

The Agribusiness Innovation Center of Tanzania:

Scaling value added post-harvest
processing agribusinesses



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The Agribusiness Innovation Center of Tanzania

Scaling Value-Adding, Post-Harvest Processing Agribusinesses

Prepared by *infoDev*

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List of Acronyms

ACT	Agriculture Council of Tanzania
AIC	Agribusiness Innovation Center
AMAGRO	Association of Mango Growers
ARI	Agricultural research institute
ASDP	Agricultural Sector Development Programme
ASDS	Agricultural Sector Development Strategy
BOD	Board of Directors
CAMARTEC	Center for Agricultural Mechanization and Rural Technology
CEZOSOPA	Central Zone Sunflower Processors Association
CNSL	Cashew nut shell liquid
COSTECH	Commission for Science and Technology
CTI	Confederation of Tanzania Industries
DADP	District Agricultural Development Plan
Danida	Danish International Development Agency
DFID	Department for International Development (UK)
FAO	Food and Agriculture Organization (of the UN)
FINGO	Financial non-governmental organization
GDP	Gross domestic product
IFAD	International Fund for Agricultural Development
IFC	International Finance Corporation
IFPRI	International Food Policy Research Institute
JICA	Japan International Cooperation Agency
LGAs	Local government authorities
MITM	Ministry of Industry, Trade and Marketing
MoA	Ministry of Agriculture
MSMEs	Micro-, small- and medium-size enterprises
MUVI	Network of rural entrepreneurs at the village level
PADEP	Participatory Agricultural Development and Empowerment Project
PASS	Private Agricultural Sector Support Limited.
R&D	Research and development
RLDC	Rural Livelihood Development Company
ROSCA	Rotating savings and credit association
RUBADA	Rufiji Basin Development Authority
QMS	Quality management system
SACCO	Savings and credit co-operative society
SAGCOT	Southern Agriculture Growth Corridor Of Tanzania
SCF	SME Competitiveness Facility
SECO	Swiss Economic Cooperation and Development
SIDO	Small Industries Development Organisation
SMEs	Small- and medium-size enterprises

SUA	Sokoine University of Agriculture
TADB	Tanzania Agricultural Development Bank
TAHA	Tanzania Horticultural Association
TAP	Tanzania Agriculture Partnership
TBS	Tanzania Bureau of Standards
TCCIA	Tanzania Chamber of Commerce, Industry and Agriculture
TCCP	Tanzania Cluster Competitive Program
TEMDO	Tanzania Engineering and Manufacturing Design Organization
TFDA	Tanzania Food and Drugs Authority
TIB	Tanzania Investment Bank
TIRDO	Tanzanian Industrial Research and Development Organization
TPSF	Tanzania Private Sector Foundation
TSZ	Tanzania shorthorn zebu
UDEC	University of Dar es Salaam Entrepreneurship Centre
TDTC UDSM	University of Dar es Salaam Technology Development and Transfer Centre
UNDP	United Nations Development Programme
UNIDO	United Nations Industrial Development Organization
USAID	United States Agency for International Development
3ADI	African Agribusiness and Agro-Industries Development Initiative

All dollar amounts are U.S. dollars unless otherwise indicated.

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1.0 EXECUTIVE SUMMARY

Tanzania has tremendous potential to support a thriving agribusiness sector. Agriculture is diverse and extensive, employing more than 80 percent of the population, and contributing about 28 percent of GDP and 30 percent of export earnings. A wide range of agricultural commodities are produced in Tanzania, including fiber (sisal, cotton), beverages (coffee, tea), sugar, grains (a diverse range of cereals and legumes), horticulture (temperate and tropical fruits, vegetables and flowers) and edible oils.

Historically, Tanzania has sought to ensure robust growth in agriculture to meet basic nutritional needs, and to modernize the sector for increased productivity, employment, profitability and income.

Government initiatives such as Tanzania's national development strategies MKUKUTA/MKUZA have emphasized the importance of small-scale agriculture, with a slow but steady shift to medium and large-scale farming. Sector growth issues revolve around productivity, with particular concern for increasing yields by smallholder farmers so that they can graduate to commercial farming. Government and private sector investment efforts have principally focused on supportive physical infrastructure, water and irrigation infrastructure, financial services and incentives to invest in agriculture, knowledge and information management, mechanization, trade and export development services and, now more than ever, value-addition activities.

Past efforts in the sector have resolved only some of these challenges, e.g., increased production has not been seen across all crops. There have been some successes and some stagnation.

The post-harvest value-addition effort has unfortunately received less attention than the others. Today, many products are still exported in raw form, processed in another country, and re-imported.

Given the tremendous diversity of agriculture in Tanzania and the limited value-addition sector, a focused effort to support post-harvest processing would facilitate economic growth, create jobs and reduce imports while increasing focus on exports.

This document proposes **a new model for promoting the growth of competitive value-added sunflower oil processing in Tanzania, and also seeks to identify potential growth enterprises in other value chains. The proposed Agribusiness Innovation Center (AIC) will provide a set of financial and non-financial services to high-growth potential entrepreneurs, aiming to accelerate the growth of their enterprises and demonstrating product, process, and business model innovation across fo-**

cal sectors. The AIC will complement existing efforts focused on farm-level improvements and foreign investment facilitation.

The success of the AIC will be measured by the revenues, profits, and jobs created by the enterprises, as well as their impact on farmers and other input providers as processors increase demand for raw materials. **Within six years, the AIC is expected to achieve several measures of success:**

- Support a pipeline of 177 growth oriented small scale processing enterprises in diverse agribusiness value chains
- More than double sunflower oil seed processor revenues
- Create 650 direct jobs and 1859 indirect jobs
- Contribute an additional \$1.6 million in tax revenue from processors in the first six years.

The AIC will also significantly impact the incomes of women, as women are the majority of processors in many of the diversified value chains to be supported. Farmers will also benefit significantly because of the increased demand from processors.

The indirect benefit of the AIC is expected to be exponentially larger because of its commitment to playing a catalytic role in the subsectors and value chains it supports.

Thus, the AIC represents an innovative model with high promise to support the transformation of the agro-processing sector in Tanzania. The conditions are in place for an AIC to succeed:

- Scalable production potential in subsectors and value chains that have a productive advantage
- Geographic clusters of oilseed processors in the Morogoro/Dodoma regions and diversified enterprises in and around Dar es Salaam
- Accessible and viable markets for both oilseed processors and the diversified enterprises that might be selected and supported by an AIC
- Strong support from stakeholders for establishing an AIC to support the development of the agro-processing sector in Tanzania
- The potential to facilitate finance to support growth entrepreneurs, either from external financiers or from the creation of a seed capital fund.

1.1 DEVELOPING THE AIC MODEL FOR TANZANIA

infoDev carried out a **one-year, highly participatory feasibility assessment, engaging more than 100 Tanzanian stakeholders**, including small- and medium-enterprises (SMEs), the agribusiness industry, relevant ministries and local authorities, research and development (R&D) facilities, universities, financial institutions, and international agencies operating in the agribusiness sector in Tanzania. The length of time was intended to **facilitate complete understanding of what an AIC could support, and to build relationships with potential partners for the implementation phase**.

The proposed model was then derived from the conclusions of the feasibility assessment against the background of a literature review, *infoDev*'s experience with promoting innovation and entrepreneurship over the past decade, and *infoDev*'s global good-practice assessment on agribusiness incubation in nine countries. In September 2012, a final workshop was held with stakeholders to verify the feasibility of the business model, and professionals with experience in implementing agribusiness innovation programs in other developing countries also reviewed the model.

1.2 THE FOCUS OF THE AIC

The AIC approach is a targeted effort to accelerate the growth of a domestic, value-adding agribusiness sector. Given the tremendous diversity, complexity and length of agricultural value chains and the underdevelopment of agribusiness as a whole in many developing countries, the first step in AIC assessment is to identify a set of indicators considered necessary and sufficient to assess the feasibility of implementing a successful AIC. Since an AIC is aimed at intensively supporting growth enterprises in their expansion, the indicators need to include a mix of production, processing, people and market-related indicators. The necessary conditions for the successful implementation of an AIC are set out in the following table:

Indicators for Assessing the Feasibility of Implementing an AIC

Indicator	Specific Questions
Scalable Production Potential (with comparative advantage)	Are there agricultural subsectors and value chains with known comparative advantage that offer sufficient production of adequate quality within economic reach of processors? Can this be increased (if required) to facilitate beneficiation expansion?
Geographically Clustered Growth Entrepreneur Capacity	Do growth entrepreneurs exist and/or can they be developed/recruited to ensure the growth of beneficiation activities within a suitable geographic cluster? What do they need to access and develop opportunities? Are there gaps in these areas and can an AIC offer solutions?
Access to Finance	Does suitable and accessible funding exist and/or can it be facilitated, for development, R&D, commercialization and expansion?
Clear, Ready Stakeholders (including industry leverage)	Are there strong stakeholders that are, or can be, active in supporting the value chain? Can they positively affect the likelihood of implementation?
Scalable, Accessible and Viable Markets	Can markets be identified that are scalable, accessible and viable now and in the future?
Infrastructure & Regulatory Constraints	Is there sufficient infrastructure available? Does the regulatory environment provide incentives for entrepreneurs to take advantage of the value addition opportunity?

Source: Authors

In evaluating these parameters as well as the needs of entrepreneurs, the potential impact of an AIC intervention in Tanzania and the business model itself, it was decided that the Tanzanian AIC would have a primary focus on small/medium scale sunflower processors (and later, oilseeds in general) and a secondary focus on other diversified value chains and subsectors, most notably (but not limited to) small scale horticulture, cashew nut, honey and snackprocessors.

The sunflower processing sector and oilseeds as a whole offer excellent growth potential for both primary and secondary producers in terms of land utilization, job creation and market opportunity. Unfortunately, development of a vibrant local sunflower oil processing sector is constrained by barriers to growth that become evident for companies processing 1,000to 8,000 liters per day.

Other value chains and subsectors also offer potential, but these lack a specific geographic cluster of enterprises in sufficient numbers to allow intensive support by an AIC. Therefore, the AIC will have a secondary focus on a geographic cluster of enterprises in diverse value chains and subsectors. The main aim here is to identify what is needed to expand one or more of these chains, with the initial question being: "If a growth enterprise exists in value chain X, why are more not created, and what must an AIC do to facilitate additional creation?" The need for a geographical focus, to facilitate the intensive nature of AIC support services, is met by

focusing on enterprises in and around Dar es Salaam (which has the highest concentration of growth enterprises in Tanzania).

Immediate low- to medium-tech processing opportunities include oil, soap, and seed cake processing (oilseeds) and drying, juicing, extracting, purifying, concentrating, formulating and powdering technologies (as examples of other diverse value chains). Many of these products also have significant health and nutritional properties that can be exploited for higher-end processed products targeting the food, pharmaceutical, and cosmetic markets. There is also potential to expand the technology into new products such as high value oils like ginger, rose, thyme, spices, medicinal plants, etc.

The feasibility assessment revealed that the highest impact—and the highest likelihood of financial sustainability—could be achieved by focusing on high growth potential entrepreneurs with current revenues greater than \$25,000 a month in oil processing and around \$1,000 a month in the case of companies that process diverse raw materials. The aim would be to facilitate growth from small (600 liters per day) to medium-scale (4,000 liters per day) oil-processing companies and from other micro- to small-scale processors.

Enterprises at these levels demonstrate a basic level of understanding of market demand, target the local and national markets, and have access to a minimum level of equipment within their respective sectors. Thus, they have a foundation that positions them for growth into new markets or products. However, they also face significant constraints that prevent them from growing into small- and medium-scale enterprises. These barriers were assessed by examining the value chain, the market conditions, the policy environment, and the specific company, as well as access to technology and finance. On the basis of this assessment, the AIC service offering outlined below was defined.

1.3 THE SERVICES OF THE AIC

Using an outreach support model with a small central hub of offices and technology demonstration facilities, the AIC will offer:

1. A four-year, graduated support model for oilseed processors with an initial processing capability of at least 600 liters per day. These will be supported in Year 1 to increase their outputs to 1,000 liters per day. In Year 2, processors would expand output to 1,500 liters per day, in Year 3 to 2,500 liters per day and then to 4,000 liters per day in Year 4. Processors would graduate once they reach this production level, which is a suitable base from which to leapfrog to the intended 8,000 to 20,000 liter-per-day level. This expansion will be overseen indirectly by the AIC, but by this stage the graduated en-

enterprises are anticipated to be self-directed and capable of independent finance raising, marketing, etc.

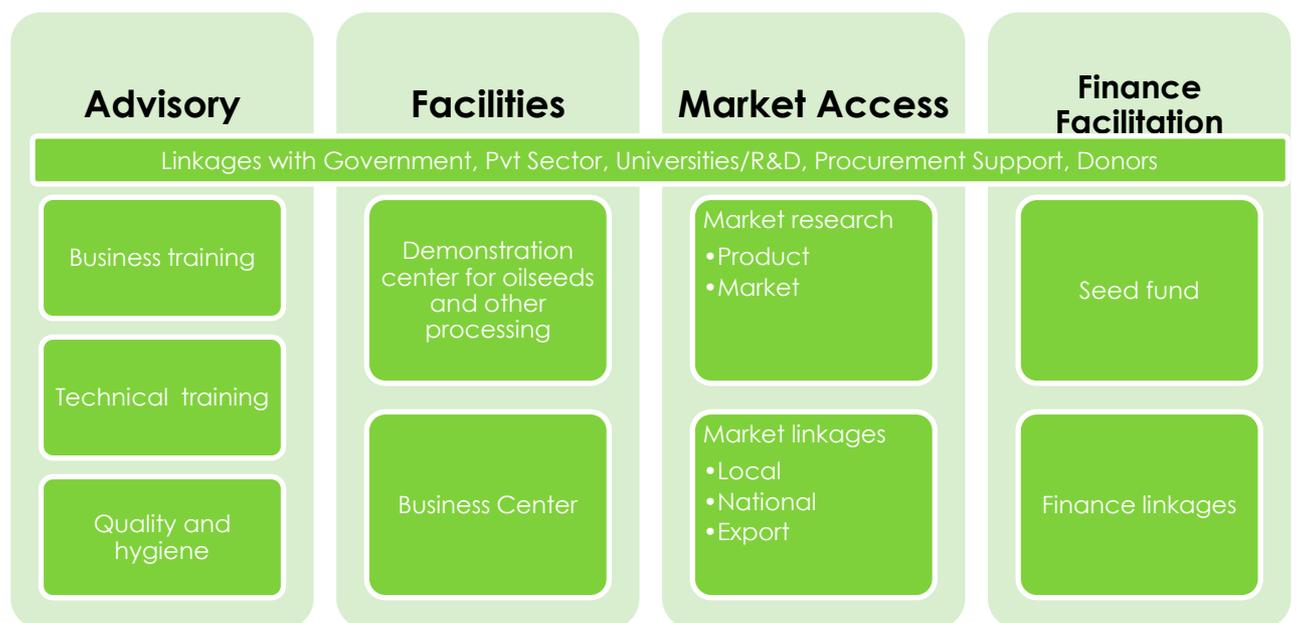
2. A four-year, graduated support model for enterprises operating in a diverse range of value chains and subsectors. This will include a six-month to one-year pre-incubation period to support micro-scale enterprises with the potential to expand production, followed by two to three years of assistance to move into small-scale and possibly medium-scale production.

As illustrated in the figure below, **the AIC will provide entrepreneurs with comprehensive services, including business coaching; market research, marketing and procurement facilitation; technology identification, technical training and access to processing technologies; and financial services, including a small seed-capital fund.**

Additionally, due to the AIC's commitment to helping these businesses serve as demonstration models and to spur uptake of technology and marketing innovation beyond the enterprises directly served by the incubator, the AIC will host innovation challenges and awards and engage in select advocacy activities.

The AIC is a partnership-based, highly networked model. Many of the services outlined below will be delivered in partnership with existing organizations. Based on a review of the existing service offerings available, the service gap appears to be widest in the market pillar of the diagram below. This will, therefore, be the first area that the AIC will emphasize.

Figure 1 AIC Service Offerings



The AIC's mission and goals, to be delivered through a range of services and programs, can be categorized as follows:

Advisory Services

- Business training, mentoring, courses and toolkits on entrepreneurship and business capacity building
- Specialized technical training and support.

Access to Facilities

- Facilities that support demonstration of technology and business development
- Testing facilities and organizations.

Access to Markets

- Market information including market size, prices, volumes, quality requirement for various products
- Facilitate access through direct sales support and support to develop appropriate product quality and bulking arrangements.

Finance

- Seed capital through a highly flexible fund
- Other sources of financing through contacts with investors and partnerships with banks and the broader finance community (to facilitate working capital financing).

Linkages and networking

- Work closely with stakeholders to support agribusiness in Tanzania
- Raise the visibility of the AIC, the brand name and, more generally, the importance of agribusiness in Tanzania.

1.4 LIMITS OF THE AIC

Important barriers to growth that will not be met by the AIC include the development of primary agriculture, a system of cold chain facilities, storage of raw materials, and provision of an internal transport logistics operation. Investments in reliable energy supplies will also not form part of the AIC mandate.

The AIC will seek to overcome these particular challenges by working with allied organizations to improve these areas for target enterprises.

1.5 CRITICAL SUCCESS FACTORS

As revealed in *Growing Food, Products and Businesses*,¹ there are a number of **critical success factors** for an intervention of this kind: (1) help clients manage risk; (2) understand the details of the value chain; (3) maintain a broader goal of demonstrating innovative business propositions so as to stimulate broader sector take-up; (4) adapt the focus and business model of the AIC; (5) proactively identify and promote higher value market opportunities; and (6) design and operate the AIC in line with good practice, including ensuring a strong selection process that identifies and cultivates innovative, growth-oriented entrepreneurs and developing strong partnerships with the public and private sector.

In order to achieve these success factors, an AIC needs staff with extensive experience in the agribusiness sector, a strong capital structure, and a governance framework that allows the management to operate the AIC in a businesslike manner.

1.6 IMPLEMENTATION OF THE AIC

The AIC service offerings outlined by nature require **a partnership-based model**. Local service providers such as the Small Industries Development Organization (SIDO) and the SME Competitiveness Fund have been very active in assisting processors. Similarly, the Private Agricultural Sector Support Limited (PASS) has been instrumental in pioneering new funding products, and local banks are increasingly interested in partnering with the AIC to reduce the level of risk associated with lending to such enterprises. These and other organizations will be key to the implementation of an AIC. Some of the services of the AIC will also be outsourced to competent existing entities, while other competencies will be developed internally. Examples of services to be outsourced include lab testing and training in food safety standards.

The optimal legal form for implementation in Tanzania appears to be **a new not-for-profit organization**. This organization would have a board of directors with representation from the public and private sectors, as well as academia. Tanzanian stakeholders would own and operate it.

To kick off the implementation stage, *infoDev* would typically **convene an interim Board of Directors (BOD)** comprising public and private sector representation to oversee the planning stage. The interim BOD would include partners who contribute to the success of the AIC in the form of cash or in-kind contributions, along with a client representative.

