPD) is the state-owned development bank It has the most extensive branch network in Mozambique with about 160 offices nationwide, including many located in large rural towns These branches function more as savings mechanisms however, and to a lesser extent as a facilitator of financial transactions for local governments and NGOs With few exceptions loans are not approved or disbursed at these rural branches, as loan requests are submitted directly to branches in provincial capitals, the majority of loan decisions are made by BPD headquarters in Maputo even those related to supposedly decentralized micro finance schemes BPD's extensive involvement with various micro finance programs is detailed elsewhere in this report (See 3 10 4)

3 10 2 3 Commercial Banks

The Portuguese Banco de Formento e Exterior (BFE) has a representative office in Maputo, and is primarily engaged in trade finance Given the system-wide liquidity crunch in local currency BFE's lends primarily in dollars to companies that can generate dollar proceeds The consolidated BFE group is itself in the process of being privatized with 20 percent of its capital being sold to investors in 1995 Total assets for BFE as at December 31, 1995 were PTE 1 7 billion (US $ 11 3 million)

Banco Internacional de Moçambique One of the most interesting recent developments in the financial sector in Mozambique has been the opening of the Banco Internacional de Moçambique (BIM) which was incorporated in February 1995 and opened for business on October 25 1995 With initial capital of US $ 10 million ownership is as follows

Banco Commercial Portugues	50 0 %
Government of Mozambique	17 5 %
Inst Nat Segurança Social	15 0 %
EMOSE	12 5 %
FDC	5 0 %

Two branches are located in Maputo and one in Beira planned expansion calls for branches in all provincial capitals In addition to its geographic coverage BIM has already begun to offer a wide range of services, many of which were previously unknown in Mozambique These innovations included the first Automatic Teller Machines (six total) and the issuance of Multi-Bim debit cards for use in point-of-sale machines in local hotels and larger commercial establishments Other innovations include paying interest on sight deposits and the first bank in Mozambique to have a unique SWIFT (Society for Worldwide Interbank Financial Telecommunications) address to facilitate international money transfer transactions

BIM's parent bank, Banco Commercial Portugal (BCP), was the first completely private sector bank in Portugal In 1995 it bought another Portuguese bank active in Mozambique, Banco Portugues do Atlantico and the combined banking group now accounts for 25 percent of total banking assets in Portugal Total assets for BCP as at December 31, 1995 were PTE 5 4 billion (US $ 36 million) BCP has assisted BIM through staff training, the secondment of personnel in crucial areas (e g , operations and Treasury), and development of MIS technologies BIM has been quite aggressive in lending to qualified companies and individuals BIM plans to expand its range of services to include leasing and the establishment with its parent of a venture capital investment fund Total assets for BIM as at December 31, 1995 were MZM 203 million (US $ 19 million)

Banco Standard Totta (BST) is the oldest and largest private commercial bank in Mozambique Its heritage goes back more than one hundred years as part of the Standard Chartered network (its headquarters is the original bank building that was located near the old port of Maputo to facilitate the storage of gold, ivory and diamonds prior to shipment), and has been incorporated in Mozambique for more than thirty years Last year Standard Chartered sold its shareholding to Standard Bank Group of South Africa (Stanbic) Current ownership is as follows

Banco Totta & Açores	45%
Stanbic	40%
Other	15%

BST offers a full range of commercial banking services and has an extensive branch network in the provincial capitals Total assets for BST as at December 31 1995 were MZM 1 2 billion (US $ 110 million)

Equator Bank is a fully-owned subsidiary of the Hong Kong Shanghai Bank Corporation (HSBC), one of the world's premier banking groups with more than 3 000 offices in 71 countries worldwide Equator specializes in trade finance and other merchant banking activities in Africa Last year in Mozambique, for example, it arranged a significant portion

(US $ 11 million) of the pre-export finance needed for the annual cashew crop, with the proceeds split evenly between exporters and processors Since Equator does not accept deposits all financing is done through the Central Bank, whereby Equator places US Dollars on deposit offshore and the Central Bank makes available local currency for lending and is repaid with the dollar proceeds of exports This arrangement limits the range of transactions that Equator can undertake in Mozambique Total assets for HSBC as at December 31, 1995 were UK £ 226 billion (US $ 352 billion)

3 10 2 4 Cooperative Savings Banks

CREDITCOOP On June 28, 1995, the Cooperativa de Credito e Investimento (CREDICOOP) was inaugurated by President Chissano This new financial institution will be based on the cooperative savings and loan model found throughout the world For a US $50 fee, members can enjoy a full range of commercial banking services In addition to individual members capital and initial equity of MZM 100 000 the International Finance Corp is studying the possibility of investing in this venture CREDICOOP's target markets are those commercial and retail clients who may not currently be active in the formal financial sector or those clients who are dissatisfied with the services offered by other banks, notably BCM It will offer a range of services including savings accounts credit extension and money transfers

3 10 2 5 Venture Capital Funds

The Mozambique Investment Company (MINCO) was established in September 1995 as an investment fund with an initial capital of US $15 million The promoters of this venture are Banco Mello (60%) and Oceanus (40%), a Portuguese shipping firm Banco Mello is a Portuguese bank that is leading a consortium to buy the soon-to-be privatized Banco Comercial de Moçambique MINCO will remain a completely separate organization However, its stated investment priorities include natural resource companies, transportation and privatized state-owned enterprises It should be noted that the Commonwealth Development Corporation is considering an investment in MINCO of US $500,000

3 10 2 6 Leasing Companies

ULC Moçambique is a lease finance company organized by EDESA, the Swiss-German investment company supported by a number of European development organizations ULC Mozambique ownership is as follows

EDESA	30%
CDC	15%
PROPARCO	15%
ULC Zimbabwe	15%
Local investors	25%

EDESA has established similar leasing companies in other African countries notably Zimbabwe, Malawi and Botswana

Last year EDESA assisted the Government to revise the laws governing lease finance transactions, and consequently lease financing now offers borrowers in Mozambique a number of advantages

- Equipment rental payments (both capital and interest) are tax-deductible,
- Equipment is exempt from sales tax,
- Purchase of the residual value of the equipment is exempt from sales tax, and
- Agricultural, transport and industrial equipment under lease is exempt from import duties

The ULC group is experienced in working with donors to establish programs tailored to the equipment finance needs of small entrepreneurs In Malawi, ULC works with a donor to finance the leasing of refurbished fuel delivery trucks Lease payments are tailored to provide sufficient profits for small entrepreneurs who operate these trucks, and at the end of the lease the operators can purchase the vehicle outright for either cash or credit, having built up a credit history during the lease period and using the equipment as collateral In Mozambique, ULC is in discussions with the World Bank regarding participation in the Bank's road rehabilitation program Under this scheme, trucks, bulldozers, graders and other equipment needed to maintain roads would be refurbished, and the equipment leased to small entrepreneur owner-operators Fees earned from ongoing road maintenance would cover lease payments, with a profit to the equipment operators At the end of the lease term, equipment operators would be able to purchase the residual value of the equipment for a nominal sum

3 10 3 FINANCIAL ANALYSIS OF THE BANKING SECTOR

The banking sector in Mozambique is about to undergo profound changes with the impending privatization of BCM (the largest bank in the country) and BPD (the bank with the country's most extensive branch network) Speculation as to the changes in these institutions resulting from privatization is not warranted Nevertheless, it can be generalized that the formal financial sector is in a period of expansion and increased competition This is evident in the formation of new institutions (BIM, CREDICOOP) and leasing and investment vehicles (ULC and MINCO) BIM's aggressive marketing of credit and retail services (including the first ATM and debit cards) has made existing banks uneasy As the economy continues to improve from further liberalizations, it can be expected that additional banks, both foreign and new domestic institutions, will enter the banking scene

A financial analysis was made of the active banks in Mozambique under the criteria of Liquidity and Capital Adequacy, and Profitability It was not possible to measure loan asset quality in the Mozambican banks The analysis also included the parent of Banco Internacional de Moçambique Banco Comercial Portugues even though BIM is well capitalized The parent banks of Standard Totta are not included as Standard Totta is the country s oldest most established and biggest private sector bank Comparable figures for the bank ratios were not included given the wide range and size of the active banking institutions in Mozambique