¹InfoDev, 21 Feb 2012. *Growing Food, Products and Businesses: Applying Business Incubation to Agribusiness SMEs*, Global assessment by *infoDev* to understand the impact and lessons from agribusiness incubators and innovation centers, <http://www.infodev.org/en/Article.800.html>

Organizations that have expressed an interest in partnering with an AIC include the Commission for Science and Technology (COSTECH); the Ministry of Industry, Trade and Marketing (MITM) and its institutions, such as SIDO and the Tanzanian Industrial Research and Development Organization (TIRDO); the University of Dar es Salaam; private enterprise development organizations such as PASS and the SME Competitiveness Facility (SCF); producer associations; processing associations; and a number of financing institutions. Donor interest is high.

These organizations, and others interested in contributing to the success of the AIC, could be invited to serve on the interim board.

1.7 LOCATION

The AIC must be located in an area that (1) is within close proximity to its target clientele; 2) allows economical procurement of raw materials and location of processing infrastructure and packaging; (3) is convenient from a logistical perspective, and (4) is near the required sources of expertise (for example, technical, business or R&D).

On the basis of these criteria, **the most feasible location appears to be in the Dar es Salaam/Kibaha/Morogoro corridor, with potential satellite centers in Dodoma, Tanga and Arusha** developed over time.

1.8 THE ROLE OF *INFODEV*

At the planning and implementation stage, ***infoDev* views its role as providing the technical guidance to plan, resource, and operate the AIC successfully.**

With a strong commitment to building local institutional capacity, *infoDev* would thus harness its decade of experience in setting up business incubators and innovation centers, its agribusiness incubation training program, and its international network of innovation and entrepreneurship professionals across 107 countries to guide the Board and the AIC manager through such important milestones as developing a governance framework, a client selection process, service design and execution, marketing, and monitoring and evaluation.

InfoDev could also manage single or multi-donor trust funds to be disbursed to the AIC. In order to ensure sustainability and adequate local capacity, *infoDev* typically remains engaged for a three- to five-year period, gradually scaling down its support as the capacity of the local team and partners increases.

1.9 IMPACT

In carrying out this mission, AIC will measure performance against aggressive impact and outcome targets over a six-year period, including:

Impact of the AIC over six years

Parameter	Year 5 Target
Number of enterprises supported	177
Increase in turnover after AIC intervention	\$36.7m
Increase in tax revenues	\$1.6m
Number of direct jobs created	650
Number of indirect jobs created	1859

Note: The six-year period includes a one-year initiation period and five years of enterprise support, Year 0 to Year 5

With regard to income generation, the business model is based on the payment of a 10 percent royalty fee on growth facilitated by the AIC. **The royalty on growth approach is suggested as a mechanism that allows supported enterprises to repay an affordable amount based on the growth in their businesses through AIC facilitated activities. Further, the fact that no growth equals no payment drives management to meet targets.**

At a 10 percent royalty fee rate, with improvements at the gross profit and net profit levels, incubated companies can earn more than they pay as a royalty and then have full access to this growth on exiting the AIC. The AIC in turn can achieve 95 percent financial sustainability from Year 4 of implementation.

1.10 BUDGET REQUIREMENT

The AIC requires a budget of \$8.7 million over the first six years.

This total includes \$4.55 million for operations (including \$0.325 million for capital expenditure), \$2.5 million for a seed fund and \$1.65 million for implementation and trust fund management. Once fully operational, operating costs per annum will be approximately \$0.8 million for operations. A "green growth" support initiative is an additional budget item at \$0.725million.

The \$8.7 million budget will be used in the first six years, while the AIC develops its service offering. During this period, the AIC will raise income from the royalty payments of clients, but will place this in a reserve fund. The fund will accumulate to

an estimated \$2.7 million. In Year 6 it will be used to fund (1) any shortfall in the income generation of the AIC business model going forward, and (2) expansion of the AIC, either through addition of facilities or staffing, or increase of the seed fund.

Thus the AIC will return concrete *economic, environmental, social and sustainability returns* as outlined above. These are the types of ecosystem impacts that only a well-funded, holistic institution like the AIC can provide.

2.0 THE AGRIBUSINESS INNOVATION CENTER CONCEPT

2.1 ACCELERATING AGRIBUSINESS DEVELOPMENT THROUGH INNOVATION

According to the World Bank, “the potential of agricultural growth to reduce poverty is four times greater than the potential of growth from other sectors.” The 2008 World Development Report outlined how investments in agribusiness produce significant multiplier effects through their forward and backward linkages, generating demand for agricultural products and associated inputs and services and creating on and off-farm employment. Interventions that can unleash this potential can have a tremendous impact on poverty.

The fact is that many developing countries have not turned their vast comparative advantage in agriculture into a competitive advantage in value added processed products. They have subsequently lost out on income generation and job creation opportunities that this value addition opportunity offers. Tanzania for example, exports raw cashew nuts and imports processed cashew nuts. Senegal's retailers stock only a handful of locally manufactured food products—preferring imported products – despite Senegal's extensive horticulture industry and rich culinary traditions.

Reaching development goals such as job creation and inclusive growth in agriculture, will need more focus on supporting growth-oriented entrepreneurs engaged in downstream business activities (such as processing) to develop competitive enterprises to effectively link into productive value chains.

InfoDev seeks to advance new approaches to accelerating the growth of innovative, technology-enabled agro-processing enterprises, while creating powerful demonstration cases that illustrate how engagement of farmer associations, industry, financiers, and government in creating innovation and market-driven shared value, can catalyze the green growth of an inclusive and job creating, competitive agro-processing sector.

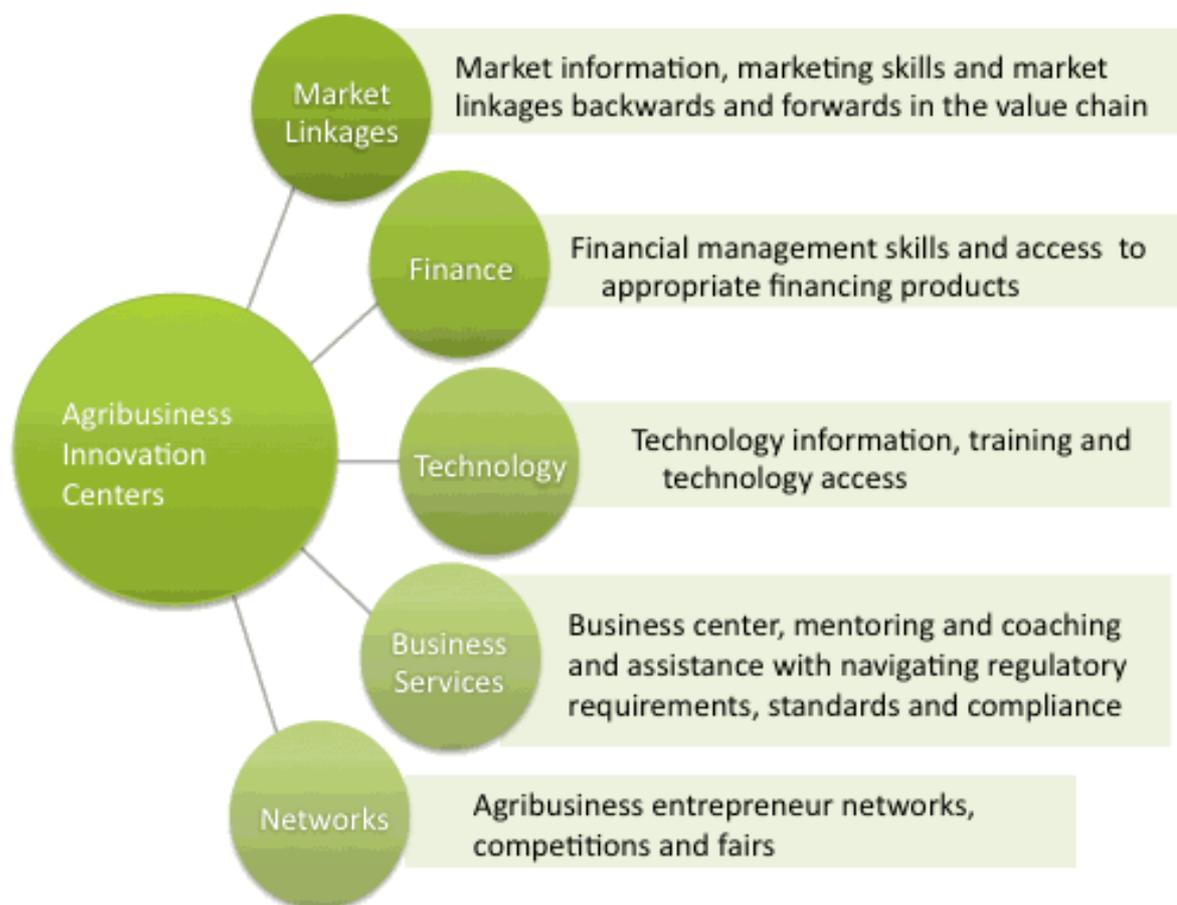
“The future of African development depends on the ability to accelerate innovation by capitalizing on the creativity of African farmers and agribusiness entrepreneurs... Innovation is under way in African value chains. It is not driven by research, but by entrepreneurs, networks and supportive policies.”

Dr Andy Hall, LINK Coordinator, United Nations University, MERIT, Maastricht

2.2 AGRIBUSINESS INNOVATION CENTERS (AICS)

InfoDev is piloting the concept of an AIC as a mechanism to increase the competitiveness and growth of pioneering innovative growth-oriented small or medium agro-processing enterprises that have the potential to become an industry leaders by advancing product, process and business model innovation translating into improved products and larger market share in existing markets or entry into new markets and development of new products for existing or new markets.

The AICs are unique from the perspective of their target clientele, their business model, and the holistic service offering, which – although tailored to the specific needs and characteristics of the target market – generally provide the following services:



Over the past decade, *infoDev* has accumulated a range of lessons about enabling the start-up and growth of high growth potential enterprises in developing countries. Its recent global assessment: *Growing Food, Products and Businesses*² revealed a number of critical success factors for an intervention similar to an AIC (the conclusions of the global study are available in Annex 1):

²The global assessment carried out by *infoDev* to understand the impact and lessons from agribusiness incubators and innovation center is available at: <http://www.infodev.org/en/Article.800.html>.

- Help clients manage risk: Agribusiness is inherently risky because of its reliance on farming (which is susceptible to such environmental risks as flood, drought, and pests) and perishable products. Critical to the success of an AIC is to help agro-processors manage these risks above and beyond the business challenges that any enterprise faces in any industry.
- Understand the characteristics of the value chain: The agribusiness value chain can be long with critical dependencies between each element in the chain. The AIC must understand the state and dynamics of the value chain to assist the agro-processing enterprise in being successful. Relatedly, the World Bank has found in its review of agribusiness investments that a strong focus on a few cross-cutting issues, locations, or value chains with an established comparative advantage and strong market prospects provides an opportunity to “pilot difficult reforms, demonstrate success, and learn from those efforts in scaling up the program.” *InfoDev* has therefore sought to pro-actively identify a few initial focus areas for each AIC.
- Proactively identify and promote higher value market opportunities: The agribusiness sector is complex and plagued by information asymmetries that often prevent enterprises from recognizing high-value business opportunities. An important role of the AIC is to help the enterprise gain access to relevant market information.
- Maintain a broader goal of demonstrating innovative business propositions: The desired catalytic effect of an intervention of an AIC does not necessarily happen without a deliberate, tangible effort. Specific programs must be designed for this purpose.
- Design and operate business incubation in line with good practice.
- Business incubation good practices include the following, regardless of sector:

Results from Agribusiness Incubation

🇨🇱 Fundación Chile:

Initial investment: \$50 million

Entrepreneurs' sales: \$425 million

🇮🇩 IAA-IPB, Indonesia:

Initial investment: \$300,000

Entrepreneurs' sales: \$8 million

- Ensuring a strong selection process that identifies and cultivates innovative, growth-oriented entrepreneurs
- Developing strong partnerships with the public and private sector
- Locating the AIC in a geographic location that is attractive to the target clientele. The World Bank's review of agribusiness investments corroborates this lesson: "Locations with revealed competitive advantage and proven investor demand should be preferred over attempts to initiate new industries in new areas."
- Ensuring that the AIC manager and service provider have entrepreneurial, and preferably industry, knowledge and that these staff members have incentives that align with the desired outcomes and impacts of the AIC
- Obtaining a strong capital structure
- Putting in place a governance framework that allows the management to operate the AIC in a business-like manner
- Continuously adapting the focus and business model of the incubator in line with evolving market conditions

InfoDev has sought to address each of these factors in the design of the AICs.

3.0 THE TANZANIA AIC FEASIBILITY AND BUSINESS PLANNING PROCESS

The foundation of the work to assess the likelihood of successful AIC implementation is based on global experiences in conceptualizing, designing, developing and implementing similar initiatives. These include *infoDev's* 10 years of experience in the implementation of innovation and entrepreneurship programs in over 80 developing countries. Other lessons learned and experiences leveraged include *infoDev's* recent global study on agribusiness good practices, which covered numerous continents and included case studies of successful agribusiness incubators.

Given the tremendous diversity, complexity and length of agricultural value chains and the underdevelopment of agribusiness as a whole in many developing countries, the first step in the AIC assessment was to identify a set of indicators considered necessary and sufficient for a successful AIC. Since an AIC provides intensive support to help growth enterprises expand, these indicators need to include production, processing, people and market-related indicators. The necessary conditions for the successful implementation of an AIC are set out below in Table 1 below:

Table 1 Indicators for Assessing the Feasibility of Implementing an AIC

Indicator	Specific Questions
Scalable Production Potential (with comparative advantage)	Are there agricultural subsectors and value chains with known comparative advantage(s) that offer sufficient production of adequate quality within economic reach of processors? Can this be increased (if required) to facilitate beneficiation expansion?
Geographically Clustered Growth Entrepreneur Capacity	Do growth entrepreneurs exist, or can they be developed/recruited to ensure the growth of beneficiation activities within a suitable geographic cluster? What do they need to access and develop opportunities? Are there gaps in these areas, and can an AIC offer solutions?
Access to Finance	Does suitable, accessible funding exist, or can it be facilitated, for development, R&D, commercialization and expansion?
Clear, Ready Stakeholders (including industry leverage)	Are there strong stakeholders that are, or can be, active in supporting the value chain? Can they positively affect the likelihood of implementation?
Scalable, Accessible and Viable Markets	Can markets be identified that are scalable, accessible and viable, now and in the future?
Infrastructure & Regulatory Constraints	Is there sufficient infrastructure available? Does the regulatory environment provide incentives for entrepreneurs to take advantage of the value-addition opportunity?

Source: Authors

The second step was for *infoDev* to engage in literature assessments and in-country, multi-stakeholder interactions to understand and map the indicators. Stakeholders were convened for a series of workshops and interviews to explore the issues surrounding agribusiness development and to assist in the development and design of a business plan to establish an AIC. Analysis of these indicators was completed through a mix of the following.

1. Literature assessments

Literature regarding past, current and potential future initiatives was identified and analyzed. Extensive use is made of this material in this report and is quoted only in exceptional cases.

2. Stakeholder interviews

Interviews were held with individuals representing government, agricultural support organizations, entrepreneurs, academic researchers, investment promotion and non-governmental organizations.

3. Workshops

Three stakeholder workshops held in Dar es Salaam provided insights and guidance to the project team. Attendance is recorded in the Stakeholder Support section at the beginning of this report.

The first workshop primarily focused on identifying sectors and value chains of interest and on the needs of entrepreneurs.

The second workshop examined potential business models and their challenges, resulting in the selection of a commodity group for the AIC to support. The third workshop presented the final findings and business model for an AIC to potential partners in Tanzania.

It should be noted that *infoDev* maintains a strong commitment to lasting impact, sustainability and local ownership. *InfoDev* therefore always adopts a highly participatory approach to its feasibility assessment and business planning process.

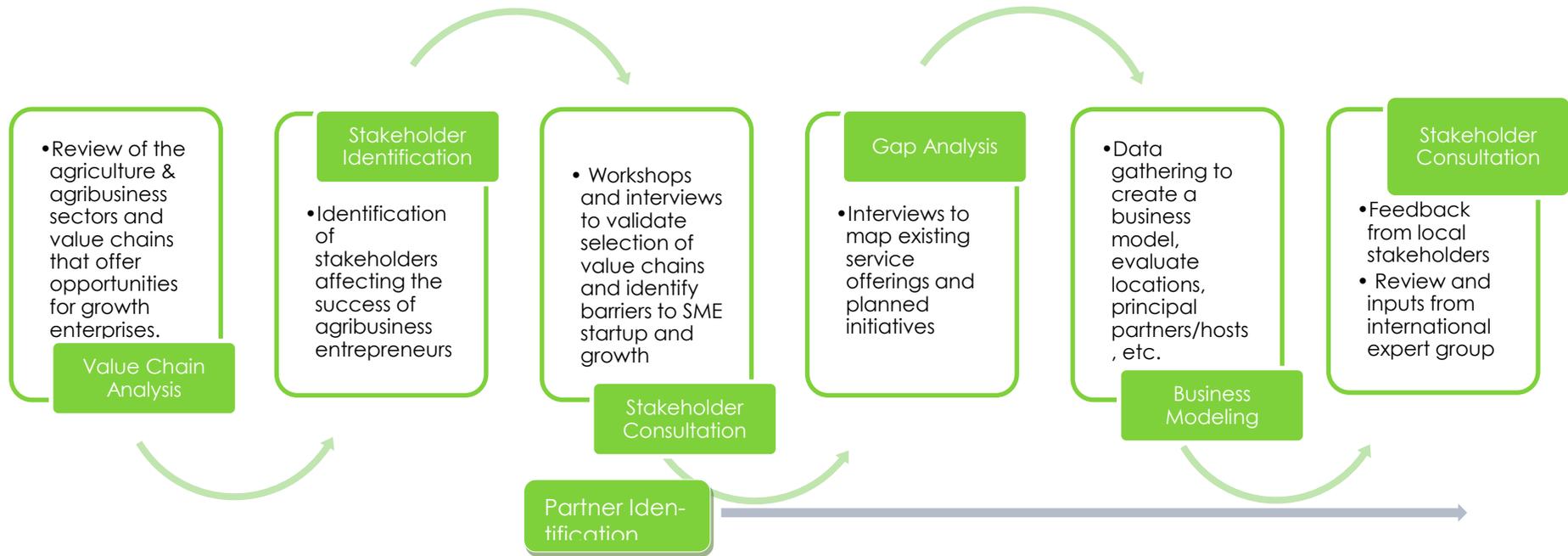
This approach and the length of the feasibility assessment not only ensure accurate information with which to assess the indicators, but constant interaction over an extended period of time also builds trust that enables the formation of partnerships that will be necessary for implementation.

Over a 12-month period, *infoDev* consulted over 100 stakeholders, representing small and medium enterprises, agribusiness industry, relevant ministries and local

authorities, R&D facilities, universities, financial institutions and international agencies operating in the agribusiness sector in Tanzania.

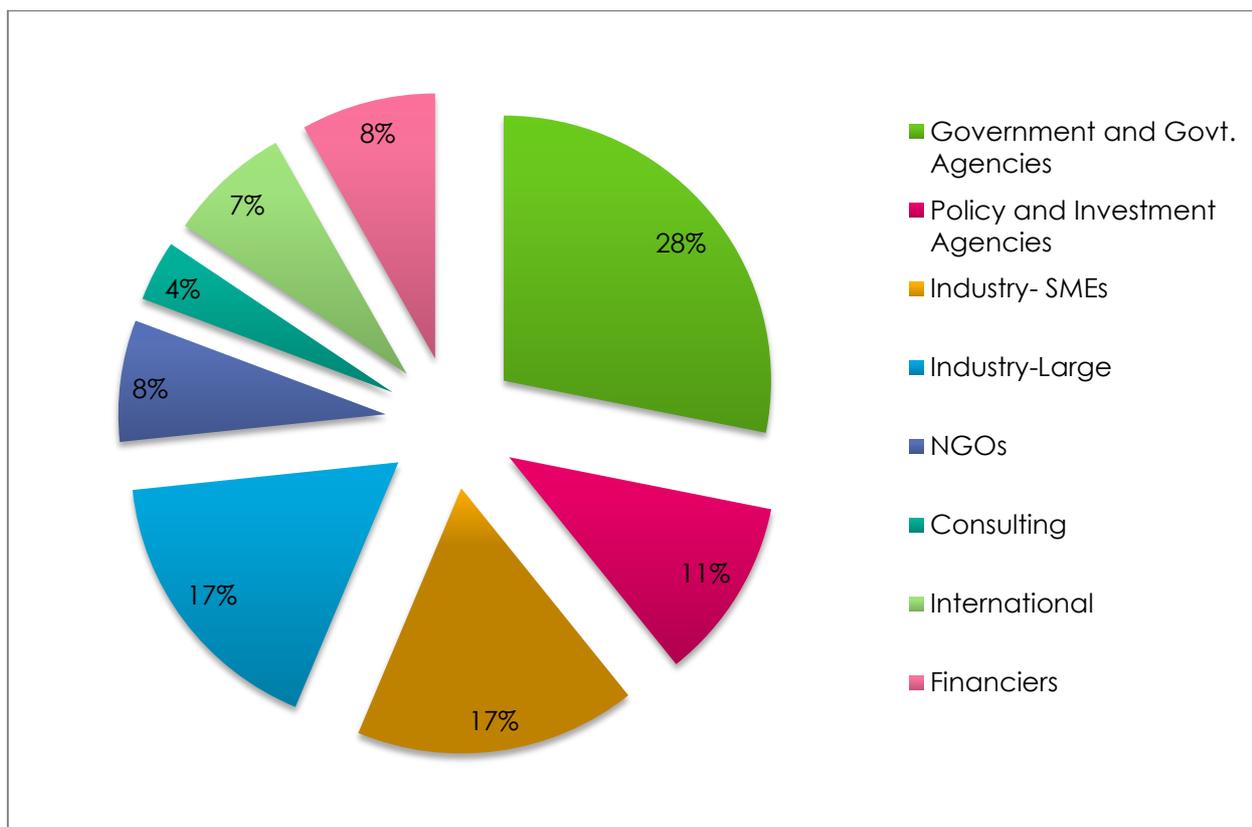
The schematic of the stakeholder interaction process is presented in Figure 2 below.

Figure 2 Tanzania AIC Feasibility Assessment and Business Planning Methodology



Source: Authors

Figure 3 Tanzanian Agribusiness Stakeholders Consulted



Source: Authors

The final step involved the development of an AIC business model that identified:

- Subsector(s)/value chain(s) of interest
- Focal entrepreneur group(s)
- Geographical location(s) of the AIC
- Suite of offerings to be provided by the AIC
- Stakeholders and partners to be involved in the AIC
- Governance model of the AIC
- Financial model underpinning the sustainability of the AIC
- Risk and mitigation activities
- Targets and impact measures that will indicate progress.

This business plan was then shared with key stakeholders and potential partners, and submitted for external review to knowledgeable persons.

The output of this process is a well-researched, carefully thought out, ready-for-implementation business model for the AIC, which sets out a range of offerings that are tailored to the needs and market opportunities of growth-oriented agribusiness entrepreneurs in Tanzania.

The timeline for the feasibility assessment process is depicted in Figure 4 below.

Figure 4 Feasibility assessment process timeframe

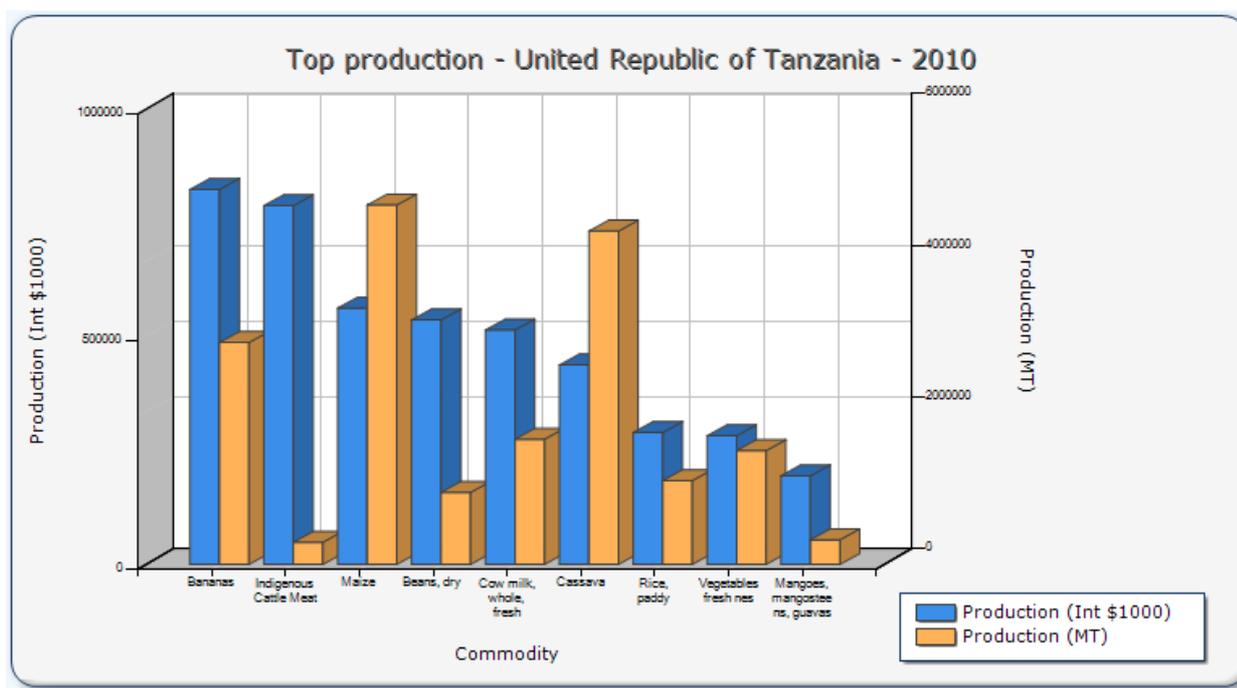


Source: Authors

4.0 AGRIBUSINESS IN TANZANIA

Agriculture in Tanzania is diverse and extensive. It employs over 80 percent of the population, and contributes about 28 percent of GDP and 30 percent of export earnings. The range of agricultural commodities produced in Tanzania is wide—fiber (sisal, cotton), beverages (coffee, tea), sugar, grains (a diverse range of cereals and legumes), horticulture (temperate and tropical fruits, vegetables and flowers) and edible oils. The FAO figure below captures the most valuable agricultural products produced in Tanzania.

Figure 5 Top Commodity Production in Tanzania (2010)



Source: FAO

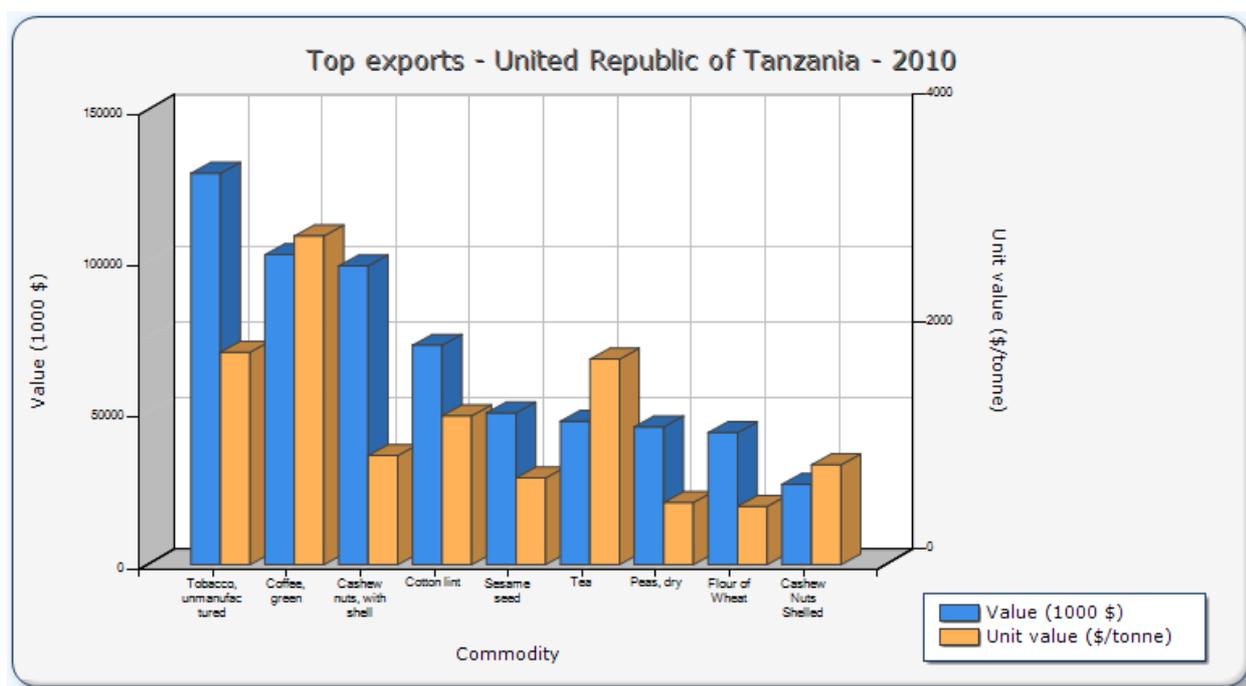
Of the 44 million hectares (ha) of arable land suitable for agriculture, only 23 percent, or some 10 million ha, is utilized. According to Tanzania's National Irrigation Master Plan, 29.4 million ha (31 percent of the total land area) is in fact suitable for irrigation, but only about 1.0 percent of that was under irrigation by end of 2008. There is therefore a great deal of potential for further agricultural development.³

Historically, the focus of the sector has been on meeting basic nutritional needs in combination with modernizing equipment and farming practices for increased productivity, employment, profitability and incomes. Past efforts in the sector show that only some challenges have been addressed, e.g., production has increased for some

³Economic and Social Research Foundation. 2009. *Study on the Identification of Potential Growth Drivers for Tanzania Based on an Analysis of Tanzanians: Competitive and Comparative Advantages—Growth Sectors and Growth Drivers: A Situational Analysis Report*. 2009. Dar es Salaam. ,

crops but not others. A study by the International Food Policy Research institute (IFPRI) notes⁴ that while Tanzania has sustained rapid economic growth over the last decade, the growth of the agricultural sector has been lower than for the economy as a whole. In addition, what growth there has been is concentrated in larger-scale production of rice, wheat, and export crops (cotton, sugarcane, tobacco) in the northern and eastern parts of the country. Consequently, between 2001 and 2007 Tanzania's poverty rate only fell from 35.7 to 33.6 percent, and the share of the population consuming insufficient calories (food) declined marginally, from 25.0 to 23.6 percent. The most valuable products exported from Tanzania are captured in the FAO figure below.

Figure 6 Top Commodity Exports in Tanzania (2010)



Source: FAO

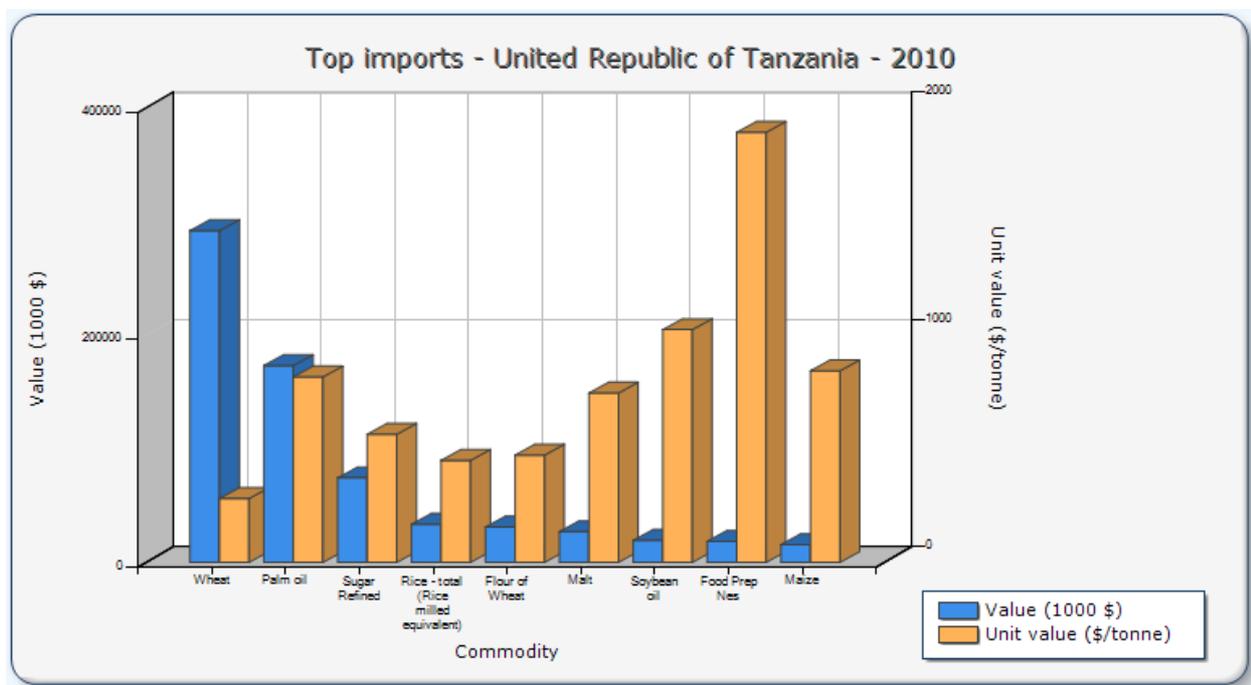
More recently, under various government initiatives such as the national development strategies MKUKUTA/MKUZA, the emphasis has been on small-scale agriculture, with a gradual shift to medium and large-scale farming. Sector growth issues revolve around productivity, with particular emphasis on increasing yields by smallholder farmers to facilitate their becoming commercial farmers. The government and private sector investment efforts have principally focused on 1) supportive physical infrastructure; 2) water and irrigation infrastructure; 3) financial services and incentives to invest in agriculture; 4) knowledge and information management; 5) mechanization; 6) trade/export development services, and, now more than ever, 7) value-addition activities.

⁴International Food Policy Research Institute (IFPRI). 2011. "Agriculture, Health and Nutrition: Toward Conceptualizing The Linkages." IFPRI 2020 Conference Paper. February 2011.

It is in value-addition activities that Tanzania has struggled most. The impact of this struggle has been felt not only at a macro level, but by farmers themselves. Reports indicate that post-harvest losses of fruits and vegetables amount to 40 percent of their value,⁵ and that only 4 percent of production was processed. The lack of beneficiation is most visible in the cashew subsector, where only 6 percent of the annual production of 120,000 tons is processed locally.⁶ The figures are similar for fiber crops, hides, horticulture, forest products and honey.

Import substitution also offers an opportunity to increase agro-processing in many areas, such as cassava starch and oil seeds. This is illustrated by the Food and Agriculture Organization of the United Nations (FAO) figure below, which shows the most valuable products imported by Tanzania.

Figure 7 Top Commodity Imports in Tanzania (2010)



Source: FAO

There is clearly a need for an AIC initiative to strategically choose commodities that:

- Increase primary agriculture production pull-through
- Broaden the range of rural dwellers who benefit through poverty reduction
- Accelerate agricultural growth in a wider range of subsectors
- Increase the scope and scale of value-addition.

⁵ Andrew Ngeresa, Anna Keutgen, Elke Pawelzik. 2007. "Quality of Mango, Passion Fruit and Pineapple in Tanzania." Conference paper presented at Tropentag 2007: Utilization of diversity in land use systems: Sustainable and organic approaches to meet human needs, October 9–11, 2007, Witzenhausen, Germany.

⁶ ESRF, "Growth Sectors and Growth Drivers," 2009.

5.0 EVALUATING THE CONDITIONS NECESSARY FOR SUCCESSFUL AIC IMPLEMENTATION

The process of evaluating whether an AIC can be successfully implemented in a particular location requires an analysis of the necessary conditions described in Table 1. This is not a linear process, but highly iterative. However, for descriptive purposes, it is presented here in linear order.

5.1 SCALABLE PRODUCTION POTENTIAL WITH COMPARATIVE ADVANTAGE

The AIC is designed to support growth entrepreneurs in subsectors and value chains that offer the best overall post-harvest processing potential. Furthermore, it is not intended to duplicate current activities, nor to support subsectors and value chains that have already advanced to acceptable levels of processing capability. For these reasons, the following sectors were excluded from consideration:

- Staple crops such as maize and rice
- The cash crops of tobacco, coffee, tea and sugar.

The assessment of scalable production potential must at the very least take into account:

- The availability of and access to suitable land
- Farmers' interest and capabilities (e.g. for different products the economics of agricultural production may be better suited to small-scale or large-scale farming)
- Access to production (e.g., irrigation) and logistical (e.g., roads) infrastructure
- Access to adequate support services (e.g., extension, finance)
- Proximity to processors.

During the literature review⁷ and stakeholder interviews, and after the first workshop of key stakeholders, five subsectors and value chains (or value-chain groupings) were identified as having scalable production potential:

1. Cashew nuts
2. Horticulture (mainly fruits)
3. Beef

⁷ Numerous reports were reviewed, including those from the Tanzania Investment Centre, SAGCOT, MITM, development partners, NGOs, etc. They are not cited individually but contributed to sector understanding.

4. Oilseeds (sunflower)

5. Cassava.

These were evaluated by participants in the first workshop and through follow-up stakeholder consultations and literature reviews. The findings are presented in Table 2.