The results of the analysis are presented in Appendix A Section 6 0 The following is a summary of the findings

i) The two incorporated banks in Mozambique, BIM and Standard Totta are rather over liquid, this is due to the lack of viable credit opportunities This is shown in the first ratio, the high percentage of cash and near cash to deposits and the second the low percentage of short term loans to total deposits The liquidity and coverage ratios for the two Portuguese banks BFE and BCP are closer to the norm for these ratios

ii) Banks in Mozambique should be highly profitable, given the enormous interest spread on loans compared to the negligible interest paid on deposits This may change as BIM has increased both fees charged to customers for services and amounts paid on deposits Hong Kong Shanghai Bank exhibits model efficiency and profitability ratios

3 10 4 MICRO FINANCE ACTIVITIES

There has been a proliferation of micro finance schemes recently in Mozambique aimed at the creation of small businesses owned by disadvantaged groups such as women and demobilized soldiers While many of these projects have been relatively unsuccessful there have been a number of undertakings that have had a significant positive impact on the burgeoning informal economy Collaboration and information-sharing regarding best practices among the NGOs active in micro finance is emerging through organizations and forums such as LINK This dialogue and collaboration has encouraged both domestic and foreign NGOs to explore the establishment of a mechanism to assist in coordinating micro finance efforts ensuring that sound practices are being followed and providing some connection with the formal financial sector

The following is a brief description of several of the micro finance initiatives currently underway in Mozambique, a discussion of their relative success and what lessons they provide

The Institute for the Development of Local Industry (IDIL), a Government agency was established in 1988 to provide training and technical assistance to small industry IDIL managed a UNIDO initiative during the period 1991 - 1993, funding difficulties have plagued IDIL after an evaluation found the project to suffer from poor management It is widely acknowledged that IDIL provincial delegates were notorious for offering false promises of credit to small businessmen, even though IDIL itself is not a funding agency Current efforts focus on training and project management activities in collaboration with other NGOs Its "Improve Your Business" courses are thought to be good and to-date have trained nearly 3,000 small businessmen, in this activity IDIL is collaborating with FFPI (below) in assisting entrepreneurs in preparation of business plans

The Fund for the Promotion of Small Industry (FFPI) was launched in 1990 but has remained non-operational until the Swedish Development Agency redesigned this undertaking in 1993 FFPI has targeted the larger end of the SME client population with up to 25 workers and fixed assets valued to $100 000 FFPI does not provide the client any technical

assistance, but rather refers them to organizations such as IDIL Loan amounts may be up to the equivalent of US $50,000, fees are required to evaluate loan requests, and the loan interest rate is positive in real terms at 48 percent (cost of funds from the Central Bank is currently 46 percent) An interesting aspect of FFPI's lending approach is that the client gives them power of attorney, allowing for the seizure of collateral in case of nonpayment without resorting to the legal system Currently FFPI has a pipeline of 25 projects with a value of US $350 000, including animal husbandry, timber fishing textiles and cosmetics production

The GPE/GTZ Microenterprise Project This project, funded by the German development agency GTZ, with the participation of Gabinete de Promacao des Empesas offers a good model for micro finance in Mozambique and elsewhere The project is located in the urban areas of Maputo and Beira and provides the applicant with both training and other forms of technical assistance and credit Loans are granted only after a series of interviews with the applicant, as well as completion of a personal "balance sheet" detailing assets, liabilities and loan repayment sources The case officer makes further background inquiries regarding the applicant, e g , their available collateral Loan collateral must be pledged to the project and notarized, in case of non repayment collateral is seized quickly, and with no legal delay This is in sharp contrast to other credit schemes where lenders often complain about the cumbersome, slow and capricious legal system (and one that is easily influenced in favor of the borrower) There were 1,300 loans with total outstanding more than $ 400,000 as at December 1995 Repayment rates were more than 75 percent "on time" with only one complete write-off This is an improvement from previous repayment rates of less than 50 percent One reason for the improvement is the reconfiguration of the project whereby the compensation of case officers (with an average caseload of 80 loans) is now directly tied to their clients' repayment The best case officer has a repayment rate of more than 90 percent on time, yielding a monthly salary bonus of MZM 1 8 million (US $ 150 - nearly two times the average yearly per capita income in Mozambique)

The GTZ component has encountered a roadblock in personnel matters, controlled by the local counterpart GPE Consequently GTZ is in the process of forming an additional Credit Institute which will focus solely on the provision of credit without any training for the applicant, as is now the case with the current GTZ/GPE project This initiative seeks to become a "Banco de Casa," fulfilling all the financial service needs of small entrepreneurs The project will be developed in three stages credit to SMEs provision of other forms of credit, for consumption, medical care etc , and finally, deposit taking, which will allow a much greater expansion of the funds available for credit Initial capital will come from three sources The Ministry of Labor the União Geral das Cooperativas, and the Conselho Chrisão de Mozambique, with technical support from GTZ

GAPI, Ltda is a limited liability joint venture between the BPD and the Frederich Ebert Foundation It has been in existence since 1984, and provides credit to rural small and medium size industries on somewhat more concessionary terms and with less bureaucracy than could be obtained through the formal banking sector Its activities are concentrated in Maputo Province and it lends to clients engaged in such activities as agriculture building materials, fishing, and food processing It has provided some 300 loans during the period

The most important consideration when regarding GAPI as a potential micro finance partner is the impending privatization of its main investor BPD One strong possibility is that GAPI will take over the management of some of BPD's branch network the most extensive in the country The main concern with this scenario is that GAPI does not have the management capacity to manage commercial banking operations GAPI is in conversations with large private sector firms here (JFS and Entreposto) about an additional investment which would serve to augment its capital base and provide the means to obtain technical assistance for an expanded scope of operations

Another issue is the fact that GAPI's clientele has tended to be larger small firms (10 - 50 employees) and not micro enterprises per se GAPI has responded to this by noting that it will seek to work with other NGOs (such as World Vision) to satisfy the credit needs of these micro firms

The Program for the Development of Small and Medium Enterprises (PDPME) is a program managed by the Central Bank that lends to participating banks for on-lending to small enterprises, the majority of whom would not otherwise have access to banking system credit The project is supported by credit lines in excess of US $50 million from the World Bank EIB, and the Caisse Française Credit is used primarily for import of machinery and spare parts by medium-sized firms which lack foreign exchange The project is currently being redesigned due to lengthy delays in credit approval and issuance of letters of credit The project has had an extremely high default rate well over 80 percent of the loans are not repaid, due in large part to inefficiencies and lack of follow up at BCM, the key bank in this scheme

The Office for the Promotion of Small Entrepreneurs (GPPE) is a loan guarantee fund (US $400,000 contributed by the Caisse Française) designed to stimulate lending by the state development bank (BPD) to microenterprises This project has suffered due to a cumbersome approval mechanism, inefficiencies at BPD and lack of project marketing (including within BPD) It is currently being reformulated

Caixas Locais (Caisse Française & Banco de Moçambique), and the Pilot Micro Finance Fund (World Bank & Banco de Moçambique) A credit unit within the Central Bank is managing these two projects The first, funded by the Caisse Française de Developpment at FF 30 million (US$ 5 6 million), will attempt to establish community-managed Caixas Locais effectively becoming small credit unions This initiative will cover the provinces of Maputo and Cabo Delgado These caixas will mobilize savings which will then be relent to the membership There will be an important technical assistance component of this project, since it will be managed by members of the credit unions themselves This TA will be provided by a well-regarded French NGO Credit Mutual, which has a very good track record with similar projects in a number of African countries

The second initiative is equally interesting and important for micro finance in Mozambique The project will be funded by a line of credit from the World Bank (US $ 13 million according to the project director, a lesser amount according to other sources) that will be channeled through formal sector financial intermediaries (at a subsidized rate) for on-lending to micro clients at market interest rates Additional donor support has been proposed for technical assistance for emerging

financial intermediaries (such as CREDICOOP) This initiative is interesting in that it will seek to foster the development of new financial institutions and encourage existing financial institutions to become more involved with micro lending

World Relief village banks World Relief operates a village banking scheme in Gaza Province The target group is female heads of households, which currently account for 82 percent of more than 2,172 clients in 67 groups, varying in size of between 15 - 40 members A community bank is formed with a president, secretary and treasurer Initial startup capital is $1,000, initial group loans of meticais equivalent of $25 are repaid by weekly installments for 16 weeks with interest rates of 24 percent (72 percent per annum) Savings are voluntary and paid 12 percent interest Total loans outstanding as at April 1996 were $174,000 equivalent, savings amounted to $25 000