Table 2 Sectors Offering Scalable Production Potential

Parameter	Cashew	Fruit	Beef	Oilseed	Cassava
Scalable Production Potential (with comparative advantage)	1	1	2	1	2

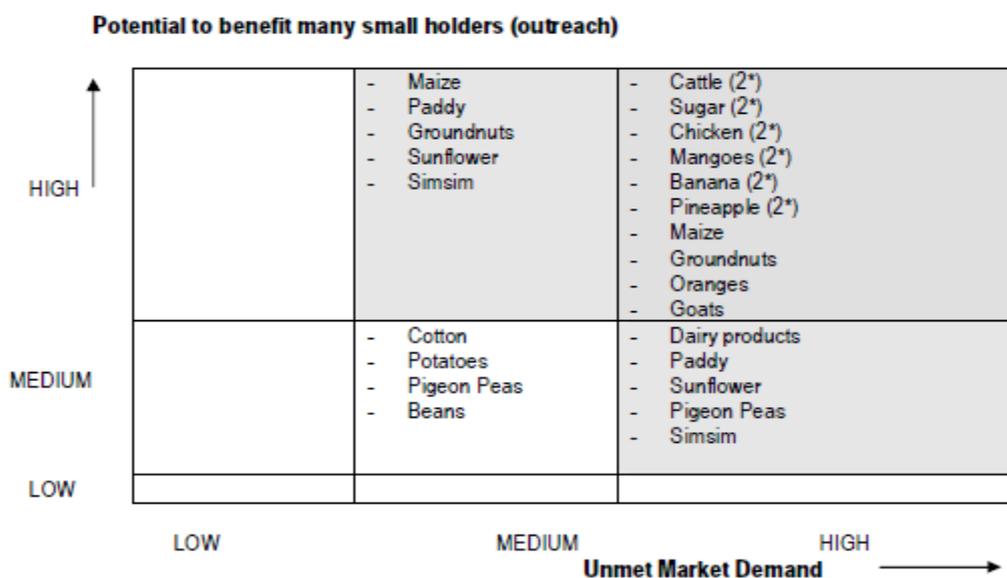
KEY: 1=high potential2=average potential3=poor potential

Source: Authors

This selection is supported by other studies that identified the same subsectors and value chains as having the best potential to affect a large number of producers and to meet unmet market demand, as depicted in Figure 8.⁸(While not depicted in the graphic, cashew-nut processing presents no less of an opportunity.)

⁸SNV Tanzania. July 2005. *The Fresh Fruits Sub-Sector Study in Morogoro and Dodoma (with special emphasis on Pineapples)*. Final Report. Match Maker Associates.

Figure 8 The Potential for Oilseeds and Horticulture Production to Benefit Smallholders and Meet Unmet Market Demand



CASHEW NUTS

The cashew nut subsector offers competitiveness by way of seasonality and price, and constitutes an important foreign-currency-earning export crop. Tanzania ranks as the 16th highest producer of cashew nuts in the world, by value⁹. Production in the previous decade was below the peak reached in the year 2000, but the last two years have seen a marked upward trend that is attributed to higher prices.

While there is substantial potential to extend production and increase the amount of domestically processed cashew nuts, there are a number of systemic constraints that retard this potential: lack of access to credit, insufficient application of inputs, delayed rehabilitation of plantations, lack of knowledge of plantation agronomy and poor handling of farming as a business, as well as insufficient price incentives.

On the positive side, the introduction of the warehouse receipt system in 2007 has brought some improvements in production quality and farm-gate price, though these may have come at some cost to the efficiency of internal marketing.

While Tanzania is well-positioned in the international market for raw cashew nuts, its processing sector remains underdeveloped and uncompetitive, particularly since buyers of raw cashew nuts can freely access the market. Other reasons for an underdeveloped processing sector are the lack of technical and managerial experience of most processors; a difficult business environment, characterized by over-regulation and inadequate infrastructure; deteriorating machinery and equip-

⁹Ministry of Industry, Trade and Marketing (MITM), in collaboration with UNIDO Tanzania. 2010. Tanzania's Cashew Value Chain: A Diagnostic Study. MITM, Dar-es-salaam, Tanzania.

ment; limited access to appropriate financial products; labor costs; service and input gaps; and the lack of coordination between the various actors in the value chain.

The profitability of processing can be improved by diversifying the product range—including commercial utilization of the readily available waste—and by utilization of other byproducts such as cashew nut shell liquid (CNSL) and cashew apples for biogas generation.¹⁰ Further, domestic and East African markets for roasted and processed cashew nuts may be promising. In addition, the implementation of certification standards and quality improvement measures would allow processors to penetrate international markets for quality kernels.

The organization and governance of the value chain, as well as the articulation of its stakeholders, is still in its initial stages. Much coordination would be required to establish viable supplier-processor-buyer relationships. Additional needs would include finance facilitation, capacity-building, technological upgrading, byproduct development, chain coordination, and lobbying for an improved business environment. These are all within the mandate of an AIC.

BEEF

There are approximately 20 million cattle in Tanzania. The majority are indigenous breeds such as the Tanzania shorthorn zebu (TSZ) and Ankole. Around 80 percent of the indigenous animals are kept in the agro-pastoral system, while 14 percent are in the pastoral system. The remaining 6 percent come from commercial ranches and the dairy herd. Roughly 20 percent of the herd is commercially slaughtered each year.

The beef industry is highly underdeveloped, despite the volume of cattle and livestock in Tanzania. The government's National Ranching Organization (NARCO), with 15 ranches and a total land holding of 630,000 ha, remains the major commercial beef cattle producer in the country. Apart from the government-owned ranches, there are also some private investors and smallholder farmers who are engaging in ranching and feedlot businesses.

Factors that constrain development of the beef industry include the low genetic potential of existing stock, inadequate infrastructure, inadequate marketing systems, animal diseases (and lack of control), inadequate technical support services and weak livestock farmers' organizations.

While potential value-added products such as meat slices, sausages, leather, glue, bone meal, blood meal, fertilizer and biogas offer opportunities, new investments and assistance initiatives are needed.

¹⁰idem

It is not certain that the quality of production, the scale of processing or the market for processed products would be suited to the small-scale processors who could be supported by an AIC.

CASSAVA

Cassava is widely produced in Tanzania, especially in Mtwara, Lindi, Ruvuma, Pwani, Mwanza and Kigoma regions, and it grows fairly easily, withstanding severe drought conditions.

In 2007, Mkuranga district accounted for 46 percent of total production, followed by Rufiji District at 30 percent and Kibaha district at 13 percent. Total annual production of cassava in Tanzania is estimated at 5.5 million tones, with average reported productivity in some districts between 7 and 12 tons per ha, compared to potential production of 20 tons per ha. This is a function of a lack of inputs (capital- and logistics-induced) and poor farming practices.

The crop's importance is reflected by the fact that it contributes about 50 percent of the total food requirements in the Coastal region of Tanzania, as well as because its harvest season is counter-cyclical to other food staples

Despite opportunities to increase incomes and create jobs in cassava production and processing, production is limited. Initiatives are being undertaken to address this—RUBADA (the Rufiji Basin Development Authority) has a program designed to develop over 1,000 hectares of cassava.

Cassava flour is widely used, first as a direct consumer good and second as an ingredient for bakery products. Cassava starch can be used in many manufacturing applications. Possibilities thus exist for processing high-quality cassava flour to substitute for wheat flour in bread and other bakery products, in order to minimize importation of wheat flour. Cassava can also be processed into high-quality flour composites for snacks, dried products, starch, and cosmetics. Finally, its leaves possess micronutrients and vitamins that can be used by the pharmaceutical industry.

Cassava may represent a future opportunity for the AIC, once production has increased beyond its current levels.

HORTICULTURE (fruits)

Horticulture production in Tanzania is diverse, with both tropical and temperate products that include citrus (oranges, lemons, and tangerines), pineapples, mangoes, papaya, tomatoes, onions, cabbages, and more. Unfortunately, the use of improved seed, fertilizer and chemicals is generally low and the average realized

yields for most crops are often only 50 percent of their achievable potential. Notwithstanding this low yield, fruit and vegetable production in Tanzania is currently estimated to exceed 1.1 million tons—with oranges, mangoes and pineapples together accounting for 96 percent of fruit production in Tanzania.

Processing is characterized by:

- A few well-known, large-scale processors, including DABAGA, AZAM, UN-NAT, Darsh Industries, IVORI, and others. Their brands are certified and very well known, and they operate at scales that allow them to invest in research and development. They employ qualified personnel at the graduate and post-graduate level. They are also strong lobbyists for policy matters that concern them. All have stable businesses, and several show strong growth.
- A multitude of scattered micro- and small-scale processors, many of them informal.¹¹ They include individual processors, women's groups and farmer's associations that have decided to add value to their products. Because of their fragmented production and small scale, their brands are not very well known. Many are not certified, and they often use rudimentary technology that severely limits growth. This is evident from the fact that in 2011, 6,000 women received training in food processing, but only a few of those women's products are sold in informal stores, let alone formal and semi-formal supermarkets.

In both segments, exports and processed product channels are underdeveloped and over 90 percent of all fruit and vegetables are consumed fresh (unprocessed).¹² Dar es Salaam, the capital city, is the largest urban market.

The extent of importation of processed foods provides an indication of the potential for local processors. It is estimated that Tanzania imports \$50 million worth of processed food a year. Further potential for beneficiation can be seen from the fact that post-harvest losses are high across all horticultural commodities, primarily because of their highly perishable nature. Such losses sometimes reach 40 percent of production, e.g., during the wet season when road conditions are poor, or where rudimentary or undeveloped harvesting and post-harvest handling techniques are in use.

Given the diversity and scale of production, there is potential for an AIC to improve the technological and managerial standards of this group.

¹¹ UNIDO-TAFOPA.2011. *Tanzania Women Entrepreneurs: Spearheading Development in Food Industry*. http://capacity4dev.ec.europa.eu/sites/default/files/document/20-15-17/Tanzania_women_entrepreneurs_.pdf

Note: Most of the growth in manufacturing comes from small and medium sized enterprises. SMEs produce 50 percent of the country's industrial output. This sector also provides employment for 12 percent of the rural and 34 percent of the urban labor force. Informal micro enterprises are increasing by 2.4 percent per year, particularly in urban areas. Constraints affecting the development of SMEs and micro enterprises include complex regulations for certification, an inadequate financial system and a fragmented business community.

¹² A study carried out in 2000 found that only 5–10 percent of the fruits and vegetables produced in the country are processed, meeting only 8 percent of the estimated domestic market demand for canned and processed products. (Dietz, H.M., S. Matee and W. Ssali 2000). There is little evidence to indicate that this has dramatically changed.

OILSEEDS (sunflower oil)

Oilseed crops in Tanzania include groundnuts (40 percent), sunflower (36 percent), sesame (15 percent), cotton (8 percent), and palm oil (1 percent). While primary production of groundnut and sesame is significant, oil extraction from these seeds has remained low.

The sunflower production sector consists primarily of 150,000 to 200,000 small-scale sunflower growers, ¹³cultivating one to three acres each, and a few medium- and large-scale farms, cultivating more than 1,000 acres each. Annual sunflower yields range from 300 to 1,000 kg per ha, significantly lower than international averages. Productivity in Tanzania is generally hindered by the use of poor seed varieties and poor crop husbandry. However, a number of initiatives are in place to improve seed quality and husbandry (e.g., RLDC, MUVI). Increasing oil yields and unit tonnages will make this crop very competitive.

Over 50 percent of the sunflower seed crop is produced in four regions: Dodoma (22.5 percent), Kilimanjaro (13.2 percent), Arusha/Manyara (13.1 percent) and Singida (8.9 percent). Other major growing areas are Mbeya, Mtwara, and Rufiji. Present sunflower cultivation utilizes less than 1 percent of the total arable land in Morogoro, Iringa and Mbeya. With the right support, an average increase of at least 100 percent a year could be achieved in sunflower production in the Southern Agricultural Growth Corridor regions.¹⁴

There is definitely scalable production potential in sunflower production.

5.1.1 CONCLUSIONS

In conclusion, cashew, horticulture (fruits) and sunflower (oilseeds) present the best scalable primary production opportunities that also offer a known comparative advantage. This is supported by the 3ADI assessment of value chains with the highest impact potential and likelihood of success, which also identified oilseeds, cassava, cashews and beef.¹⁵

Cassava and beef are not yet developed to offer sufficient supply and quality for an AIC initiative, although they may offer advantages in time. They will not be considered further.

5.2 GEOGRAPHIC CLUSTERING OF GROWTH ENTREPRENEURS

¹³PricewaterhouseCoopers (PWC). 2009. Consultant's study to diagnose and recommend value chains and concomitant support activities.

¹⁴Agricultural Council of Tanzania-Tanzania Agricultural Partnership (ACT-TAP). September 2010. "Value chain analysis of sunflower for the regions of Morogoro, Iringa, Mbeya and Rukwa." Draft report. Match Maker Associates Limited.

¹⁵Frank Hartwich. *3ADI Priority Value Chains for Tanzania: Decision Analysis Report*. 2010. UNIDO.

Growth-oriented entrepreneurs are essential for increasing the conversion of primary products into differentiated products and the allied job, income and tax creation that result. Growth entrepreneurs are those entrepreneurs that have identified an opportunity, marshaled resources to take advantage of it, and aim to increase staffing, turnover and market presence to develop into medium-scale enterprises.

Since the AIC approach is to deliver a holistic range of offerings at high intensity, the AIC and growth entrepreneurs need to be located in close proximity. Secondly, since the AIC is selective about the enterprises that it supports, and because selection rates can be as low as 10 percent of applications, it also needs to be determined upfront that a suitable pipeline of growth entrepreneurs exists in one or more subsectors and value chains.

When combined, these two requirements result in the need for the AIC to identify geographic clusters of growth entrepreneurs in the subsectors and value chains that were identified as having potential in 5.1.

5.2.1 GENERAL OBSERVATIONS

While fruit, cashew and oil seeds offer the best potential to meet scalable production conditions for an AIC development, only the sunflower (and possibly the broader oilseeds sector) offer confirmed geographic clusters of processors.

Table 3 Sectors with Scalable Production Potential

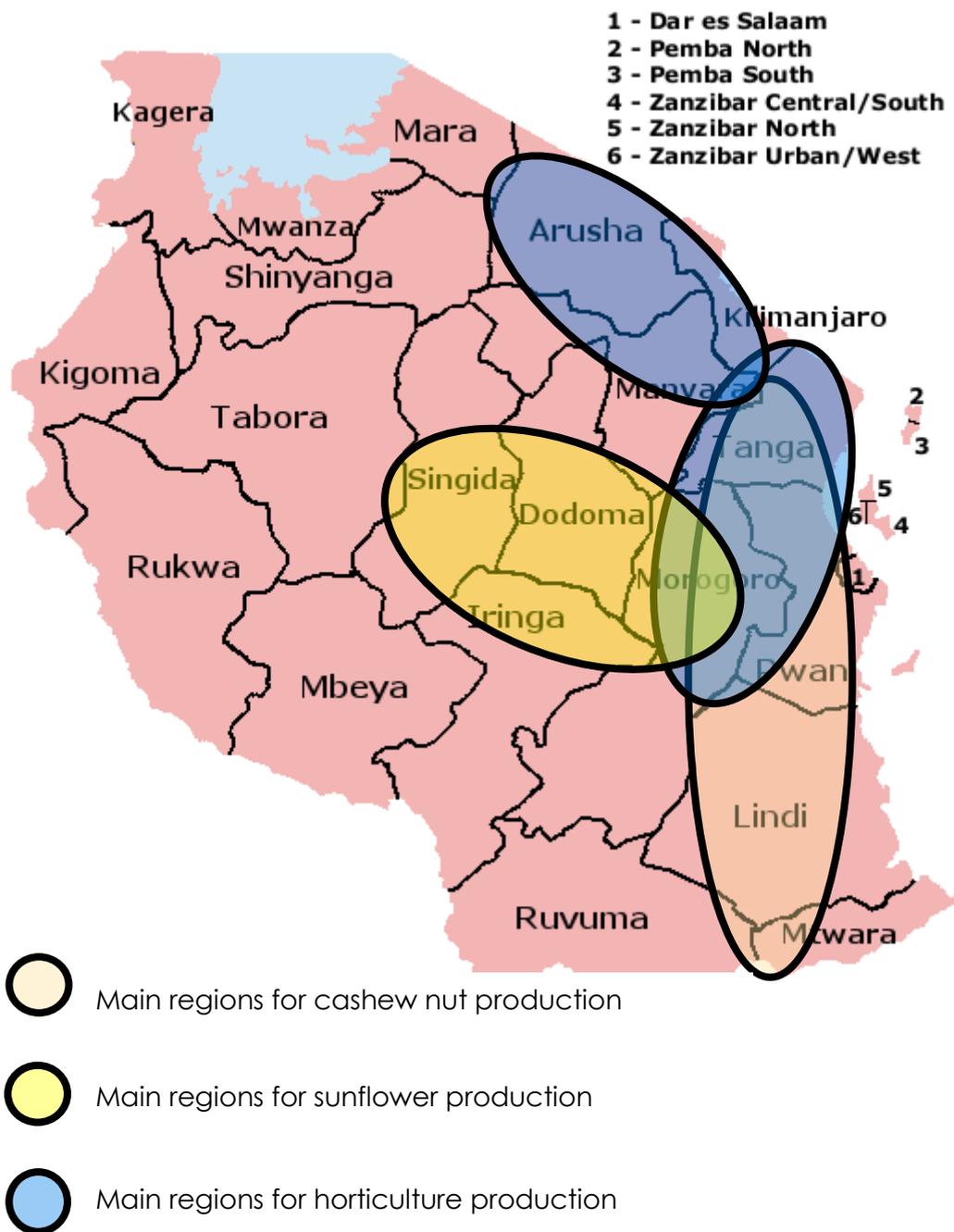
Parameter	Cashew	Fruit	Sunflower
Geographic Cluster of Entrepreneurial Capacity	2	2	1

KEY: 1=high potential2=average potential3=poor potential

Source: Authors

The production areas for these three value chains are depicted as follows:

Figure 9 Production Areas for Key Value Chains and Subsectors



Source: Authors

An analysis of the numbers of growth entrepreneurs and their geographic locations follows for sunflower, cashew nut, and fruit processing value chains and subsectors.

5.2.2 CLUSTERS OF FRUIT PROCESSING ENTREPRENEURS

While production areas are geographically well defined, there is little evidence of either a suitable number of growth entrepreneurs or any geographic clustering. In the absence of statistical data, stakeholders and the literature indicate that the largest clusters are likely to be in the Arusha and Dar es Salaam regions.

Most of the processed horticultural products are manufactured for commercial sale by large enterprises such as Dabaga Industry, Red Gold and Natural Choice, and by micro-scale enterprises for household food security use.¹⁶ These include sauces, juices and pastes. Dried fruit is another potential area for processors, but data from 2008 indicates that, again, there are only a few processors and that they are scattered geographically throughout the fruit production regions.¹⁷ There is no strong evidence from stakeholder discussions to believe that this situation has changed substantially to date.

This presents a challenge to an AIC.

5.2.3 CLUSTERS OF CASHEW PROCESSING ENTREPRENEURS

Cashew nut processing is limited in Tanzania. The largest clusters of processors are mainly found in the south, with a small cluster south of Dar es Salaam and one in Tanga. However, many of these facilities are inactive and in need of large investments for renovation.¹⁸ The facilities are depicted on the map in Figure 10.

There is also some concern about the economics of small-scale processing.⁹ This may explain why the facilities that exist (operational or not) are medium to large facilities. Those are run by larger companies (e.g. Olam). There is also some uncertainty about the state of the industry, although there are promising signs of rejuvenation (e.g., the warehouse receipt system is considered to be working well).

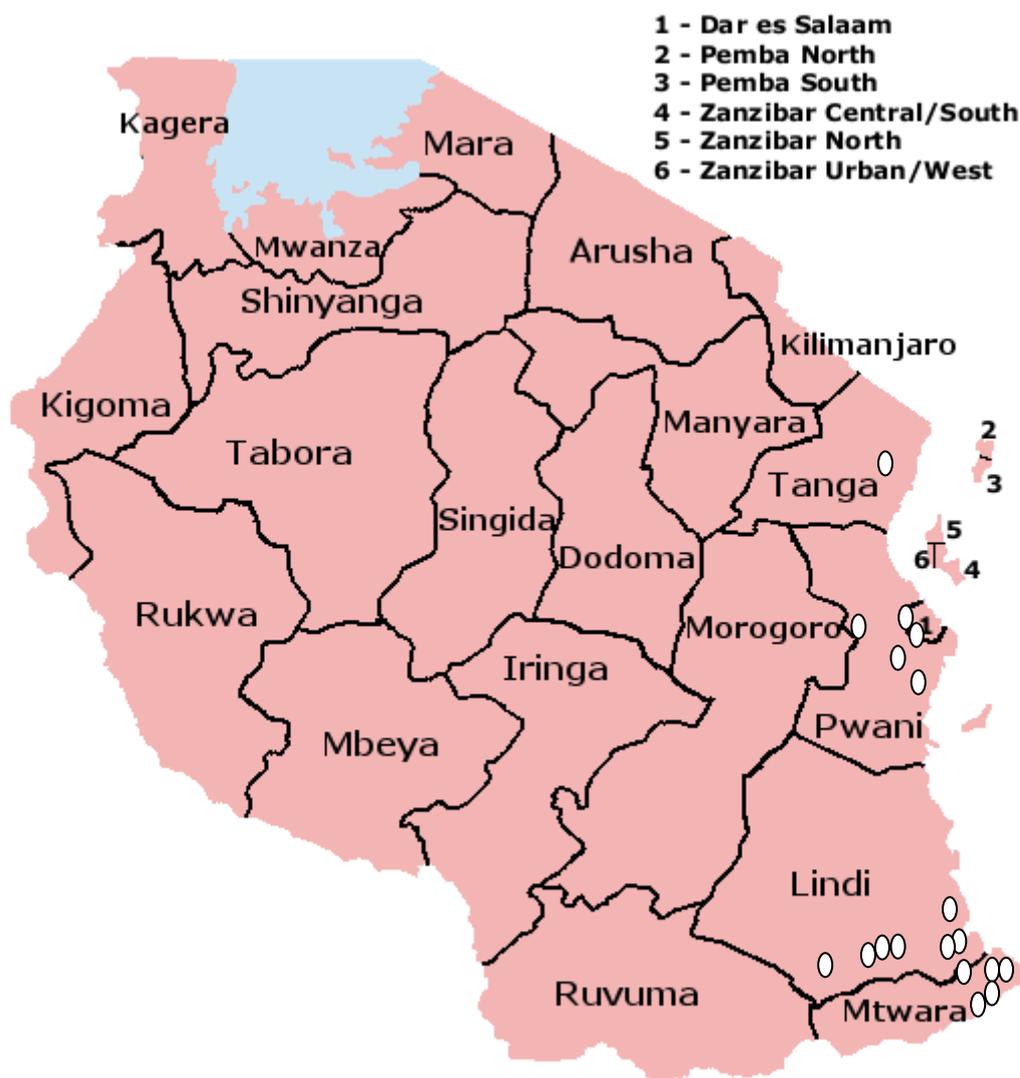
That said, the potential to scale primary production, the diversity of cashew-related products that can be produced, and the proximity of processors to support services and market channels make this value chain of potential interest to the AIC. However, the lack of an existing geographical cluster of small-scale entrepreneurs restricts a direct AIC focus for the immediate future.

¹⁶ SME Competitiveness Facility and Match Maker Associates Ltd. March 2008. *Fresh Fruit and Vegetable Sub Sector/Value Chain Analysis, Tanzania*.

¹⁷ SME Competitiveness Facility and Match Maker Associates Ltd. February 2008. *Dried Fruit and Vegetables for Urban and Export Markets: Sub Sector and Value Chain Analysis, Tanzania*.

¹⁸ United Nations Industrial Development Organization (UNIDO), 2011. *Tanzania's Cashew Value Chain: A diagnostic*. UNIDO, Vienna, Austria.

Figure 10 Cashew Processing Facility Locations



Source: Map modified by the authors

5.2.4 CLUSTERS OF SUNFLOWER PROCESSING ENTREPRENEURS

Sunflower oil processing is done by either small milling plants, which are numerous and scattered across the sunflower-producing areas, or by a few large millers with identifiable brands.

In 2000, there were 76 registered oil mills in Tanzania,¹⁹ mostly located in Dar es Salaam, Shinyanga and Arusha. Only two or three were categorized as large (processing more than 50 tons of oil per day).²⁰Data in 2012 suggest that there has been growth in this industry: the Ministry of Industry, Trade and Marketing (MITM) estimates that there are around 1,000 small and medium oil processors and oil processing associations, with mem-

¹⁹Yoshiyasu Mizuno and Edwin Paul Mhede. 2012. "Industrialization for Socio-economic Transformation in Tanzania." Draft report presented at "Research on Poverty Alleviation" 17th Annual Research Workshop, Whitesands Hotel, Dar es Salaam, Tanzania, March 28–29, 2012.

²⁰H. Martin Dietz, Stephen Matee and William Ssali. 2000. *Assessment of the small-scale food processing subsector in Tanzania and Uganda*. The Technical Centre for Agricultural and Rural Cooperation. Wageningen, The Netherlands.

bership of around 400 small, medium and large sunflower oil processors. Of these, some 394 are small- and medium-scale, and five are large, e.g. BIDCO (Sun Gold) in Dar es Salaam, Oils Mills (Bin Salum) in Singida, Murza (Sundrop) in Dar es Salaam, Abood (Abood Oil) in Morogoro, and Mount Meru Millers (Sunola and Floral) in Arusha. Together, they create 40,000 direct and indirect jobs.²¹

Most of these processors have small-scale processing factories that produce raw sunflower oil. Fewer than 5 percent are producing oil certified by the Tanzania Bureau of Standards (TBS).

Today, in the Morogoro district alone it is estimated that there are some 40 oil processors that each have the capacity to produce at least 5,001 liters of oil per day.²² Other associations, for example, Umambe (in Babati), have more than 30 members. Such clusters are also common throughout the Morogoro, Dodoma and Singida regions.

A study in 2009 found that many processors do not utilize their equipment to its full potential (Table 4).²³ It must be noted that the data may be historical and outdated, because all associations and processors interviewed for the current study indicated that they operate at higher capacity than previously indicated. Failure to fully utilize equipment may also be a function of the lack of finance to source adequate seed, which is an acknowledged problem, or of fluctuating primary production, which is itself influenced by many factors. As mentioned in Section 2, supply problems can be overcome with proper support and planned investments in extension and sector expansion.

Table 4 Milling Capacity for Local Oilseed Processing Facilities

No.	Mill Size	Potential Capacity	Practical throughput	Utilization (%)
1	Micro-Household	NA	NA	35%
2	Small (0.1–10Mt)	30	10.5	25%
3	Medium (10—50Mt)	405	101.3	25%
4	Large (Over 50Mt)	945	236.3	25%
	Total	1,380	348.0	25%

Source: Authors

Key barriers to increased processing include poor input supply arrangements with farmers, a lack of linkages between crude oil producers and refiners, inability to double-refine or

²¹CEZOSOPA, TASUPA and TEOSA. March 2012. A proposal by sunflower trade association submitted to the Ministry of Industry and Trade for improving sunflower oil processors business competitiveness (tax relief support).

²²Colman Massawe, Chair of the Morogoro Oil Processors Association. *Personal communication*.

²³PWC. 2009. *Consultancy Services to Study, Diagnose and Recommend Value Chains and Concomitant Support Activities*. Consultancy, Small Industries Development Organisation, SIDO, Dar-es-salaam..

to fortify oil, inadequate business and technical skills and lack of access to good, reliable and stable markets. These are all areas that an AIC can facilitate.

A geographic sunflower oil processing cluster can be identified in the Morogoro/Dodoma districts. This cluster would have a sufficient number of enterprises to initiate an AIC focused on this value chain. The challenge will be to ensure that this number can be increased, so that the AIC has enough processors within the geographic area to select those that offer the best growth potential.

The other issues that must be considered include whether these enterprises can source sufficient inputs, run their facilities at high utilization rates, and develop oils that can compete against imported oils, in both the low-cost and high-quality ends of the market.

The first issue of input supply is being addressed by production initiatives that aim to help farmers improve tonnage per hectare (ha) and oil percentage processed per ha (e.g., the RLDC, MUVI). Assuming that these efforts are successful and the initiatives can be linked to the processors supported by the AIC, there is a level of confidence that growth in numbers will occur and that a sufficient geographic cluster can be supported. The market-related issues will be discussed in the market section.

5.2.5 CLUSTERS OF OTHER TYPES OF GROWTH ENTERPRISES (ALL VALUE CHAINS/SUBSECTORS)

It is not readily apparent from the data, nor from stakeholder inputs, that there is a significant geographical cluster of growth enterprises such as agricultural processors in any specific sector other than sunflower processing. Rather, where geographic clusters of agricultural processors exist, they incorporate products from different subsectors and value chain processing. For example, a food manufacturing plant may process nuts as well as various fruits. They are concentrated in particular areas for strategic reasons.

A survey by the Tanzanian Food and Drugs Administration in 2006 identified a total of 614 food manufacturing plants in Tanzania. Among those, 279 (45.4 percent), 176 (28.7 percent), 92 (14.8 percent) and 67 (11.1 percent) were micro-, small-, medium- and large-scale food plants, respectively.

Table 5 Food Processors by Size and Region

Region	Total	Large	Percentage	Medium	Percentage	Micro	Percentage	Small	Percentage
Arusha	37	5	7.5	18	19.6	1	0.4	13	7.4
Dar es Salaam	97	21	31.3	24	26.1	11	3.9	41	23.3
Dodoma	21	0	0.0	1	1.1	18	6.5	2	1.1
Iringa	25	6	9.0	3	3.3	7	2.5	9	5.1
Kagera	31	3	4.5	3	3.3	21	7.5	4	2.3
Kigoma	29	2	3.0		0.0	24	8.6	3	1.7
Kilimanjaro	30	4	6.0	1	1.1	10	3.6	15	8.5
Lindi	11	0	0.0	0	0.0	8	2.9	3	1.7
Manyara	24	1	1.5	2	2.2	9	3.2	12	6.8
Mara	23	3	4.5	3	3.3	12	4.3	5	2.8
Mbeya	46	4	6.0	2	2.2	31	11.1	9	5.1
Morogoro	9	3	4.5	0	0.0	2	0.7	4	2.3
Mtwara	24	2	3.0	0	0.0	17	6.1	5	2.8
Mwanza	44	9	13.4	10	10.9	8	2.9	17	9.7
Pwani	8	1	1.5	0	0.0	3	1.1	4	2.3
Rukwa	16	0	0.0	0	0.0	12	4.3	4	2.3
Ruvuma	16	1	1.5	0	0.0	13	4.7	2	1.1
Shinyanga	51	0	0.0	11	12.0	28	10.0	12	6.8
Singida	29	0	0.0	0	0.0	27	9.7	2	1.1
Tabora	21	0	0.0	1	1.1	16	5.7	4	2.3
Tanga	22	2	3.0	13	14.1	1	0.4	6	3.4
	614	67	100.0	92	100.0	279	100.0	176	100.0

Source: TFDA, 2006

When analyzed with a focus on small and medium enterprises (a proxy for growth enterprise clusters), the data reveals that the Dar es Salaam, Shinyanga, Mbeya, Mwanza and Kagera regions house most of the country's food processors. The Mwanza and Kagera districts are also areas for fish processing.

Table 6 Ranking of Enterprises by Number and Region

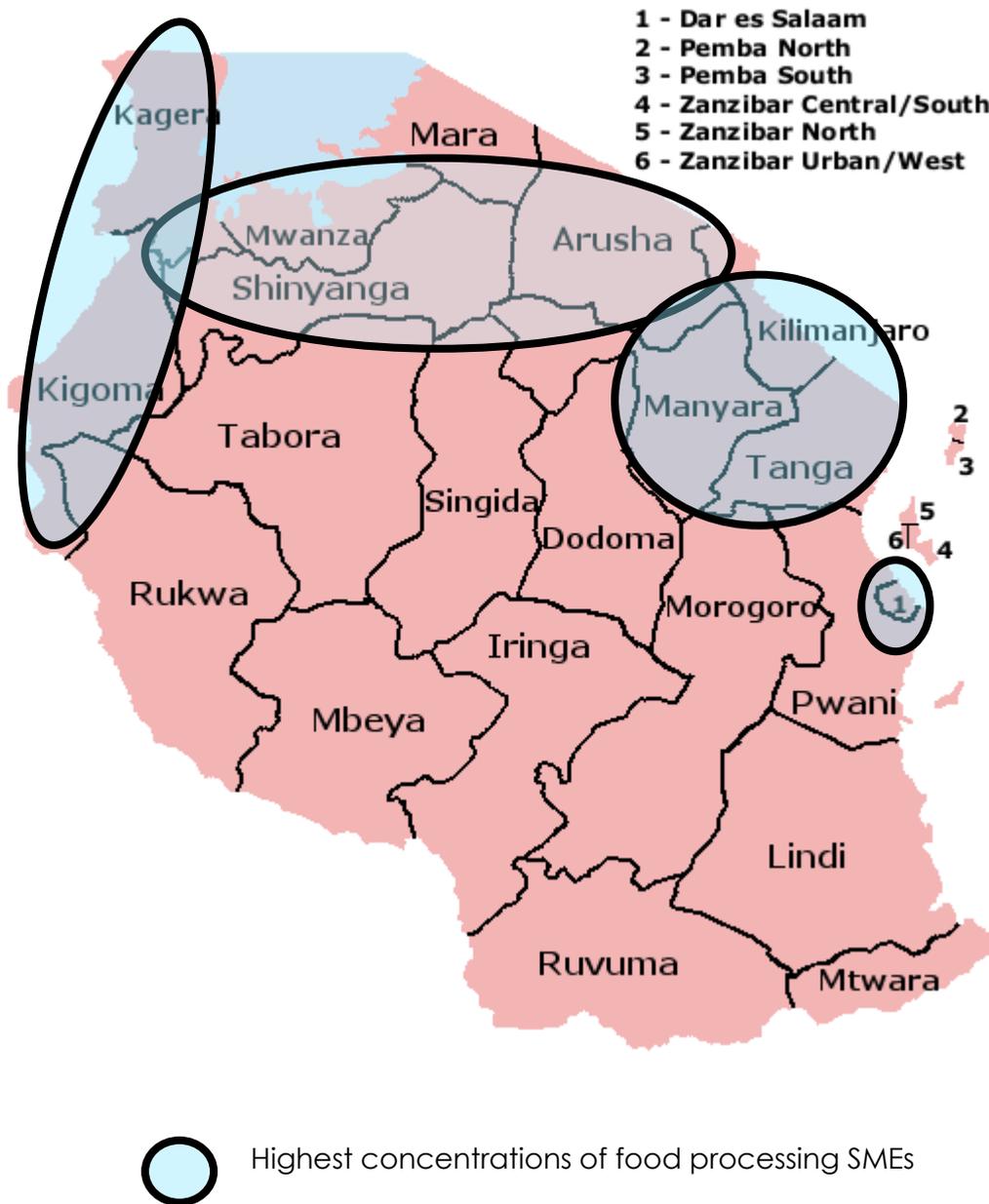
REGION	SMALL ENTERPRISE RANK	MEDIUM ENTERPRISE RANK
Dar es Salaam	1	1
Mwanza	2	5
Kilimanjaro	3	
Shinyanga	4	4
Manyara	4	
Tanga		3
Arusha		2

Note: 1 indicates the highest number of enterprises; 5 the lowest

Source: Adapted by the Authors from TFDA data, 2006

It is interesting to note that the largest concentrations are also found in areas of extensive cross border trade (borders with Kenya, Burundi, Rwanda) and population density (Dar es Salaam, Arusha, Mwanza):

Figure 11 Highest Concentration by Region of Food Processing SMEs



Source: Map modified by authors

Data from an official census on agro-processing enterprises (which is more complete than the data presented above) reinforces the fact that Dar es Salaam has the largest single concentration of such enterprises:²⁴

- 424 food processing companies
- 10 non-food processors (mainly leather)
- 183 wood and cork processors
- 1,487 furniture manufacturers.

The reasons for this, according to a survey of six entrepreneurs (Annex 5), are as follows:

- Infrastructure (water and a relatively stable electricity supply)
- Market access and size
- Support service availability (e.g. to repair machines, get spares, access government, raise loans, etc.)
- Supplier proximity (e.g., packaging materials are more difficult to obtain outside Dar es Salaam)
- Access to shipping from the port of Dar es Salaam
- Transport of materials to Dar es Salaam from other parts of the country is not a problem, especially at higher volumes
- Ease of obtaining raw agricultural materials (Middlemen bring all kinds of materials from the north, west and south to sell in Dar es Salaam because it is seen as the middle of the country).

All companies interviewed stated that if they could site their facilities anywhere in Tanzania, it would be Dar es Salaam. Some noted that even upcountry consumers buy in Dar es Salaam because of perceived higher quality. One processor said that if it could expand, it would still process in Dar es Salaam, and have distribution hubs elsewhere. The extent of this preference is further illustrated by the request for investment in a watermelon processing plant in Dar es Salaam, even though watermelons are mainly produced outside the city (Annex 6.)

The economics of the value chain relating to logistics (e.g., why transport raw materials in bulk to Dar es Salaam instead of processing locally and then transporting the finished product?) was probed. This resulted in the same answer from most of those interviewed—the area around Dar es Salaam produces everything the processors need, but the advantage of Dar es Salaam over other areas (Mwanza, Iringa, Tanga, Arusha and the

²⁴National Bureau of Statistics, Tanzania, 2009.

Western regions) is that it is no more expensive to transport bulk raw materials than processed goods. When questioned about the volume differences between raw and processed products, respondents noted that bulk transport was readily available and didn't require specialization, while transporting packaged goods required special care (breakages and damage on poor roads), closed vehicles and smaller loads. The latter factor appears to dramatically increase prices.

From a sales perspective, having the finished product close to the market allows for easier marketing, without the danger of running out of product and taking days to restock store shelves. Processors also noted that being in Dar es Salaam allowed them to respond quickly when products were sold out in stores. Shop owners appreciate the quick response, so processors perceive little threat from companies located elsewhere.

Processors also noted that it was easier to market goods in Dar es Salaam because of the number of larger retail outlets that reduced transaction costs (e.g., sales contracts, delivery time, quantity of goods per delivery and number of deliveries). They also noted how critical relationships are to doing business in Tanzania and stated that by being close to their local market, they had more leverage and control.