The key to the success of the Village Bank approach is group solidarity Once loans are fully repaid by the group, additional loans (and increased amounts) may be granted If the loan is not repaid on time, with the required interest all members of the group are precluded from further loans All loans are monitored by a computerized tracking model Until recent floods affected the region and caused widespread damage and economic disruption, repayment rates were nearly 100 percent

World Vision As part of its Agricultural Recovery and Development Program, the American NGO World Vision has initiated a credit program in Zambezia Province designed to assist in the commercialization of agricultural products Credit is extended to farmer groups through the existing network of agricultural extension agents Activities supported have included such things as the rental of tractors or oxen for land cultivation, rental of a truck for hauling coconuts to market and returning with cassava and maize for sale, buying livestock (goats), purchase of cassava for milling into flour and retail sales The interest rate charged has been 1 5 percent per week, yielding an annual interest rate of 72 percent Repayment rates have nearly been 100 percent

World Vision seems well aware of the pitfalls of using agricultural extension workers to act as credit agents, and have prepared a project proposal to establish a stand alone credit unit with a unique staff that would receive training in credit analysis and loan management and other technical subjects This proposal is very well articulated and USAID/Maputo is currently evaluating it

Cooperative League of the USA (CLUSA) is active in forming village and farmer associations which then may participate in credit programs sponsored by organizations such as World Vision for example This partnership will assist these associations through commercialization of agricultural products cash management and monitoring loan repayment

CARE has designed two micro finance programs, one in the Nampula-Nacala corridor and one in the Manica-Sofala region Both are in preliminary stages CARE does provide hand oil presses on credit, which are repaid within 60 days

3 10 5 OTHER INVESTMENT ACTORS

The Centro de Promoção de Investimentos (CPI) was established pursuant to the new Investment Law approved in June 1993, and charged with facilitating and promoting foreign private sector investment in Mozambique This Law was built upon previous efforts to liberalize inward foreign investment (Law 3/93) The most important features of this Law and its regulations (Decrees 12/93 and 14/93 of 21 July 1993) are the following

- Guarantee of transfer abroad of profits on investments, royalties depreciation, compensation for nationalization, and invested foreign capital, and

- Fiscal benefits including 50 percent reduction of Industrial tax for 10 years and a tax deduction for investments in equipment and training expenses for indigenous workers

The CPI has recently undergone restructuring including the replacement of the Director with an individual with a greater understanding of the private sector An Assessment Commission has been formed to act as an advisory body for the CPI and includes members of the private sector Finally branch offices of the CPI have been opened in provincial capitals to assist in investment identification and liaison with private sector investors Limits have also been established that will attempt to ensure that the approval process does not exceed one month in duration

Total investment authorized by the CPI between March 1985 and March 1996 was nearly US $1 5 billion In 1995 166 projects were approved with a corresponding value of US $277 million, for the first three months of 1996 the CPI has approved 71 projects with a value of US $91 million

Unidade Tenica para a Reestruturação de Empresas (UTRE) As part of comprehensive economic reforms currently underway the Government passed legislation enabling the sale of state owned assets beginning in 1989 The Technical Unit for Enterprise Restructuring (UTRE) was formed in 1992 within the Ministry of Finance to coordinate the sale of larger state enterprises Since the inception of the privatization program, more than 600 enterprises have been restructured and sold While more than 90 percent of all enterprises privatized in Mozambique have been bought by Mozambican entrepreneurs and companies nearly 50 percent of the equity has come from foreign investors notably from Portugal, South Africa, UK Netherlands, and other African countries

Mozambique's privatization program has to-date been one of the most successful in Africa During the period January 1994 to May 1996 proceeds from sales totaled US $72 million and nearly US $153 million of new investment in plant and equipment is planned to be disbursed over the next ten years

3 11 Recommendations for SAEDF Intervention in Mozambique

3 11 1 COMMERCIAL BANK PARTNER

It is essential that SAEDF select a commercial bank partner in each country in which it intends to make investments Commercial banks offer the SAEDF a range of services, including

- Client identification credit analysis and management evaluation,
- Ongoing client monitoring,
- Account maintenance,
- Custody and legal services, and
- Additional financial resources

It is recommended that SAEDF select the Banco International de Moçambique as its commercial bank partner in Mozambique BIM has been both aggressive and creative in offering a range and quality of service to commercial and retail customers heretofore unknown in the Mozambican banking market BIM has a solid parent bank, Banco Comercial Português, that can offer additional services to an SAEDF client such as assistance in export markets, should it be required BIM anticipates offering lease financing services in the near future and is exploring the possibility of establishing an Investment Fund with its parent bank group for investments not only in Mozambique, but elsewhere in the region BIM also plans to expand its branch network to all provincial capitals in Mozambique In addition the SAEDF Board member from Mozambique, Dra Graça Simbine Machel, is also President of BIM's General Assembly

Banco Standard Totta is the largest private sector bank in the country, and a member of a quality regional banking power, Standard Bank of South Africa Should SAEDF conclude a master, regional agreement with Stanbic to provide services in a number of countries, then it would be logical to include Standard Totta as the commercial bank partner in Mozambique Lacking that master agreement, however, Standard Totta, while a quality bank, does not cater to the presumed client group of SAEDF, and in all likelihood would not aggressively focus on this business going forward

3 11 2 VENTURE CAPITAL / LEASING PARTNER

SAEDF should consider an investment in the new venture capital fund MINCO While a new undertaking, the promoters of MINCO are familiar with Mozambique and are pursuing an appropriate investment policy It should be determined whether or not the CDC goes ahead with its proposed investment of US $500,000

SAEDF should also carefully consider working with ULC Moçambique, the leasing company This group has had great success providing affordable equipment finance to small entrepreneurs in other southern African countries That record

of accomplishments coupled with the favorable legislation and tax benefits governing lease finance transactions, presents a clear opportunity for SAEDF to work with an effective lease finance organization

3 11 3 MICRO FINANCE OPPORTUNITIES

As noted in the discussion of the various micro finance initiatives underway in Mozambique, there is an excellent opportunity for SAEDF to have a direct positive impact on these important efforts to stimulate and assist small entrepreneurs In April of this year the United Nations Capital Development Fund proposed the development of an organization called APEX that would

- Provide liquidity to existing local and viable micro credit organizations,
- Establish permanent borrowing/lending links between local credit intermediaries and banks,
- Selectively assist the creation of micro credit and banking operations, and
- Provide technical assistance for micro credit operations

APEX would also establish standards for micro credit operations and provide "accreditation" in terms of staff qualifications, credit policies and procedures, and so on APEX would provide funds or guarantees to banks which would then lend - at commercial interest rates - to "accredited" NGOs and other micro credit operations, that would be responsible for on-lending to small entrepreneurs and subsequent loan repayment

This notion of APEX or a wholesale micro finance mechanism, is a direct outgrowth of the existing collaboration between micro credit practitioners and the perception that there is a need for a vehicle to establish minimum program standards (market interest rates, loan analysis, collection procedures, etc), especially given the current and anticipated proliferation of micro credit programs SAEDF can play an important leadership role in the evolution of this concept by investigating the possibility of providing direct or indirect funding to APEX (such as guarantees to participating commercial banks), as well as technical assistance for individual micro credit programs who would form the constituents of the APEX

3 12 Summary of Conclusions and Recommendations

3 12 1 CONCLUSIONS

1) Despite numerous problems and constraints Mozambique's situation is far from bleak With peaceful reconstruction of the nation against a backdrop of economic liberalization and a massive privatization program covering a range of State-owned enterprises Mozambique appears poised for strong economic recovery Parts of the country Nampula in particular have a real boom town" feel A favorable economic environment rich agronomic potential along with the need to rebuild the productive assets of the country destroyed by war is creating investment opportunities in almost all agribusiness related subsectors

ii) Mozambique has a favorable investment code with important tax incentives which encourage business development, particularly outside the urban centers Investors and business entrepreneurs, both national and foreign, are encouraged and made to feel welcome

iii) Many constraints still exist to AISME development The most severe is the difficulty and cost of moving goods, particularly in a north-south direction Even primary roads are at best, difficult, and during rainy periods, many roads become impassible This naturally increases the time and cost of moving freight overland The rail system was constructed by the Portuguese along east-west corridors to serve Mozambique's landlocked neighbors and the large agroindustrial countries operating within the corridors The rail transport system is considered unreliable for the secure movement of goods, and generally mismanaged After years of deterioration under Government mismanagement, the intercostal shipping service appears to have hit bottom With increased competition and private ownership, coastal shipping may slowly begin to improve The ports are also major bottlenecks Security is unreliable, they are too expensive, and their equipment is inadequate for the rapid loading and discharge of goods

iv) The non availability of finance is another constraint to AISMEs The discipline of economic stabilization and IMF-dictated tight money policy has severely limited the availability of bank credit Investment credit for long term agribusiness projects is simply not available within the financial sector Working capital financing, such as a bank overdraft facility is only available to large traders and to long-established manufacturers, many of which are owned in part by Government

v) Government policy and its regulatory framework are in a state of flux Agricultural policy is still being written, and land tenure is uncertain The Government routinely sets minimum farm gate prices for many agricultural commodities, but has no intervention strategy to support the minimum price Nor does ICM, the Government's purchasing agency, have the financial capability to intervene in the market to support prices below the minimum Minimum farm prices are a political statement and a hindrance to efficient marketing