Some identified poor-quality products (especially packaging) as coming from outside Dar es Salaam and said that products produced in Dar es Salaam were perceived as "better." These opinions could also be evaluated further.

5.2.6 CONCLUSIONS

A suitably sized pipeline of enterprises is needed for an AIC to identify and select those that can best be supported to rapidly develop. Given that these need to be located relatively close to each other and to an AIC to allow for the intensive nature of this support, it is apparent that there are at least two options available for an AIC in Tanzania.

On the one hand, the sunflower value chain offers the best potential for a single value-chain-focused support initiative, with a substantial concentration of processors in the Morogoro/Dodoma regions. On the other, there is a significant geographic cluster of enterprises engaged in multiple value chain and subsector processing in and around Dar es Salaam.

The potential exists to support either, or both, based on the geographic clustering requirement. There are advantages and disadvantages to selecting one or both.

The main advantage of supporting only sunflower processors is a tight focus. However, by supporting the more diversified group, the AIC reduces risk associated with a single value chain (e.g., natural disaster, changes in market for sunflower oils).

That said, there is an additional argument that favors the adoption of a dual focus for the AIC. This is that knowledge will be acquired about what favors and hinders the expansion of other value chain and subsector processing.

An AIC that works with existing growth enterprises in the related oilseed (sesame, groundnut, cotton etc) subsector, and with diversified enterprises in the Dar es Salaam region, will gain an understanding of why there are only a few processing entities in that value chain/subsector, and what may be needed to expand not only the enterprises, but the value chains themselves. It will be able to assess, at relatively low risk (because of the diversity of enterprises supported) why some value chain/sub-sector processing initiatives scale and why some do not.

Why are they located in Dar es Salaam? Why are there so few of them relative to the theoretical production potential? What do they need to scale? These are all unknowns that could be answered through a focused effort to develop existing and new enterprises in each of the value chains/sub sectors that present as processing enterprises in Dar es Salaam. By way of example, the AIC could identify specific cashew-processing entrepreneurs to evaluate ways in which an AIC support initiative could assist in building out a small- to medium-scale processing initiative in the future. This could include working with enterprises in the primary, secondary or tertiary (packaging and distribution) processing components of the value chain.

Supporting multiple types of agri-processors would also open the window to greater product and process innovation focus, in that there may be a few growth enterprises within this geographic cluster that have non-traditional products such as essential oils, medicinal plant extracts, etc., that could spark new subsector development.

The benefit of simultaneously supporting both the sunflower oil value chain and other types of agri-processors would suggest that an AIC should be located in the Dar es Salaam/Morogoro corridor in order to access both the sunflower and other clusters of growth enterprises.

5.3 SCALABLE, ACCESSIBLE AND VIABLE MARKETS

The analysis of geographic clusters of growth entrepreneurs suggests that an AIC could focus on supporting a geographic cluster of sunflower processors and/or a geographic cluster of enterprises engaged in a variety of different processing activities.

In all cases, these enterprises need access to viable, or profitable and growing, markets if they are to be supported by an AIC to grow significantly.

In the case of the diverse growth enterprises clustered in Dar es Salaam, market accessibility and viability can only be determined on a case-by-case basis. It is known from company interviews and a variety of reports that some of these enterprises have ac-

cessed markets, found them to be feasible and subsequently grown at levels that will be modeled later in this document. For this group, an AIC will assess the potential to access and exploit markets on a case-by-case basis as they arise, and will only work with enterprises in this group if there are high potential markets. The confidence level to find a sufficient pipeline is high.

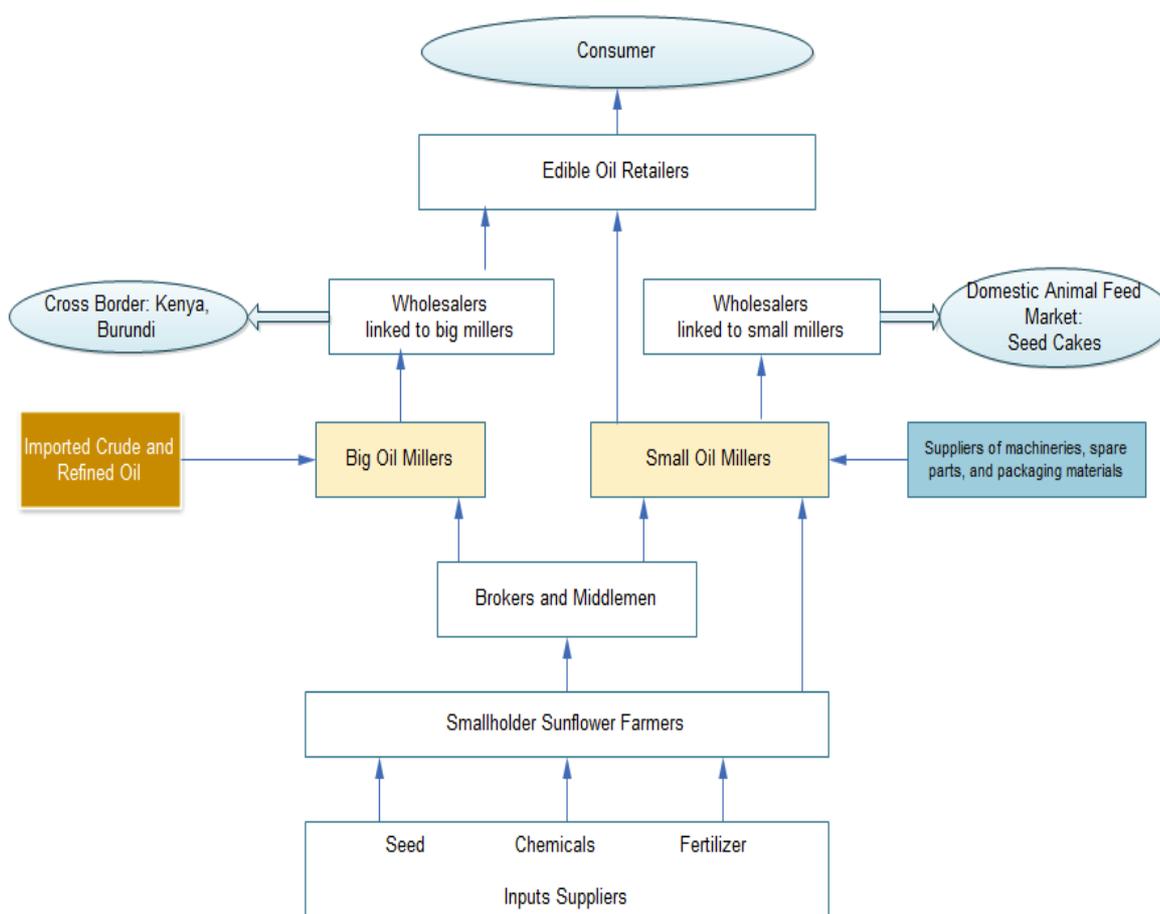
A more detailed analysis of the markets for sunflower oil is presented below.

5.3.1 SUNFLOWER VALUE CHAIN

Sunflower oil comprises about 13 percent of world edible oil production and offers growing market opportunities.

The value chain for sunflower oil (Figure 12) indicates that seed may take various routes to market, but all seed must eventually pass through a processor. Hence, assisting this part of the value chain is an attractive option.

Figure 12 Sunflower Value Chain



Source: Authors

Sunflower offers a number of processing opportunities. In addition to use as cooking oil, sunflower oil can be used as a drying agent in paints, resins and plastics, and to manufacture soap. Oil extraction also offers the opportunity to produce several byproducts, such as sunflower cake, which is used for an animal feed that is appreciably high in protein, as well as for fertilizer and fiberboard.

Sunflower seeds can also be roasted and packaged as snacks or ground and pelleted for animal feed ingredients for poultry, dairy and beef. The value in this case is also in the hull, which has high energy content. Tanzania thus has tremendous potential to exploit its comparative advantage in sunflower production to create a range of products, reduce imports, create jobs and increase incomes.

Not unexpectedly, sunflower oil production has been increasing almost proportionately with seed production increases over the years. Yet, vegetable oil is now Tanzania's largest import after fuel. The main reasons for oil imports are the policy environment and the relatively low cost of palm oil from Malaysia.

Malaysia has a significant oil-processing advantage, due to ideal climatic conditions and the fact that palm has a higher oil content (46 percent—67 percent) than other oilseed crops. Palm oil production is not feasible in Tanzania, as palm trees require specific climatic conditions found locally only in the Kigoma region.

Although a number of reports indicate that Tanzanian consumers prefer local sunflower oil to imported palm oil,²⁵ mainly because of better taste and the low cholesterol level in sunflower oil, palm oil represents a significant threat to the local sunflower oil industry.

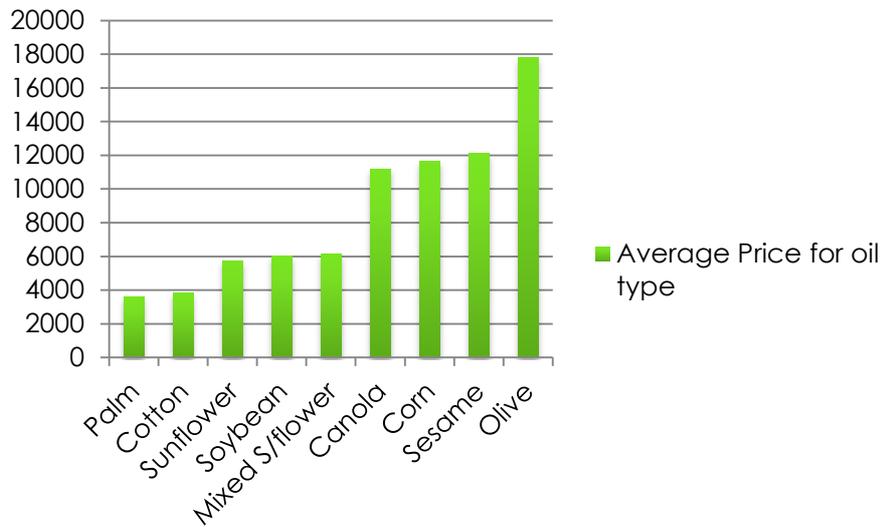
That said, Tanzania both imports and exports sunflower oil.²³ This apparent contradiction is explained by the quality of imported versus exported oils. Imported oil is of generally high quality (as determined by assessing retail supermarket shelves) and exported oil may be of differing quality, as it largely moves inland into the Democratic Republic of Congo, Rwanda and Burundi.

This indicates that sunflower oil faces competition from both lower-cost oils (e.g., palm oil) and higher-quality sunflower oil.

It would seem to also face price competition from other oils. However, consumers' selection of other oils is not necessarily based on price, but preference:

²⁵MUVI-SIDO.2012. "Iringa Sunflower Value Chain Analysis for Local Market and Value Chain Development Investment Plan." First draft. Business Care Services Limited and Centre For Sustainable Development Initiatives.

Figure 13 Average Cooking Oil Prices in Tanzania Shillings



Source: Authors

The market for sunflower oil in rural areas and smaller towns is well established, and 75 percent of the sunflower oil produced in the regions is used in the regions.²⁶

It is clear, however, that locally produced, high-quality oils can compete with imported oil on price:

²⁶ACT-TAP.2010. "Value chain analysis of sunflower."

Table 7 Pricing of Local and Imported Sunflower Oils in Retail and Wholesale Markets in Tanzania

Company	Brand	Retail Price (Tshs)	Wholesale Price for 20lts (Tshs)	Package	Location
BIDCO Oil Refineries	Sun gold	12,000	125,000	5lts	Dar es Salaam
Murzah Oil Mills	Sundrop	12,000	125,000	5lts	Dar es Salaam
Oils Mills	Bin Salum	12,000	54,000	5lts	Singida
Organic Valley Company	Affya	12,000	120,500	5lts	Dar es Salaam
Ngo chew Hong Edible Malaysia	OKI pure vegetable	45,000	430,000	20lts	Malaysia
Mt. Meru Millers Ltd	Sunola	62,000	615,000	20lts	Arusha
Mt. Meru Millers Ltd	Floral	15,000	140,500	5lts	Arusha
SILA Edible Oil Company	SILA	9,500	904,500	2lts	Egypty
Arej Vegetable Oils	Minara	17,000	204,000	3lts	Oman
Willow Ton Oil	Sunfoil	15,000	490,260	5lts	South Africa
Capital Products	Sunfry	20,000	491,736	5lts	South Africa
Willow Ton Oil	D'lite	15,000	490,268	5lts	South Africa
Source: Field Survey (Imalaseko, Shoppers Plaza, Shoprite, Magomeni Rtail Shops)					

The potential market for sunflower oil from AIC-supported processors in Tanzania would thus appear to be determined by several factors:

- The amount of imported sunfloweroil for which local products could be substituted (driven by higher-quality or lower-price local sunflower oil products)
- The switch from palm oil to sunflower oil based on price, which may be driven by policy initiatives (such as scrapping the value-added tax on processing equipment, as supported by Rural Livelihood Development Company, or increasing import tariffs on palm oil)
- The switch to sunflower oil based on the perceived health benefits of sunflower oil
- The potential to export refined oils into neighboring countries
- The growth in overall demand for edible oils.

It should also be noted that a local supermarket manager commented that his store only stocks imported sunflower oil, not because the local quality is poor but because the supply is unreliable.

As regards future growth for edible oils and the confidence levels for an AIC investment in sunflower (and oilseed processing in general), the ACT-TAP report²⁷ notes that present edible oil demand in Tanzania is estimated to be 273 million liters per year, with a majority of that—218 million liters—imported and an estimated 109 million liters produced locally. This implies that some sunflower oil is exported. Both this fact and the fact that the ACT-TAP report states that the majority of imported oil is consumed in the urban centers because locally produced sunflower oil has yet to really penetrate the urban market are positives for local oil processing.

Local market demand will be buoyed by the projected population increase in Tanzania, estimated to grow 15percent to 52million by 2015, and to 75million by 2030. If the economic livelihoods and educations of urban Tanzanians continue to improve as they have been, this will also increase the switch from palm oil to healthier oil options.

There is a good degree of confidence that higher-quality processing, better packaging and scale increases that can reduce costs (e.g., higher volumes of packaging materials, as opposed to the current low-volume purchases by a fragmented processing community), will not only significantly reduce demand for imported sunflower oil, but also for palm oil. Exports would also likely increase with quality and scale benefits.

Byproducts, including seed cake and soap, have local markets that will increase as local animal production increases. Oil processors do not have any trouble selling these byproducts. In fact, low-quality oil has both local and export potential for soap manufacturing.²⁸The quantities and specific markets are unknown and need investigation.

5.3.2 CONCLUSIONS

There is confidence that the sunflower value chain offers scalable, accessible and viable markets for sunflower oil and byproducts. There is also future potential to expand to include high value, low-volume oils such as ginger oil, thyme oil, citrus oils etc. This will involve a higher level of expertise across the chain: Farmers must be capable of growing other oil-bearing crops (probably under irrigation) and advanced processing technology must be available.

5.4 STAKEHOLDERS IN THE SELECTED VALUE CHAINS

Through the stakeholder engagement process, *infoDev* compiled a thorough map of agribusiness players in Tanzania. A key observation here is that there are myriad institutions

²⁷ACT-TAP.2010. "Value chain analysis of sunflower."

²⁸MUVI-SIDO. 2012. "Iringa Sunflower Value Chain Analysis."

working in agribusiness. The challenge for an AIC is to engage collaboratively and enhance this ecosystem, rather than to offset or compete with any existing activities.

Table 8 Stakeholder Mapping Matrix

Academia/R&D /Equipment	ARIs, CAMARTEC, SUA, TDTC, TEMDO, TIRDO, UDEC
Government	COSTECH, LGAs, MITM-SME, MoA, PM's Office, SIDO, TBS, TFDA
Policy and Investment	ACT, TCCIA, Tanzania Investment Centre, TPSF
Industry-SME	Associations such as AMAGRO, CEZOSOPA, MUVI, MVIWATA, TAHA
Industry-Large	CTI, Olam, Unilever
NGO	Gatsby, RLDC, Technoserve
Consulting	Economic and Social Research Foundation, matchmakers
International	DANIDA, DFID, Embassy of Finland, IFC, JICA, SECO, UNDP, UNIDO, USAID, World Bank
Financiers	Commercial Banks such as CRDB-SME, PASS

Source: Authors

There are an adequate number of strong stakeholders in the oilseed subsector, as well as in many of the other value chains in which growth enterprises operate, to ensure the likelihood of successful implementation of an articulated AIC intervention. Interviews and a review of literature pointed to several firms, government departments, industry associations, projects and programs that are well positioned to become collaborators.

Table 9 presents a list of these potential collaborators, including their key activities. This should shed light on the contributions they might make. However, more work is needed to determine exactly which institutions should be core partners.

Table 9 Key Stakeholders, Projects and Programs

ACT	Agricultural Council of Tanzania. A leading agricultural policy advocacy agent, it is also the platform on which TAP and SAGCOT have been articulated and planned. ACT has also played a key role in developing and advocating for Kilimo Kwanza.
AMAGRO	Association of Mango Growers. A leading association pursuing development activities in the mango subsector.