Practices followed by many Ministry officials are still based on the socialist system For example, obtaining import/export and business operating licenses is a major hurdle, and is nearly impossible unless the requestor has a personal friend within the bureaucracy Most procedures for licenses and permits are generally not well known are not published and are not transparent Not only are licenses difficult to obtain but many are prohibitively expensive compared to the earning power of the individual (for example an electrician s license costs $20 - a half month's wages) with the result that a large portion of commercial trading and services never emerges from the informal sector Control systems on private businesses by the Ministry of Work, Ministry of Health and Ministry of Commerce are very much intact Employee rosters, time worked employee health certificates and a myriad of other information must be available for inspection at a moment's notice

vi) The country's fiscal system is another problem especially for importers The customs code is exceedingly complex, with a proliferation of product categories The structure of import duties is confusing and lends itself to abuse

Smuggling and under invoicing of imports are common which give an unfair advantage to traders and constitute a major threat to legitimate manufacturers

Another hurdle is the cascading "circulation tax" whereby every transaction in the distribution chain from factory to the ultimate consumer is taxed 5 percent on the sales value It is difficult to get a clear picture of how collections are administered and the implication is that the tax is widely ignored Some products carry a sales tax in an amount which varies according to the product category Its collection also appears spotty

vii) Another constraint to AISME development is the basic structure of commerce and industry in Mozambique Many monopolies or quasi-monopolies remain from the colonial period They were linked with Government and flourished under socialism Even today, they continue to be encouraged and supported by Government While the State is no longer involved in company operations, in each province there is a small group of companies and individuals linked to Government that controls most economic activity The single exception is in Manica, where open competition has resulted due to competition from Zimbabwe In this system of near-monopoly control, it is difficult for new AISMEs to gain a foothold

viii) Manufacturing technology for agro processing and packaging is generally antiquated and noncompetitive with regional manufacturers

Many factories are World War II vintage, and operated during the socialist years under controlled prices and with borrowed working capital Many factories closed after their original owners left Mozambique and were subsequently administered by Government-appointed managers While many are in remarkably good condition for the age of their equipment output is limited by frequent stoppages and inefficient operations Limited availability of finance makes their renovation unlikely In cases where the factories are owned by foreign entities, there is a "wait and see attitude about making further investment The postwar emerging market for most manufactured goods is limited and many industries have excess capacity

A related problem is that in many instances factory workers and even technicians are ill-prepared for factory operations Managers complain that the technical training provided by public schools is deficient For efficient operations costly overseas training of technicians is often required

3 12 2 RECOMMENDATIONS

i) In considering potential investments in Mozambique, SAEDF should consider five high-opportunity subsectors, and four secondary contenders as follows

Recommended Subsectors

High-opportunity Subsectors	Secondary Subsectors
Cashews	Horticulture
Coconuts	Livestock, poultry
Edible oils	Dairy
Food grains	Animal feed
Packaging	

ii) Specific investment opportunities are recommended for consideration by SAEDF in the packaging industry and for the export of coconut wood products SAEDF's involvement in microenterprise development is recommended for small-scale bakeries edible oil pressing, coconut oil pressing for village-level soap making and a small farmer outreach program for copra exports in collaboration with a large exporter It is recommended that SAEDF contact the potential entrepreneurs and participants listed in Appendix A, Section 4 0 to further explore these opportunities

iii) It is essential that SAEDF select a commercial bank partner in each country in which it intends to make investments It is recommended that SAEDF select the Banco International de Moçambique as its commercial bank partner in Mozambique

iv) SAEDF should consider an investment in the new venture capital fund MINCO, and should also consider investments with ULC Moçambique, the leasing company

v) SAEDF should play a leadership role in the evolution of micro credit programs in Mozambique by providing direct or indirect funding for APEX wholesale micro finance mechanisms

vi) It is recommended that SAEDF and USAID/Mozambique collaborate on microenterprise development programs, particularly in the northern provinces where USAID is involved USAID development activity could be leveraged by microenterprise credit provided by SAEDF, particularly if a PVO such as World Vision or Care were contracted to administer the program An example of how this collaboration might produce excellent results would be in the proposed small farmer outreach program for copra production and exports

vii) It is recommended that USAID/Mozambique follow through on maize exports from the northern provinces

viii) It is recommended that USAID/Mozambique develop a long range program for the rehabilitation on the cashew industry by supporting the creation of a Fund for cashew development, to be carried out by the industry itself

Appendix A - INFORMATION REFERENCED IN THE REPORT

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1.0 Dry Roast Cashew Processing Overview[10]

1 1 CASHEW PROCESSING

Cashew nuts are grown in many tropical countries of the world They are processed both at small and large scale with decorticating (or cracking) operations being carried out manually and mechanically

NRI has been involved with cashew research and processing operations for many years During this time, a mechanized decorticating system was developed which has resulted in the commercial availability of plants capable of processing thousands of tons of raw nuts per annum More recently developmental activities have focused specifically on equipment suitable for the needs of smaller operators The aim has been to provide an intermediate option between basic manual processing and fully integrated large-scale operations The main features of the small-scale decorticating unit include

- capacity up to 250 kg/h of raw nuts per unit (equivalent to 1000 tons per year when operating 250 days),
- dry roasting using waste shell as fuel,
- low capital and operating costs,
- simplified building requirements,
- More than 85 percent kernel out turn with a high percentage of wholes at the air separator,
- raw nuts, both small and large, can be processed without difficulty as knives and cutters are not used,
- modular design of construction, and
- low maintenance requirements

This unit is the key component for processing cashews at this scale NRI can assist processors interested in establishing complete factory operations by providing this unit as part of a comprehensive package of processing equipment and technical support which includes procurement, manufacture, installation, commissioning, training and overseeing first production runs

1 2 PILOT PLANT TRIALS

Pilot plant has undergone extensive field trials in Africa Direct fired dry roasting of the raw nut is employed rather than hot oil bath roasting as this has shown to provide dependable control of processing at lower levels of throughput The dry roaster is fueled using waste shell thereby reducing fuel costs Decorticating is achieved using a centrifugal cracking technique with the kernel separated from the decorticated products by a combination of screening and air separation techniques The process is continuous, and it is capable of handling raw nuts of various sizes Operation is by a minimum of unskilled labor The simplicity of design means operators can be trained to carry out most of the maintenance operations, in other cases the skills of a mechanic are adequate

[10] Based on work done at the Natural Resources Institute (NRI) which is based in the UK, and authored by Derek Cox.