ARIs	Agricultural Research Institutes. National agricultural research system nodes leading research and development for various commodities. Of possible relevance to the AIC are ARI Ilonga (Sunflower), ARI Mlingano (Citrus), HORTI Tengeru Arusha (Horticulture in general) and ARI—Mikocheni (Cassava).
CAMARTEC	Centre for Agricultural Mechanization and Rural Technology. A research and development organization that has contributed to designing and fabricating a number of agro-processing machines.
CEZOSOPA	Central Zone Sunflower Processors Association. A newly formed association of sunflower processors, mainly in the Singida and Dodoma regions. Works closely with RLDC. They have attempted to establish a common sunflower oil brand called 'Top.'
CRDB—SME	CRDB Bank. A commercial bank whose SME department offers special services to SMEs, including training and preferential loans and other bank products that relax some corporate banking requirements, e.g., against non-conventional collateral.
CTI	Confederation of Tanzania Industries. An apex association for manufacturing industries in Tanzania. Advocates for policies that will foster growth in manufacturing.
LGAs	Local Government Authorities. They oversee DADPs with major activities in agriculture. Public investments such as rural roads, irrigation, inputs subsidies, and Agricultural Inputs Trust funds loans are planned and implemented under the LGAs 'DADPs.
MITM-SME	Ministry of Industry, Trade and Marketing. The Directorate of SME is responsible for policy and SME development matters.
MUVI	MuunganishowaWajasiriamaliVijijini. A network of rural entrepreneurs at the village level. A project formulated by MITM with an objective of supporting selected value chains to ensure farmers receive sustainable margins. Sunflower and fruits feature in MUVI projects, areas where the AIC is focusing. The MUVI-SIDO, IFAD-funded project is a leader in sunflower and fruit value-chain development.
MVIWATA	A network of farmers groups.
PADEP	Participatory Agriculture Development and Empowerment Project. A rural development project. Its objective is to create sustainable incomes for rural households through implementation of small agricultural development sub-projects planned and managed by groups of community members. Once commodities are prioritized by farmers, e.g., fruits and sunflower, then PADEP's resources could be tapped for developing local value chains.
PASS	Private Agricultural Sector Support Limited. A non-bank financial organization that provides business development services and credit guarantee to small, medium and large agro-enterprises. Works with seven banks in Tanzania and has food processors as its clients. It has offices in Dares Salaam, Morogoro, Mbeya, and soon in

	Mwanza.
RLDC	Rural Livelihood Development Company. It has worked on sunflower studies and is supportive of sunflower entrepreneurs.
SCF	Small and Medium Enterprises Competitiveness Facility. A Danida-funded matching grants issuer in support of agricultural SMEs. Focuses on value-chain development. Fruit and edible oil are the priority subsectors.
SIDO	Small Industries Development Organization. A leading government agency supporting small industries. Spearheads support for fruit processing and works closely with IFAD in the MUVI project—sunflower and fruits are a high priority. They also manage industrial estates.
SUA	Sokoine University of Agriculture. The only agricultural university in Tanzania offering undergraduate and graduate degrees in agricultural sciences, the university conducts research and outreach development projects. There are at least 10 ongoing food processing research and development projects. Among them is a dried fruit processing incubator. SUA is also a collaborator in the South Korea-SIDO Industrial Park Initiative, with a research mandate.
TAHA	Tanzania Horticultural Association. A very active association with the primary objective of advocating for sound policies that would foster industry growth. It also manages horticulture development projects, e.g., TAHA Fresh.
TAP	Tanzania Agricultural Partnership, a program overseen by the ACT. It focuses on value chain development for various subsectors through the promotion of PPPs, bringing together key actors and facilitating their working together. AIC can benefit from TAP's facilitation to expand production in selected commodity value chains.
TBS	Tanzania Bureau of Standards. A certification agency that sets and enforces standards. Products with TBS labels are considered authentic and enhance their images in the public eye.
TCCIA	The Tanzania Chamber of Commerce Industry and Agriculture is a 1988 initiative, member-based association aiming at strengthening the private sector. It has 21 regional offices covering all areas where the AIC has an interest. Its main objective is to promote the development of local private enterprises. The chamber serves as an arena for dialogue with government about policies to sustain economic growth. TCCIA offices have a record of collaborating with agricultural development projects such as TAP, PADEP and MUVI, and can do the same with AIC.
TCCP	Tanzania Cluster Competitiveness Program. A multi-donor program managed by the World Bank and housed at the Tanzania Private Sector Foundation.

TEMDO	The Tanzania Engineering and Manufacturing Design Organization (TEMDO) is an engineering R&D institution under the MITM. It develops local design and manufacturing capability to service all subsectors of the national economy through supply of equipment, tools and spare parts, reducing dependence on imported technology. TEMDO manages a technology incubator, working with early-stage technology entrepreneurs to increase their odds of success. Since 2007, it has worked with over 30 teams of entrepreneurs, with appreciable success.
TFDA	Tanzania Food and Drugs Authority. A semi-autonomous consumer safety agency serving as a food and drug regulatory body. Packaged food and food supplements are evaluated by TFDA before being approved for marketing. It also provides public education on food safety.
TIRDO	Tanzania Industrial Research and Development Organization undertakes research on industrial utilization of local materials. It supports industry in technological transfer and technical services, to help companies become locally and internationally competitive in industrial production. TIRDO also provides technical services for industrial development and for mitigating industrial pollution. It has special research programs on fruit and vegetable processing.
TPSF	Tanzania Private Sector Foundation. Primarily an advocacy association, currently managing a number of World Bank and DFID-funded private sector development projects.
UDEC	University of Dares Salaam Entrepreneurship Centre. A leading centre for entrepreneurship training, research and development.
TDTC-UJSM	Technology Development and Transfer Centre (TDTC). Part of the College of Engineering and Technology (CoET) formed in 2001 as a result of merging the former Institute of Production and Innovation (IPI) and the then-Faculty of Engineering (FoE) at the University of Dar es Salaam. It coordinates the provision of college expertise related to technology for national socio-economic development and transfer, technology incubation, technology brokerage and contracted research. The main objectives of the Centre is to develop and disseminate technologies that will have direct relevance to the Tanzanian community and that will directly affect the development of SMEs and the lives of the general public.

Source: Authors

It bears repeating that the purpose of an AIC is to support development, not to replace it or to compete with existing initiatives. Therefore, the AIC feasibility study has identified and aims to work with the following existing initiatives.

Kilimo Kwanza

Kilimo Kwanza is a mechanism to implement Tanzania's "green revolution": the transformation of its agriculture into a modern, commercial sector. Led by the joint efforts of the private and public sectors, it aims to make agriculture a priority in government planning, budgeting and governing. It is a step towards implement-

ing the Agriculture Sector Development Strategy (ASDS) and the Agriculture Sector Development Programme (ASDP). While the ASDS and ASDP had clearly indicated the private sector had a role to play in agriculture, neither had adequately addressed how this could be achieved. Kilimo Kwanza is an effort to fill this gap.

It aims to achieve several goals:

- Integrate agriculture prioritization into all parts of the government to ensure successful implementation of the green revolution
- Mobilize increased resources towards realization of the green revolution
- Mobilize the private sector to substantially increase its investment and take a greater role in agricultural development
- Ensure action under Kilimo Kwanza's ten pillars, which are:²⁹
 1. Harnessing political will to push agricultural transformation
 2. Seeking and enhancing diverse sources of financing for agriculture
 3. Institutional reorganization and management of agriculture
 4. Paradigm shift to strategic agricultural production
 5. Ensuring land availability for agriculture
 6. Advocating for incentives to stimulate investments in agriculture
 7. Promoting industrialization for agricultural transformation
 8. Encouraging and facilitating the deployment of skilled science, technology and skilled human resources for agricultural transformation
 9. Articulating and developing the required infrastructure to support agricultural transformation
 10. Mobilizing Tanzanians to support and participate in the implementation of the green revolution.

The development of the AIC is in line with all the 10 pillars of Kilimo Kwanza and makes a direct contribution to six specific pillars—2, 3, 4, 7, 8 and 9—outlined above.

²⁹Tanzania. 2009 *Ten Pillars of Kilimo Kwanza (Implementation Framework)*. Prime Minister's Office, Dar-es-salaam.

SAGCOT

The Southern Agriculture Growth Corridor of Tanzania (SAGCOT) is the first project of the Kilimo Kwanza initiative. Kilimo Kwanza, as described above, calls for the private sector to mobilize new investment to promote a modern and profitable agriculture sector. It also calls for a transformation of smallholder farmers into commercial farmers. SAGCOT aims to help achieve this vision in the Southern Corridor. Firstly, it proposes an Agricultural Growth Corridor approach, which involves developing clusters of commercial farms and agribusinesses in areas where there is high agricultural potential and access to backbone infrastructure. Secondly, it describes a Nucleus Commercial Farm and out grower model, a type of commercial farm design that ensures there are strong and direct benefits for smallholder farmers linked to agro-processing. Thirdly, it shows how targeted government and donor support, in particular new financing mechanisms, can mobilize private funding to support these types of investments. Fourthly, it underlines the importance of a supportive business environment.

All these are in line with the objectives and design of the AIC. In addition, sunflower and soya (edible oils) are prioritized clusters for the regions and advocated by the Agricultural Council for Tanzania as an overall focus for Kilimo Kwanza. Another prioritized cluster is horticulture. Other areas where SAGCOT will aim to forge links between producers and processors throughout grower and contract farming arrangements are maize, rice and wheat. It may therefore be possible to forge links with "Feed the Future," the U.S. government's global food security initiative.

The www.sagcot.com website provides the concept note and investment plans for SAGCOT. They reflect the potential for augmenting the AIC.

MUVI-SIDO

MUVI, a network of rural entrepreneurs at the village level, is an IFAD-funded project under MITM, being implemented by the Small Industries Development Organisation (SIDO) in collaboration with a range of stakeholders.³⁰

The goal is to have value chains that will deliver sustainable margins to producers, increase their incomes, and reduce poverty, to obtain the following benefits:

- Create more sustainable and less risky jobs in rural areas.
- Facilitate expansion of enterprises, especially rural small- and medium-enterprises.
- Strengthen the link between agriculture and industry and raise the contribution of other sectors to GDP.

³⁰International Fund for Agricultural Development (IFAD).2006."United Republic of Tanzania: Rural Micro, Small and Medium Enterprises Support Programme.Appraisal Report Volume I: Main Report."FirstFinal Draft.Eastern and Southern Africa Division Project Management Department.

- Promote off-farm activities and value-addition schemes to primary agricultural, fishing, forest, wildlife and livestock products through agro-processing MSMEs and cooperatives.
- Support MSMEs and information sector in accessing financial services and implementing land use and management plans.

MUVI targets rural, poor entrepreneurs with the means and motivation to enter the market. Given the above goals, an AIC will complement MUVI's efforts, particularly since the areas of intervention overlap and fruits and vegetables (horticulture) and sunflower (edible oils) are priorities for both organizations. The difference is that MUVI concentrates on primary production, while AIC will focus on adding value.

Broader initiatives—e.g. PASS, SCF, RLDC, COSTECH etc

Organizations such as Private Agricultural Sector Support Limited (PASS), the SME Competitiveness Facility (SCF), and the Rural Livelihoods and Development Company (RLDC) all support aspects of the oilseed and other clusters of growth enterprises with which the AIC might work.

The Commission for Science and Technology (COSTECH) supports initiatives such as the cluster development initiative. Not only can new entrants from the oilseed and other growth enterprise focal areas be identified in these cluster initiatives, but the linkages and cross-value-chain facilitation that a cluster initiative can offer will be vital for further AIC support.

In short, there is tremendous experience and understanding of what is needed in all of these organizations. It is imperative that there is strong collaboration with them.

5.4.1 CONCLUSIONS

The question that should endear an AIC to the stakeholders involved in primary production support is, "What happens when farmers succeed in improving agricultural production?" In other words, what do they do with their increased production?

Without market pull, prices can fall and put farmers who increase production in a worse situation than before. The support initiative itself can move from success to failure overnight. There is no better illustration than what happened in Dodoma between 2009 and 2010, as reported by Mizuno and Mhede.³¹

³¹Mizuno and Mhede. 2012. *Industrialization for Socio-economic Transformation in Tanzania*.

In that case, favorable weather and the success of farmer-processor linkages led to a bumper harvest of seeds in 2009. There were so many seeds, in fact, that processors could not afford to buy them all. As a result, seed prices fell by more than half, and farmers didn't plant sunflowers the following season. In 2010, sunflower prices appreciated dramatically, and processors who had installed new capacity in the lead up to the 2009 season went out of business.

Our conclusion from this is simply that stakeholders need to be linked across the value chain, to ensure that support in one area is not negatively impacted by failure to respond in others.

There is high confidence that this can be achieved in the sunflower value chain and in the value chains of other diversified processors.

5.5 ACCESSIBLE GROWTH FINANCING

Growth enterprises need investment (debt or equity) to expand. The failure to facilitate adequate funding will seriously affect the ability of an AIC to succeed.

Enterprise investment is usually sourced from:

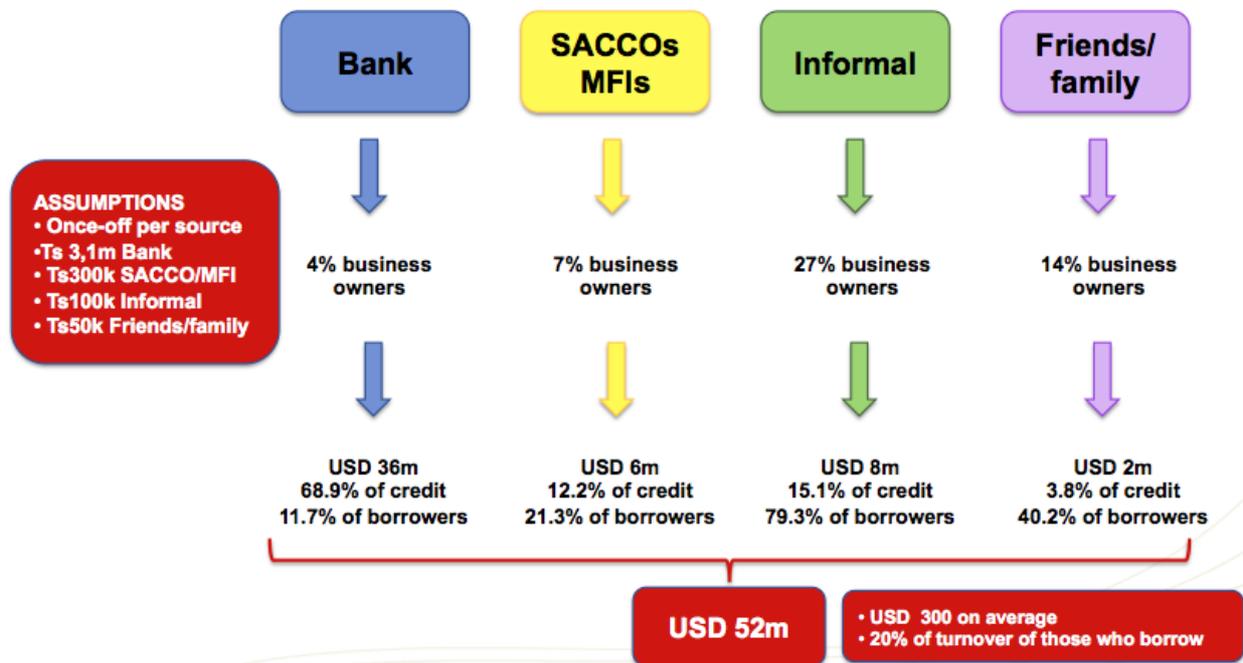
- Informal sources (friends, family, savings and credit associations, money lenders)
- Commercial institutions that range from micro-financing institutions to corporate banking institutions
- Non-financial institutions that offer financial products such as the Tanzania Postal Bank and Twiga Bancorp
- Savings and credit co-operative societies (SACCOs) and rotating savings and credit associations (ROSCAs)
- Financial non-government organizations (FiNGOs)
- Government and donor programs
- Angel investors
- Venture capitalists

In Tanzania, one study found that 32 percent of business financing came from informal sources; 33 percent from ROSCAs; 19 percent from SACCOs; and 16 percent from commercial financing institutions.³² Another intensive study, by Agricultural Finance Markets

³²Frequent reference in this section has been made to: Bee, F.K. 2007. "Rural Financial Markets in Tanzania: An analysis of access to rural financial markets in Babati District, Manyara Region." PhD Thesis, University of South Africa.

Scoping Tanzania, is depicted in Figure 14.³³This visually depicts the level of borrowing by type of institution and size of investment. It is low across the board, highlighting the challenge an AIC will face in facilitating loans for growth enterprises.

Figure 14 Where Entrepreneurs Find Financing



Source: AgFIMS

Fully 48 percent of Tanzanian agribusinesses self-finance their activities. However, while this and other informal financing is usually the first form of financing that entrepreneurs access, it will not be discussed here because it isn't a common form of growth financing. As there is little data on (and little likelihood of) angel investing and venture capital for small- and medium-scale agro-processing, these forms of financing also will not be considered.

The others will be discussed below. A full list of financing and investment programs has been compiled by SAGCOT at:

http://www.agdevco.com/sysimages/appendix_vi_investment_matrix_rpt25.pdf

We will not reproduce the full list here, but note that an AIC will refer to it to identify potential funding partners.

³³Agricultural Finance Markets Scoping (AgFIMS), Tanzania 2011 Headline Findings. <https://docs.google.com/viewer?a=v&pid=sites&srcid=YWdmaW1zLm9yZ3xhZ2ZpbXN8Z3q6MTA2MThmYic5NDU1ZGMzZQ>

5.5.1 COMMERCIAL FINANCING

There are 32 commercial banks (which offer checking or other demand deposit accounts) and 18 other financial institutions (which do not) in Tanzania.³⁴

The former include CRDB, NMB, Akiba, Barclays and EXIM Bank, among others. All but one of these are headquartered in Dar es Salaam. The latter include community and cooperative banks such as the Njombe Community Bank and Kagera Farmers Cooperative Bank, and are headquartered around the country. The latter financial institutions usually have a development focus. All may provide micro-financing.

The commercial institutions provide term loans and working capital but there are challenges that limit access:

- They require extensive collateral that entrepreneurs may not have.
- Commercial financing institutions consider agribusinesses to be high risk (due to natural issues and political interference in the sector), and interest rates reflect this.
- The institutions have limited penetration in the sector.
- They are constrained by their lack of infrastructure and the challenge of reaching customers.
- Products are very limited and may not fit agro-processing growth enterprises.

It is not surprising that commercial borrowing is limited. While there are opportunities for later-stage loan acquisition, small-scale growth entrepreneurs will struggle to obtain financing through this route.

Credit guarantee initiatives have been introduced to encourage greater lending by the formal sector. These have not been successful because they do not cover 100 percent of the risk, and therefore there is still risk for the formal financing institution. Private Agricultural Sector Support Limited (PASS) has been successful because it works closely with beneficiaries and financiers, reducing risk for the financing sector.

5.5.2 COOPERATIVE FINANCING

Savings and Credit Cooperative Societies (SACCOs) are the most important micro-financing bodies in Tanzania. However, for small and certainly medium-scale growth enterprises, they are not considered appropriate lenders as capital allocations are limited, subject to shorter term repayment and often have higher interest rates (20 to 30 percent).

³⁴“Directory of Banks Operating in Tanzania,” <http://www.bot-tz.org/BankingSupervision/RegisteredBanks.asp>

In addition, SACCOs are often financed by commercial banks, which as noted above have concerns about agribusiness risks.

It is unlikely that SACCOs will support small- to medium-scale growth enterprises to any great extent in the near term.

5.5.3 GOVERNMENT AND DONOR GRANTS/SOFT LOANS

These funds offer both individual and group loans and are variable in lifespan and conditions. They are development-focused, largely externally financed, and offer credit facilities to enterprises at no or low interest. They may engage in business development service provision to support use of the resources.

Notable funds such as the African Development Bank's Small Enterprise Loan Fund, SIDO's credit schemes and IFAD's Agricultural Marketing Systems Development Programme are all examples of such initiatives.

There is potential here for small- and medium-scale growth enterprises, as collateral requirements are low, repayments are negotiable and interest rates are low. However, these financing schemes are often project-based, target highly specific beneficiaries and are transitory during the operational period of the AIC.

An AIC will likely be able to access these funds, but there is only moderate confidence that this will occur at adequate funding levels and on a regular basis.

5.5.4 CONCLUSIONS

Most business owners in Tanzania do not believe that formal financing institutions will provide them with financing.³⁵ Outside of commercial financing, only government and donor-backed financing schemes would appear suitable for growth enterprises. However, the latter may be transitory and highly specialized.

It is therefore necessary for an AIC to investigate linkages with longer-term government and donor initiatives, such as PASS, to initially finance growth enterprises, and with commercial institutions for latter-stage funding.