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1 3 Improved Engineering Design

As a result of the successful field trials of the pilot plant, and based on our experience with cashews, the basic design of the decorticating unit has been refined and made appropriate for commercial operations processing up to 250 kg/hr This has been achieved by making use of computerized CAD techniques The production engineering features incorporated into the design mean that the roasting and decorticating operations can be built into two 20 foot long transportable ISO containers as a complete prepackaged roasting/decorticating unit In this way, it can be fully constructed and tested before despatch from the manufacturer, thereby minimizing subsequent installation and commissioning requirements on-site

1 4 Modular Expansion

As trees mature or the supply of raw nuts increases extra module units can be added to cope with requirements Capacity can be increased by adding a second decorticating unit and expanding the associated facilities For larger scale operations other options should be considered with higher levels of mechanization and sophistication

1 5 Processing Details

The incoming raw nuts are assessed for size and quality They are cleaned, graded and then stored under cover in sacks in preparation for subsequent processing Nuts from the store are first humidified to adjust their moisture content, prior to passing through the hot air chamber of the dry roaster at a controlled rate In this way, the shell becomes brittle with little scorching of the kernel The nuts are cooled The roaster is fueled with a proportion of the waste cashew nut shell from the decorticating stage

Scorched nuts are decorticated by a centrifugal cracker Dust from the operation is extracted and collected for disposal The kernel, shell fragments and undecorticated nuts are separated by vibrating screens The kernel and debris are pneumatically separated, and those nuts not fully cracked are returned to the decorticator

The kernel from the air separator is collected and dried The testa is removed by hand (peeling) prior to manual grading into wholes, splits, butts, and pieces The different grades are packed as required prior to storage and final despatch Quality control is an essential operational requirement, and checks need to be carried out at various stages of the operation to ensure product standards are routinely maintained, whether the kernels are for sale to domestic or international markets

1 6 Factory Operations

A practical factory design would process 1000 tons per year, working 250 days a year and processing at a typical rate of 250 kg/hr This particular arrangement is based on a single 8-hour shift for peeling, grading and packaging operations (to take into account social aspects as these operations are invariably carried out by women) and a double shifts for the decorticating operations Processing will require a supply of clean water (typically 500 liters per day), compressed air and a three phase electrical supply (less than 50 kW)

1 7 Check List

NRI can advise on cashew processing and assist with the setting up of factory operations from concept through to first production runs It is helpful if preliminary information on some of the points in the check list below can be provided

Supply of raw nuts

- availability of nuts, now and in the future
- hectares planted locally
- estimated annual harvest, in the local area and in the country
- main months of harvest
- cost and method of transporting raw nuts to the factory
- factory gate cost
- are raw nuts to be exported, if so, what price is to be expected

Quality of raw nuts

- main sizes
- size variation
- grading method employed
- moisture content at purchase
- percentage of diseased or rotten nuts

Processing

- processing method currently employed
- percentage of whole kernels at packing
- percentages of other grades
- cost and availability of local labor
- packaging requirements

- cost and availability of packaging materials
- availability of nitrogen (N) and carbon dioxide (CO_2) gases in cylinders
- local engineering capabilities

Utilities

- typical local building designs available
- cost of electricity (per kWh unit)
- reliability of supply, is diesel generator backup necessary?
- availability of clean water

Markets

- annual off take for local outlets for airlines, hotels and snack foods
- distance from factory to export port
- cost of transport to port and freighting to the United States or Northern Europe or the Far East

1 8 About NRI

The Natural Resources Institute (NRI) is the scientific arm of Britain s Overseas Development Administration (ODA) The Institute has a worldwide reputation for its expertise on renewable natural resources in developing countries Its principal aim is to alleviate poverty and hardship in these countries by increasing the productivity of their renewable natural resources through the application of science and technology

NRI has three main areas of expertise, which are managed as Strategy Areas

- Resource Management
- Applied Ecology, and
- Food Science and Crop Utilization

The Institute has more than 500 staff They carry out research and surveys, develop pilot-scale plant, machinery and processes, identify prepare, manage and execute projects provide advice and training, and publish scientific and development material The main disciplines are chemistry biochemistry, entomology, plant pathology biogeography land use livestock nutrition food technology engineering and social sciences In any one year staff will be working, often in multi-disciplinary teams, in more than 60 countries across the developing world

2.0 Specific SAEDF Investment Opportunities in Tanzania

Name and Address of Entrepreneur	Potential Investment Opportunity	Suggested Participation of SAEDF
Mr Jumanne Kishimba, Managing Director Kishimba International Traders, Ltd P O Box 2857, Mwanza, Tanzania Tel 255 68 41342 255 68 42434 Fax 255 68 40463	Mr Kishimba recently completed a feasibility study for a small-scale dairy processing plant in Mwanza The 1,000 liters per hour plant would cost approximately $400,000 Milk would be collected from small farmers at community collection centers and from company dairy herds Pasturized, processed milk would be sold through retail shops and food markets in Mwanza and Arusha The retail shops would be supplied with refrigeration units for storage, provided by supplier credit The entire investment is estimated at approximately US $1 million, including the cost of trucks, refrigeration units, the dairy herd and the processing plant Payback of the processing plant is calculated to be two years	SAEDF would be a joint-venture partner in the enterprise SAEDF's local partner, NIGP, would help organize and train small milk producers who would sell fresh milk to Mr Kishimba
Mr Jumanne Kishimba, Managing Director Kishimba International Traders, Ltd P O Box 2857 Mwanza, Tanzania Tel 255 68 41342, 255 68 42434 Fax 255 68 40463	The main business of Kishimba International Traders is importing and exporting to and from Kenya, shipping across Lake Tanzania The company exports lint cotton and cotton seed cake to Kenya, and imports a broad range of consumer goods Mr Kishimba presently charters vessels for transporting his products at an average monthly cost of US $36,000 Mr Kishimba would like to construct a 250-ton cargo ship which would meet his requirements, and would provide cargo service to others as well The cost of the vessel would be nearly US $1 million Investment in a cargo ship would have a payback of a little more than three years	SAEDF would be a joint-venture partner in the investment

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Name and Address of Entrepreneur	Potential Investment Opportunity	Suggested Participation of SAEDF
Mr A Latiff K Suleman, General Manager Tuckman Mines and Minerals P O Box 1087, Arusha, Tanzania Tel 255 57 8370, Fax 255 57 8371	Mr Suleman is a naturalized U S citizen, born in Moshi, Tanzania Tuckman has a mining concession in a gemstone-rich area near Mt Kilimanjaro The company is presently developing an investment proposal to purchase earthmoving and rock crushing equipment which will permit it to engage in large-scale, open-pit mining At present, nearly all mining in Tanzania is done by individuals using artisanal means of excavating and gemstone extraction Most of their output is smuggled out of Tanzania into neighboring countries Tuckman would like to transform the mining industry into a fully legitimate formal economic activity	If the proposal proves to be economically feasible, SAEDF would be a joint-venture partner in the investment
Mr Tarsem C Aggarwal Managing Director T K Holdings, Ltd P O Box 7094, Arusha, Tanzania Tel 255 57 3650, Fax 255 57 2304	Mr Aggarwal is the owner of an oil seed crushing and refining plant in Arusha The plant's capacity is approximately 50 tons per day, with an average throughput of around 1,000 tons of sunflower or cotton seed per month His entire investment in plant and equipment is approximately US $1 5 million The factory produces Sunola ' brand semi-refined (neutralized) oil along with cattle feed cake The current extraction process which involves crushing and pressing only produces seed cake as a by-product containing approximately 12 percent oil With a complete refinery, including a solvent extractor the factory would be able to recover 98 percent of the oil from the seed - a 10 percent increase in oil recovery over the current amount With additional equipment the factory would be able to produce fully refined oil which has a higher retail value The investment in additional equipment would cost about US $500,000 The return on investment would be around 30 percent	SAEDF would be a joint-venture partner in the investment

Name and Address of Entrepreneur	Potential Investment Opportunity	Suggested Participation of SAEDF
Mr Amit Shaw, General Manager Sunripe Kilimanjaro, Ltd P O Box 480, Moshi Tanzania Tel 255 55 50162 Fax 255 55 50256	Sunripe Kilimanjaro is a large, foreign-owned exporter of fine green beans Sunripe is a subsidiary of Kenya Horticulture, based in Nairobi The Nairobi company is owned by the Shah family, who are Kenyans of Asian ancestry Sunripe Kilimanjaro is owned jointly by the Shah family and local partners The company is based in Moshi and is managed by one of the Shah sons Sunripe began its Tanzania operations in 1989 Approximately half of its exports are grown on company farms and the remainder is contracted with some 3 000 small farmers, some located as far away as 100 km from Moshi, in the highlands around mount Kilimanjaro The company uses commission agents as its representatives in contracting with the small farmers Sunripe would like to focus its activity in Tanzania on value-added fresh vegetable processing, exporting prepackaged, microwave-ready individual-sized portions of consumer vegetables to Europe This change would create opportunities for "middlemen or subcontractors to link Sunripe with its small farmer producers Sunripe would contract its export product with small/medium packing shed operators who themselves would contract vegetable production with small farmers The packing shed operators would select, grade, box and transport its vegetables to Sunripe's export processing plant	SAEDF's microenterprise investment funds would be used to finance the construction of packing sheds and to provide production "kits" to the affiliated small farmers Employees of Sunripe would provide technical assistance to the packing shed operators SAEDF's local partner, NIGP, would administer the program and provide training in vegetable production to small farmers Training in post harvest handling and quality control would be provided to packing shed operators

3.0 Analysis of the Tanzania Formal Financial Sector

3 1 Abbreviations

For all the tables, the following abbreviations apply

Tanzanian Banks
SCT = Standard Chartered (Tanzania)
SBT = Standard Bank (Tanzania)
CIT = Citibank (T)
EUR = Eurafrican
ADL = First Adili Bank
TDF = Tanzania Development Finance Company, Ltd
COMP = Average for all Banks analyzed

Parent Bank Groups
SCB = Standard Chartered Bank
SBG = Standard Bank
BBL = Banque Belgolaise

3 2 Liquidity and Capital Adequacy

Liquidity management and undercapitalization are the most common causes of bank failure worldwide, and are especially relevant to our analysis of the banking sector here The Meridien Bank group collapsed throughout Africa in no small part due to its inability to meet depositors' requests (in addition to a widespread perception of accounting irregularities), especially when its asset management problems came to light The liquidity ratios as well as measures of capital adequacy for the Tanzanian banks and their parent bank groups can be viewed as follows

The liquidity ratios for the banks are acceptable, and in fact reflect an over liquid banking sector that is reluctant to increase its credit portfolio The first ratio in Table 2 1 measures what percentage cash or near cash assets such as loans due from other banks, Government Notes, etc could be liquidated in order to cover short term deposits The differences exhibited between Stanbic and Standard Chartered are attributable to the higher percentage of loan assets that Stanbic has (42%) versus Standard Chartered (23%) a reflection of Meridien's previous lending policies This difference is also noted in the second ratio, which measures the percentage that short term loan assets could be sold or liquidated in order to cover total deposits

The third ratio measures the relationship between the capital structure of the banks Normally local (as opposed to money center) banks do not have a deposit base more than ten times the size of capital, all banks analyzed here are within the acceptable range

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Table 2 1 Liquidity and Capital Adequacy of Tanzanian Banks

	SCT	SBT	CIT	EUR	ADL	TDF	COMP
Cash / ST Deposits	90%	69%	84%	122%	27%	n/a	84%
ST Loans/ Total Deposits	27%	50%	42%	29%	120%	n/a	38%
Deposits/Capital	8 9	8 1	6 4	1 1	3 1	n/a	7 3
Capital ($ MM)	13 2	9 3	4 2	2 9	1 4	7 5	n/a

Parent Bank Groups

	SCB	SBG	BBL
Cash / ST Deposits	37%	11%	5%
ST Loans/ Total Deposits	37%	65%	78%
Deposits/Capital	18 8	12 8	17 5
Capital ($ Bn)	3 1	1 8	0 2

The liquidity for the three parent bank groups analyzed (Standard Chartered Group, Standard Bank Group and Banque Belgolaise) are within acceptable ranges The differences among the three are accounted for in their capital structures as shown in the percentage of short term deposits of total footings

Standard Chartered	94%
Standard Bank	80%
Banque Belgolaise	17%

Both the Standard Chartered and Standard Bank groups are well capitalized hence a relatively high deposit/capital ratio is acceptable Banque Belgolaise is comparatively undercapitalized relative to both deposits (as above) and total assets (BeF

74 Bn , yielding total asset leverage of 19 2 to 1) In addition, this consolidated capital figure consists of equity in affiliate banks in such countries as Burundi, Rwanda and Zaire

3 3 Profitability

Commercial banks exist to generate revenues against which expenses are paid Income generation is important because this is the manner by which banks (and all private sector companies for that matter) generate for themselves additional capital resources, which can then be relent as additional credit extension

Table 2 2 Profitability of Tanzanian Banks

	SCT	SBT	CIT	EUR	ADL	TDF	COMP
Operating Expenses / Interest Income (%)	30%	33%	60%	639%	39%	54%	77%
Operating Results/ Interest Income (%)	93%	29%	18%	n/a	11%	51%	108%
Return on Assets (%)	8%	4%	1%	n/a	1%	4%	5%
Return on Equity (%)	78%	34%	9%	n/a	7%	14%	38%
Net Profit (Loss) $ MM	10 0	1 4	0 2	(0 6)	0 1	0 4	n/a

Banks in Tanzania should be extremely profitable, since their Net Interest Margin (the interest charged to customers for loans minus interest paid on deposits and other borrowed money) is high due to the negligible interest paid on short term deposits This profitability should be seen in the Return on Assets figures for these banks The norm for banks' ROA in the US is 5 - 7 percent and ROE higher than that In the case of the banks in Tanzania these ratios are lower since most banks hold a greater portion of their assets in lower-yielding debt securities rather than loans

An important indicator of good internal bank management is the percentage of Total Operating Expenses (including Personnel Expenses) to Interest Income A rule of thumb is that Operating Expenses should not be greater than 40 - 45 percent of Interest Income (with Personnel no greater than 25%) While Standard Chartered and Stanbic are well within these guidelines TDFL is not (and hence a management shake-up is currently underway to address this issue in particular) The ratios for the other banks are not comparable since they are all in start-up phases when expenses are often greater than in a well-established institution

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Parent Bank Groups

	SCB	SBG	BBL
Operating Expenses / Interest Income	36%	36%	26%
Operating Results/ Interest Income	26%	14%	14%
Return on Assets	2%	2%	1%
Return on Equity	36%	26%	20%
Net Profit (Loss) $ MM	522	225	18

Profitability and operating efficiency for the three parent bank groups are acceptable

4.0 Specific SAEDF Investment Opportunities in Mozambique

Name and Address of Entrepreneur	Potential Investment Opportunity	Suggested Participation of SAEDF
Mr Alibhai Dassat, Director Moçambique Agencias, Ltda Av Karl Marx # 1744 - 1 P O Box 2554 Maputo, Mozambique Tel 42 76 95, 42 24 21 Fax 42 14 69	Investment in a woven sack plant, to be installed in three phases Phase one Import and install equipment for cutting, forming and stitching sacks, made from imported woven fabric Approximate cost US $110,000 Phase two Import and install weaving machines to make the woven fabric, consisting of three circular weaving looms and take-up winders Raw material for weaving would be imported polypropylene yarn Approximate cost US $368,000 Phase three Import and install the extrusion line for making poly yarn, used as raw material for sack manufacture Approximate cost US $634,000 Total estimated cost US $1,112,200	SAEDF would be a joint venture partner in the business A foreign technician would be employed for a period of two to three years to install equipment, commission the plant and train local staff

Name and Address of Entrepreneur	Potential Investment Opportunity	Suggested Participation of SAEDF
Mr João Carlos Forte, Director Companhia da Zambezia Av Samora Machel, 285, No 4/7 Maputo, Mozambique Tel 42 15 07 42 06 39	Zambezia has entered into an agreement with Outspan, the South African citrus marketing company, to produce and export wooden pallets in kit form to serve South Africa's citrus industry Outspan uses 3 2 million pallets annually Small business enterprises would have opportunities for subcontracts with Zambezia to cut trees saw the logs into lumber, provide wood for pallets and transport pallet kits to the port for export See 3 6 4 of the main report for more detail	SAEDF would provide venture capital through a local banking partner, which would itself, provide working capital loans to the new business Companhia Zambezia would provide a ready market for the lumber and other wood products, and would contract for transportation services The company would also train the new entrepreneurs in saw milling and transport operations USAID/ Mozambique would contract with Compagnia Zambezia to establish a nursery for coconut seedlings and would contract with a PVO to organize palm replanting on the smallholder plots

Name and Address of Entrepreneur	Potential Investment Opportunity	Suggested Participation of SAEDF
Mr Kenny Sonnekus, Director Companhia Industriel de Matola CIM Machava, Maputo Mozambique Tel 45 00 87, 45 00 88, 45 00 89	CIM is a large wheat milling company which was previously owned by Government but privatized to South African investors in 1995 The company is expanding rapidly to capitalize on the growth in Mozambique's milling industry and plans to double its wheat milling capacity, open a pasta factory, begin milling refined maize flour and start producing animal feed within the next year The company also plans to help develop small scale neighborhood bakeries, with the expectation that they would become loyal CIM customers The bakeries would begin operating with only one oven, yet would be able to expand their capacities CIM is now starting a bakery school and will provide technical and management support to the new bakery enterprises New enterprises would be assisted to select appropriate equipment and taught how to manage a bakery CEM is looking for a means of financing the small bakeries	It is envisioned that SAEDF's microenterprise development fund would participate with CEM in its program to develop small bakeries SAEDF acting through its local microenterprise program administrator, would finance bakery equipment for small-scale entrepreneurs who participate in the program at CIM

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Name and Address of Entrepreneur	Potential Investment Opportunity	Suggested Participation of SAEDF
Mr Antonio Guerra Group Madal Twelfth floor No 170 Av Martires de Inhaminga Maputo Mozambique	Madal is a large farming company which has purchased copra from small producers and traders for many years Earlier this year, copra purchased from small, family farms was found to contain toxins caused by improper processing hygiene and Madal suspended purchases from all small producers The company does not have adequate resources to provide the low-technology dryers, along with the training and supervision needed to ensure that appropriate drying and handling practices are followed by small holders for the production of copra To ensure the continued participation of small holders in the export of copra, it would be necessary to develop a small producer outreach program for the production of high quality copra Under this program, Madal would be the copra exporter with production contracted to small farmers	SAEDF microenterprise development funds, under the administration of SAEDF's local partner would finance the installation of a roof-covered concrete slab, appropriate dryers, storage racks and equipment needed for sanitary copra processing Technical assistance would also be provided as necessary, under SAEDF's TA, facility to help Madal install a quality testing lab and to implement quality control procedures With the collaboration of USAID, one of its PVO partners in Mozambique would help create, organize and train small farmer groups for the production of quality copra

Name and Address of Entrepreneur	Potential Investment Opportunity	Suggested Participation of SAEDF
Mr Jonathan G White, Director World Vision International Av Paulo S Kankhomba, 1170 P O Box 2531 Maputo, Mozambique Tel 42 03 12, 42 29 22, 42 67 43	World Vision is a PVO that has operated in Mozambique for many years, primarily in emergency food distribution and famine relief One of the groups assisted by WVI is the Barone Association, a woman's group that purchases copra from small holders for further drying and processing The copra is dried to a low moisture content and squeezed through a "T" press to produce coconut oil Barone sells the coconut oil to small entrepreneurs for manufacturing soap	SAEDF and USAID/Moçambique should collaborate to encourage village-level oil processing and soap making businesses SAEDF microenterprise development funds would finance the purchase of "T" press equipment as well as the equipment and supplies needed for the small, soap making enterprise USAID/Mozambique would contract with a PVO to administer and direct the program, and to provide training and assistance to the small entrepreneurs
Mr Jose Alcobia Director Cooperativa de Apicultores de Maputo Maputo, Mozambique	Mr Jose Alcobia and his partner, Joao Serrano made successful trial shipments of exotic fruit to South Africa from the Vandezi area during the 1995-96 season They would like to develop an integrated fresh fruit export operation which would produce and ship seasonal fresh fruit on a year round basis to regional markets Private growers would provide fruit to their export company Fruit which has been grown in the area includes lychee, mango, papaya, avocado and strawberries The two partners are seeking external financing for their export business	SAEDF could provide financing and become a joint-venture partner in the venture

Name and Address of Entrepreneur	Potential Investment Opportunity	Suggested Participation of SAEDF
Mr Yunus A Gafar Gani Comercial, Ltda Nampula, Mozambique	Gani Commercial has a chicken-and-egg operation with 8,000 breeding and laying hens The company would like to expand into poultry broiler production and to start a poultry feed operation using locally grown maize as its primary input The company is looking for an investment partner in its new operation	SAEDF could provide financing and become a joint-venture partner in the venture

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5.0 Donor Activities in Agriculture and Rural Development

DONOR	ACTIVITIES (US$ value)	NATURE OF ACTIVITY
World Bank/IDA	Rural Rehabilitation ($20 million)	Agricultural extension institutional support rural trade in Sofala and Zambezia
	Rehabilitation of Agriculture Services ($35 million)	Agricultural services
	Agriculture Rehabilitation ($15 4 million)	
	Roads and Coastal Shipping (ROCS)	Institutional support infrastructures markets in Inhambane Gaza
IFAD	Rural Recovery Program ($14 million)	Ag development rural trade roads institutional support social structures in Niassa
	Development of Artisanal Fisheries ($7 million)	Credit trade roads equipment supply in Nampula (Angoche Moma)
UNDP	PROAREA ($240 000)	Institutional support for MOA and INDER extension social infrastructure in Tete Niassa Inhambane
NORAD	Rural Recovery Program ($7 million)	State Administration social services ag extension in Cabo Delgado
	Fisheries (NOR 51 5 million)	Institutional support
French Cooperation	Institutional Support ($2 million)	Agricultural extension institutional support, technical asst for policy in Gaza (Chokwe)
	Rural Rehabilitation($4 million)	Rehabilitation of small infrastructures in C Delgado Nampula and Zambezia
	Fisheries Aquapesca (FF15 million)	
	Decentralization Credit (FF20 million)	
European Union	Microenterprises ($2 million)	Rural Microenterprises in Gaza
	Semoc Chimoio Seed Potato (ECU 0 463 million)	Manica seed potato
	Nampula Cotton Project (ECU 6 0 million)	Agriculture Nampula
	Cabo Delgado Development Project (ECU 2 0 million)	Cabo Delgado Agriculture
	Manica Smallholders (ECU 5 0 million)	Agriculture Manica Sofala Zambezia
	Road Works ($47 million)	

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DONOR	ACTIVITIES (US$ value)	NATURE OF ACTIVITY
Germany/GTZ	Agriculture ($10 million) Grain Terminal Matola (DM 42 7 million) Technical Assistance (DM 29 5 million)	Ag services social infrastructure institutional support rural roads in Sofala Manica Agriculture
UNICEF	Rural Recovery Program ($ 400 Thousands)	Social services institutional support to INDER in Zambezia Manica I bane Sofala Maputo Gaza Nampula Manica Sofala
African Dev Bank	Mafambisse Sugar Rehabilitation ($40 million) Cashew Development ($14 million) Road Works/ Manica ($51 1 million) Massingir Rural Development ($60 million)	Rehabilitation of sugar plant in Mafambisse Sofala Institutional support seed procurement germ plasm in Nampula Rehabilitation of Massinger Dam extension smallholder irrigation in Massingir Gaza
Sweden	PESU (SEK 36 0 million) Agriculture (SEK 74 0 million) Road Works (SEK 1 4 million)	Import Support for seed and tools Institutional Support National Seed Company Rural Development
DANIDA	Agriculture Training Center (DKK 17 5 mil) Agriculture (DKK 29 7 million) Agriculture (DKK 71 4 million) Seed Control (DKK 6 2 million) Agriculture (DKK 13 4 million) Fisheries (DKK 10 8 million) Fisheries (DKK 18 4 million) Agriculture/Livestock (DKK 15 0 million)	Niassa Training Center/ Agriculture/Education Tete Province/Rural Development Zambezia Province Support to SNS (National Seed Services) Plant Protection (INIA) Master Plan Fisheries Support to Small-Scale Fisheries Animal Production
Australia	Agriculture (AUD 100 000) Agriculture (AUD 50 0 million) Agriculture (AUD 55 8 million)	Inhambane Green Zones Distribution of seed and tools Program of Rural Extension
Italy	Agriculture/Rural Development (Lira 3 887 mil) Agriculture (Lira 12 894 million) Agriculture/Livestock(Lira 55 428 million) Agriculture (Lira 28 195 million) Agriculture (Lira 112 720 million) Agriculture (Lira 51 000 million)	Xai Xai Gaza Rural Development in Homoine Inhambane Livestock Sabie Medio Incomati Integrated Rural Development Manica Rural Development Maputo province Corumane Dam Maputo
Spain	Agriculture (Pesetas 35 million)	Tree Replanting Xai Xai
United Kingdom/ODA	Agriculture (GBP 445 000) Agriculture (GBP 1 802 million) Road Works ($8 8 million)	Assistance to DPA/Zambezia Assistance to NGO/Agriculture Zambezia

6.0 Financial Analysis of Mozambique Banks

6 1 Abbreviations

For the Tables, the following abbreviations apply

BFE = Banco de Fomento e Exterior
BIM = Banco Internacional de Moçambique
BCP = Banco Comercial Portugues
BST = Banco Standard Totta
HSB = Hong Kong Shanghai Bank Group (Equator)

6 2 Liquidity And Capital Adequacy

	BFE	BIM	BCP	BST	HSB
Cash / ST Deposits	8%	95%	7%	101%	46%
ST Loans/ Total Deposits	49%	22%	82%	25%	46%
Deposits/Capital	10 6	0 7	16 4	5 6	12 5
Capital ($ MM)	0 7	9 2	1 4	14 5	20,749 8

The two incorporated banks in Mozambique, BIM and Standard Totta are rather over liquid, this is due to the relative lack of credit opportunities This is shown in the first ratio the high percentage of cash and near cash to deposits, and the second, the low percentage of short term loans to total deposits The liquidity and coverage ratios for the two Portuguese banks, BFE and BCP, are closer to the norm for these ratios

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6 3 Profitability

	BFE	BIM	BCP	BST	HSB
Operating Expenses / Interest Income	37%	798%	28%	56%	34%
Operating Results/ Interest Income	11%	n/a	17%	144%	28%
Return on Assets	1%	n/a	1%	7%	2%
Return on Equity	16%	n/a	36%	49%	28%
Net Profit (Loss) $ MM	0 1	(0 7)	0 1	3 3	2,509

Comparison of profitability for BIM is unfair since its results were only based on two months of operations Banks in Mozambique should be highly profitable given the enormous interest spread on loans compared to the negligible interest paid on deposits This may change as BIM has increased both fees charged to customers for services and amounts paid on deposits Hong Kong Shanghai Bank exhibits model efficiency and profitability ratios

Appendix B - LIST OF PEOPLE AND ORGANIZATIONS VISITED

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LIST OF PEOPLE AND ORGANIZATIONS VISITED in TANZANIA

Dar es Salaam

Clive Topper, Cashew/Coconut Tree Crop Project
Fibelis Mrope, Cashew Marketing Board
G Theobald, Chai Bora
Graham Poole, Commonwealth Development Corporation
Hassan A Makani, Dar es Salaam Airport Handling Company, Ltd (DAHACO)
S Peter Machunde, Equity Investment Management Limited
Theo Katarama, ER Flour Mills
Zadox Majabo, Eurafrican Bank
Marjan Boonzaayer, FAO
E Patrick Alleyne, FAO
Godfrey Chamungwana First Adili Bank
Rolf Detmering, GTZ
Andy Binamungo, Ministry of Agriculture Market Development Board
Albano L T Asmani, Ministry of Foreign Affairs and International Cooperation
Harold P Mushi, Ministry of Industries and Trade
Mike Laiser, National Income Generation Program
David Western, Northumbrian Water Limited
J Nyamwihula Parastatal Sector Reform Commission
M Shimwela Parastatal Sector Reform Commission
Colin Bernhardt, Ralli Brothers
Andrew Thomas, Ralli Brothers
M J Mero, SADC
Simon K Mutabuzi, Sima International
Mike van Nierop, Tanbic Bank
Parakash Konnur, Tanganyika Sisal Spinning Co
Bonaventura Mlunde Tanzania Development Finance Co
A V Wilson Tanzania Development Finance Co
M Y Msemo Tanzania Development Finance Co
Robert Satchwell Tanzania Venture Capital Fund
Mr Emmanuel R Makubo Technical Trading Services (TTS) Limited
Paul Bundick, The Business Center
Ngweshani S Mbonde, The Business Center
Ariane Waldvogel UNDP
M Silayo, Union Service Store
Patrick Fleuret, USAID/Tanzania
Thomas Tengg, USAID/Tanzania
Donald Sungusia World Bank

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Arusha

Patterson F M Moshi, Afro Crafts and Gemstones Limited
Erwin Th P Protzen, ATI T-Press Project
Roger Banfield, Cargill Hybrid Seeds
Barney Gasston, Damascena Essential Oils Limited
Praful Gaglani, East African Seed (T) Limited
Nazir Mohamed, Hortanzia Limited
Gulamhussein H Saleh Jumbo Mills (T) Limited
Livinus Manyanga Kakute Limited
Grea M Mollel Kijenge Animal Products Limited
Ignace Malai, Malai Freight Forwarders Limited
Hans Baart, Multiflower Limited
Pradeep Lodhia, Tanzania Plantations, Limited (Lucy Sisal Estate)
Dilip Soni Tanzania Plantations, Limited (Lucy Sisal Estate)
Paul Warmka TechnoServe
Manubhai L Patel, The Tanganyika Farmers' Association, Limited
Tarsem C Aggarwal, T K Holdings, Limited
A Latiff K Suleman, Tuckman Mines and Minerals (T) Limited

Moshi

Amit Shah, Sunripe Kilimanjaro Limited

Mwanza

Jumanne Kishimba Kishimba International Traders Co Limited
A V Gopalakrishnan Nile Perch Fisheries Limited
Bruce D Milne, Pangea Goldfields, Inc
James R Ross Tanganyika Gold N I
Samson S Maganga, The Business Center

Other

Patrick Henfrey The Africa Project Development Facility (APDF) Nairobi, Kenya
Charlotte Bingham USAID/Kenya

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LIST OF PEOPLE VISITED IN MOZAMBIQUE

Maputo

Arlindo Manjate, Austral
Jeanne L Stephens, Austral
Beat J Rohr, CARE
Gilles Chausse, Caisse Francaise de Developpement
Mateus Gonçalves, Cartonagens de Moçambique, Lda (CARMOC)
Carlos Henriques, Companhia Agro-industrial Lonrho Mozambique
Jose Alcobia, Cooperativa de Apicultores de Maputo
Edmund Gabriel, Deutsche Welthungerhilfe
Kekobad M Patel, Empresa Nacional de Comercio (ENACOMO)
Ana Maria Ribeiro, EU Mission
Vitor Manuel dos Santos Bizarro, FASOL Saborel
Omaia Salimo, Fundo de Fomento a Pequena Industria (FFPI)
Joao Serrano, Grant Thornton, Ltd
Henriqueta Hunguana, Instituto Nacional de Desenvolviemento da Industria Local (IDIL)
Jõao Viseu, Metal Box
Ibraimo N I Juma, Mocaju
Edmund Gabriel, Mogincual Rural Development, Deutsche Welthungerhilfe
Anabela Mabota, MSU Food Security Project in Mozambique
Manuel P dos Santos, Planco Consulting
Juliano Maria Saranga, Secretario del Estado do Caju
Maria do Rosario C Sousa S Lopes, Sociedade Comercial e Industrial de Moagem
F Antonio Souto Sociedade para Apoio a Pequenos Projectos de Investimento, Ltda (GAPI)
Gaye Thompson System Consultores
Joaquim Campos d'Oliveira, TOPAC Mozambique
Celina Cossa Uniao Geras das Cooperativas Agro-pecuarias
Mariam Fangah, UNDP
Italo D C Fraquelli, UNIDO
Timothy Born USAID/Mozambique
Sidney Bliss, USAID/Mozambique
Fernando Paixao, USAID/Mozambique
Richard Newberg, USAID/Mozambique
Gail H Warshaw, USAID/Mozambique
Christene de Voest The World Bank
Philip J Clarke, World Food Program
Luis Cornejo Rojas, Xigaio

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Nampula Province

M Akil Raza, Armazens AL-Owais Import-Export, Nampula
Luis Giquira, Armazens Moderna Importaçaõ Exportaçaõ de Nampula
Jose da Costa Valente, Banco Comercial de Moçambique, Nampula
Nazir Abdul Karimo H Mussa, Banco Comercial de Moçambique, Nampula
Eugenio Juma Jamal, Banco Comercial de Moçambique, Nacala
Rogerio B Nunes Companhia de Mocambique (Entreposto)
M Yunus A Gafar, Gani Comercial Ltda Nampula
Jose Jaime Jeje, Michigan State University Project, Nampula
Alexandro Serrano, NCBA/CLUSA Nampula
Agostinho F Langa Jr Portos e Caminhos de Ferro de Moçambique, Nacala

Other

Reid E Whitlock, Department of Agricultural Economics, Michigan State University
Joe W Carvalho, USAID/Kenya
Arnold Soa, The World Bank, Washington D C
Jehan Arulpragasam, The World Bank Washington, D C

Appendix C - REFERENCE DOCUMENTS

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VOLUME TWO

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3 0 Southern Africa Investment Profiles

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5 0 Seminar Summaries and List of Attendees