Since there is low confidence that adequate funding can be obtained for earlier-stage growth enterprises that may have limited collateral, financial records and past loan histories, it is necessary for the AIC to establish a seed fund.

³⁵2011. AgFIMS. <http://www.agfims.org>

This would need to offer loan capital in the \$20,000 to \$100,000 range at market rates (to minimize market distortion), with little to no collateral. Loans would need to be for a three-year period to cover capital equipment purchases.

In the course of the study, it became apparent that leasing and credit bureau operations may be introduced in the near future. Both will help improve access to finance for growth enterprises.

6.0 THE NEEDS OF AGRIBUSINESS ENTREPRENEURS IN TANZANIA

Interviews with entrepreneurs, outputs of the workshops and literature reviews have identified major needs in five core areas:

- *Business Level.* Building a pipeline of business skills, capacity, capability and sustainability
- *Equipment and Technology.* Supporting acquisition of equipment and technology for competitiveness (e.g., better packaging)
- *Finance.* Ensuring access to risk capital at reasonable interest rates
- *Market Access.* Creating new markets and expanding local to global markets
- *Linkages.* Connecting, informing, leveraging and transforming relationships.

These gaps were mapped to corresponding needs, which were then translated into the activities, programs and services of the Center. The first two are discussed here. The third is covered in the next chapter of this report.



6.1 BUSINESS LEVELGAPS

According to stakeholder feedback, the major gaps include:

Business Level

Building a pipeline of business skills, capacity, capability and sustainability

Gaps	Needs
<ul style="list-style-type: none"> Lack of practical business training 	<ul style="list-style-type: none"> On-site/in-business advice from experienced professionals
<ul style="list-style-type: none"> Lack of ongoing access to business advice 	<ul style="list-style-type: none"> Availability of local advisors with broad knowledge to advise on business matters
<ul style="list-style-type: none"> Weak business planning and execution 	<ul style="list-style-type: none"> Organized, tailor-made, hands-on coaching in business planning and implementation
<ul style="list-style-type: none"> Skills gaps in marketing, especially broadening marketing channels and identifying strategic outlets 	<ul style="list-style-type: none"> Exposure to a diverse range of marketing strategies
<ul style="list-style-type: none"> Lack of knowledge in establishing raw material supply deals 	<ul style="list-style-type: none"> Facilitating contract, out grower farm deals and overseeing enforcement of contractual agreements

6.2 EQUIPMENT AND TECHNOLOGY GAPS

Stakeholders cite the following as the greatest technology gaps:

Equipment and Technology

Supporting acquisition of equipment and technology for competitiveness

Gaps	Needs
<ul style="list-style-type: none"> Lack of knowledge of latest processing technology 	<ul style="list-style-type: none"> Ongoing education of technology advances
<ul style="list-style-type: none"> Equipment is outdated 	<ul style="list-style-type: none"> Access to new and improved equipment
<ul style="list-style-type: none"> Insufficient equipment to increase production 	<ul style="list-style-type: none"> Facilitation of finance to acquire additional equipment, replace existing equipment
<ul style="list-style-type: none"> Lack of access to good packaging technology and packaging materials 	<ul style="list-style-type: none"> Advice on packaging options and support in negotiating purchases of machines and materials
<ul style="list-style-type: none"> Lack of after-sale services 	<ul style="list-style-type: none"> Facilitation of better equipment supply deals with aftercare deals

- Underdeveloped local manufacturing and equipment maintenance services
- Exposure of local manufactures to international providers

6.3 FINANCE GAPS

According to stakeholder feedback, the leading gaps include:

Finance <i>Ensuring access to risk capital</i>	
Gaps	Needs
<ul style="list-style-type: none"> ▪ Access to finance is limited by risk aversion and collateral requirements 	<ul style="list-style-type: none"> ▪ Access to risk capital
<ul style="list-style-type: none"> ▪ Limited development finance available in Tanzania 	<ul style="list-style-type: none"> ▪ Advocacy for enhanced capitalization of TIB and the formation of TADB
<ul style="list-style-type: none"> ▪ Lack of awareness and knowledge of available funding and guarantee facilities 	<ul style="list-style-type: none"> ▪ Establishment of a finance information bureau
<ul style="list-style-type: none"> ▪ Weaknesses in preparing fundable business proposals 	<ul style="list-style-type: none"> ▪ Exposure and coaching in business write-ups and linkages with business service providers
<ul style="list-style-type: none"> ▪ Unfavorable policy elements and challenging tax regimes 	<ul style="list-style-type: none"> ▪ Consistent advocacy towards improving the agro-business environment for domestic and regional markets

6.4 MARKET ACCESS GAPS

According to stakeholders, the greatest gaps are:

Market Access <i>Creating new markets and expanding local to global markets</i>	
Gaps	Needs
<ul style="list-style-type: none"> ▪ Lack of market information on the local, regional and international demand situation 	<ul style="list-style-type: none"> ▪ Access to consistently updated market information relating to demand situation
<ul style="list-style-type: none"> ▪ Lack of awareness of quality standards in local, regional and international markets 	<ul style="list-style-type: none"> ▪ Training on grades and standards prevalent in local, regional and international markets
<ul style="list-style-type: none"> ▪ Lack of well-defined quality management systems (including good manufacturing practices) 	<ul style="list-style-type: none"> ▪ Training on QMS and the creation/adaptation of QMS

6.5 LINKAGES AND NETWORKING GAPS

Stakeholder feedback reveals the following gaps:

Linkages

Connecting, informing, leveraging and transforming relationships

Gaps	Needs
<ul style="list-style-type: none">Research and development knowledge are not reaching processors	<ul style="list-style-type: none">Facilitation of linkages between research and development and processors
<ul style="list-style-type: none">Government policies do not always assist processors	<ul style="list-style-type: none">Advocacy on behalf of processors to improve support
<ul style="list-style-type: none">Higher education, vocational training and research are not meeting the demands of the agro-processing industry	<ul style="list-style-type: none">Facilitating curriculum review, training methodologies and research to address local industry challenges

7.0 THE AIC MODEL

The foregoing chapters have looked at agriculture in Tanzania, the most appropriate areas for an AIC intervention, and the needs of agribusiness entrepreneurs that must be met to create a cluster of growth enterprises. This chapter looks at the design of an initiative that can address the needs of agribusiness entrepreneurs within these priority sectors.

7.1 A DUAL FOCUS

The feasibility study, which took into account stakeholder views and additional research and identified opportunities and constraints, identified two distinct intervention areas that an AIC might support:

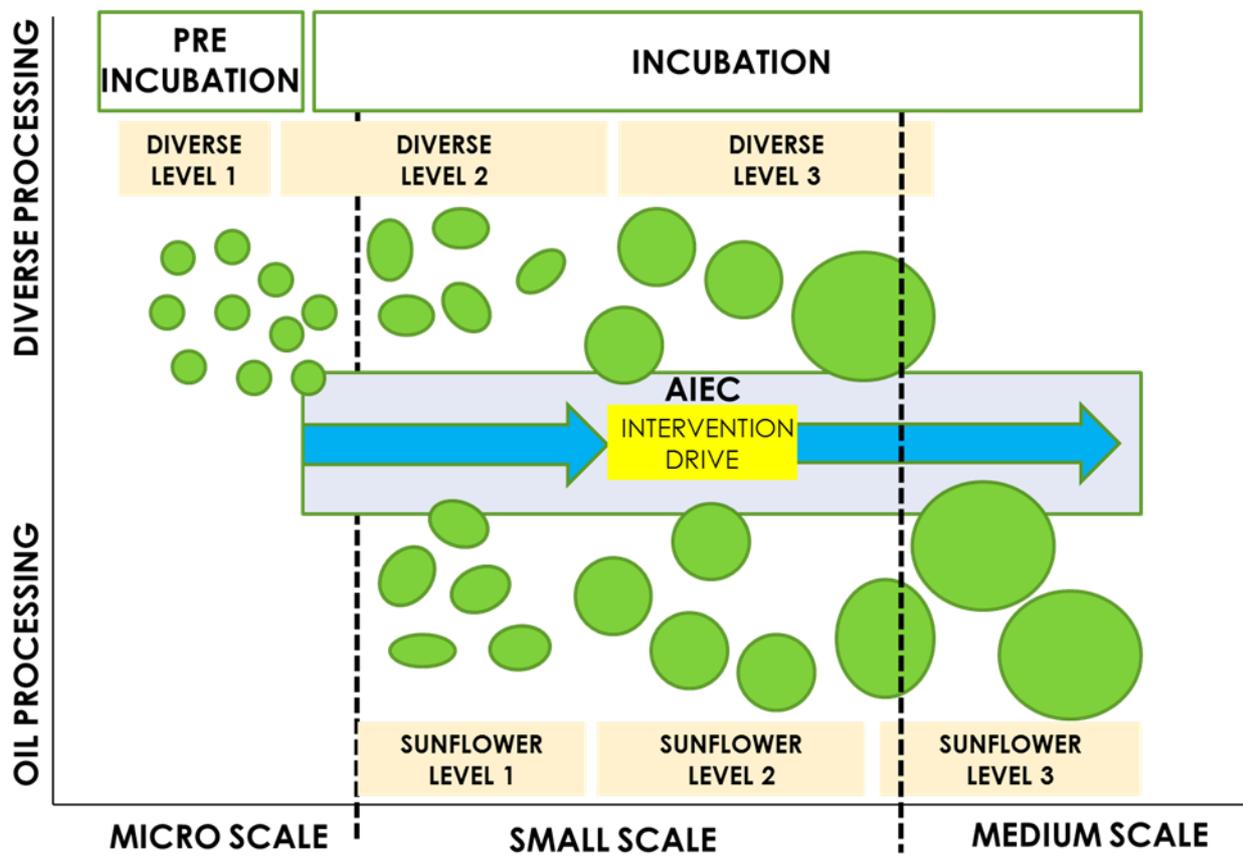
1. A cluster of geographically located enterprises that manufacture a diverse range of products, but are all limited in their ability to scale and to grow a manufacturing cluster
2. A cluster of small-scale sunflower seed processors that are limited in their ability to scale and grow into true medium-scale enterprises capable of producing export-quality oil.

Both areas of focus are important:

1. The sunflower value chain offers scalable opportunity throughout its chain and potentially massive socio-economic impact.
2. A diverse range of existing enterprises can learn what is needed to scale them and their underlying value chains. The AIC's initial question will be, "If a growth enterprise exists in value chain X, cannot more be created, and what must an AIC do to facilitate this?" The need for a geographical focus to facilitate the intensive nature of AIC support services is met by focusing on enterprises located in and around Dar es Salaam, which has the highest concentration of growth enterprises in Tanzania.

Therefore, the AIC will have a dual focus in these two areas.

Figure 15 The AIC Concept Model



Source: Authors

In both focal areas, business support and technical assistance need to be provided. Details of the approaches are set out below.

7.2 IMPLEMENTATION INITIATIVES OF THE AIC

Enterprise support to the two identified focal groups can be implemented through the following initiatives:

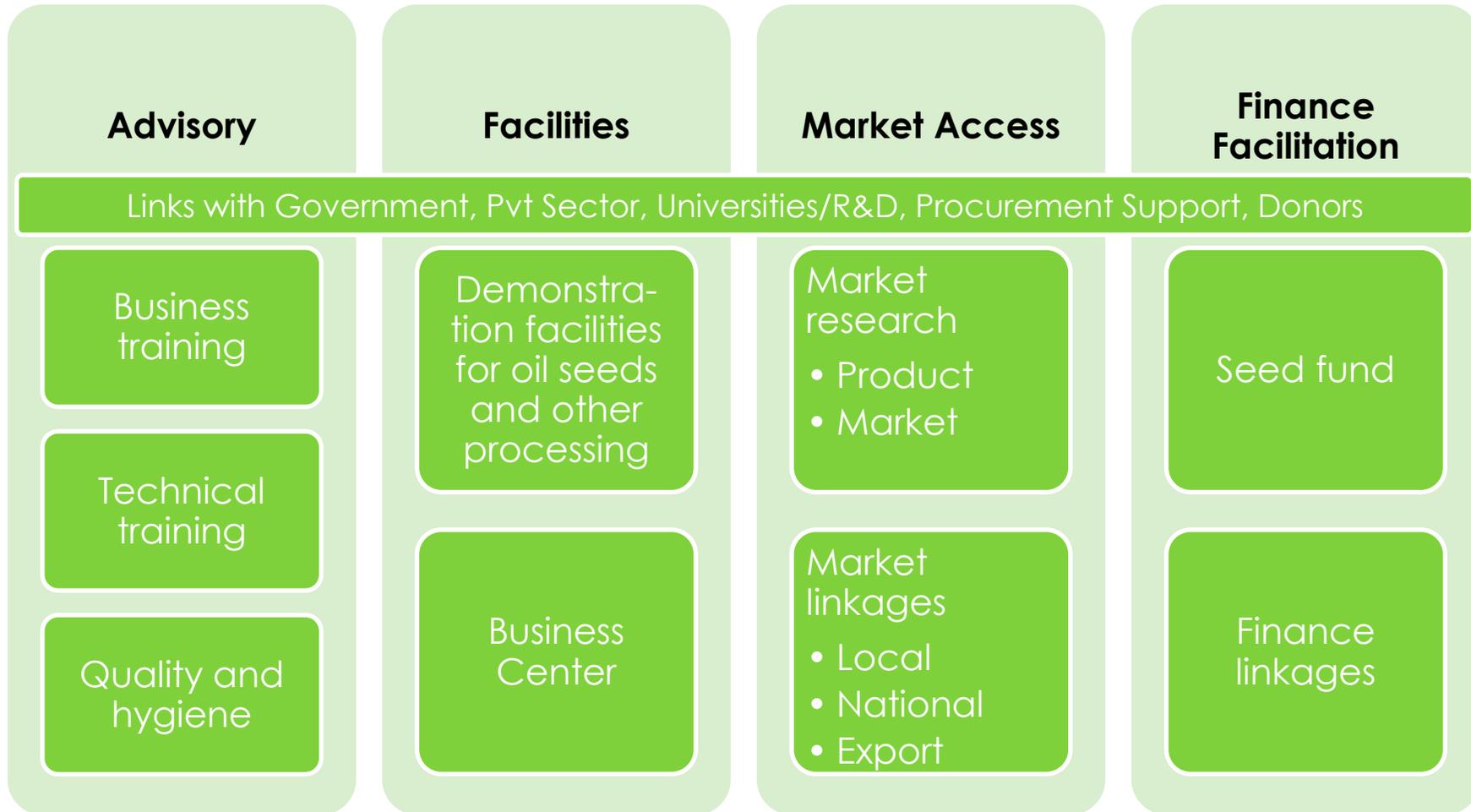
1. Building entrepreneurial and innovative capacity through training, technical advice and mentoring
2. Facilitating access to finance
3. Enhancing the agribusiness ecosystem through linkages to private sector, government, university and donor groups and linkages to global networks
4. Identifying and unlocking market opportunities through access to information
5. Facilitating development and demonstration through access to equipment and facilities.

The model has been designed to ensure these broad objectives are met and to overcome two specific “interfaces of death”:

1. Where initiatives and activities by the government and private sector fail to overlap
2. Where entrepreneurs fail to grow out of the “micro to small” category (diverse clusters focal area) or the “small to medium” category (sunflower focal area).

The five pillars of the model (finance facilitation, advisory services, linkages, access to markets and market information, and access to processing facilities) each support a number of functions that are outlined in Figure 16.

Figure 16 AIC Service Offerings



Source: Authors

7.2.1 VERTICAL PILLARS

The following section concentrates in turn on each of the five pillars, outlining the specific activities and the needs, identified in section 6, that are addressed:

Pillar 1: ADVISORY	Business Training	Technical Training	Quality and Hygiene
Activities	<ul style="list-style-type: none"> ▪ Courses of strategic value to entrepreneurs including finance, marketing, strategy, etc. ▪ Toolkits such as the IFC SME toolkit ▪ Seminars and other events organized monthly 	<ul style="list-style-type: none"> ▪ Training for entrepreneurs on their equipment or demonstration equipment ▪ Process technology improvements ▪ General manufacturing good practices training to help entrepreneurs professionalize their production work ▪ Partnerships with technical assistance organizations ▪ Procurement training 	<ul style="list-style-type: none"> ▪ Product quality assessment and improvement ▪ Food hygiene training and services ▪ Links to accredited service providers who have the required expertise ▪ Logistics training ▪ Facilitation of access to TBS
Needs Addressed	<ul style="list-style-type: none"> ▪ Business management training for entrepreneurs to improve understanding of better business skills and ability to compete 	<ul style="list-style-type: none"> ▪ Access to facilities and equipment that entrepreneurs can use to expand production ▪ Understanding of high efficiency equipment and processes ▪ Correct equipment use to derive quality products 	<ul style="list-style-type: none"> ▪ Meet standards to increase access to new markets ▪ Higher quality products that compete better ▪ Meet hygiene standards to win greater trust by customers

Pillar 2:
FACILITIES

Sunflower Processing Enterprises

Diverse Enterprises

Activities

- **Demonstration:** The AIC will house/make available a demonstration facility where processors can improve knowledge and skills
 - **Networking space:** The AIC will have meeting areas, communal space, and information access points
 - **Testing:** The AIC will partner with existing service providers to ensure hygiene and safety standards
- **Demonstration:** The AIC will have a limited amount of equipment on site and will rely on other stakeholders, e.g., SI-DO, universities, to undertake demonstration
 - **Networking space:** The AIC will have meeting areas, communal space, and information access points
 - **Testing:** The AIC will partner with existing service providers to ensure hygiene and safety standards

Needs Ad-
dressed:

- Access to equipment that entrepreneurs can use to improve knowledge of production
- Outreach services to companies that have their own equipment or are unable to relocate
- Links to stakeholders who can offer service input

Pillar 3:
**MARKET
ACCESS**

Activities

Needs Ad-
dressed

Market Research

Market linkages

Market research on product markets including:

- Market size
- Current market requirements
- Product potential
- Product/market trends
- Information on ideal price points
- Competitive intelligence

- Linkages between companies and buyers
- Comprehension of buyer requirements
- Facilitation of price/supply contracts
- Support in financing, manufacturing and supply logistics

-
- Access to consistently updated market opportunity data for the various products
 - Understanding of consumer preferences for competing products
 - Data on new markets for existing products and markets for new products

- Lack of information and skills to access buyers
- Inability to correctly contract
- Loss of contracts due to production, quality, pricing and distribution issues

**Pillar 4:
FINANCE
FACILITATION**

Activities

Needs Addressed

Finance Details:

Seed Fund

- A \$2.5million seed fund to make investments (\$20K-\$100K per loan)
- Financing to help companies acquire equipment, raw materials, consumables, markets and technical assistance

- Access to growth funding for equipment and running costs
- Overcomes short term loan focus that restricts capital expenditure

Finance Linkages

Facilitate funding sources by leveraging Center's brand and relationships:

- Donor leverage to loan and equity investments
 - Facilitate working capital financing from banks
-
- Engagement with potential co-investors in funding the scale up stage
 - Coordinated engagement with the investment community providing quasi-debt and venture capital
 - Consistent and coordinated engagement with the investment community

Investment criteria: Will be developed with guidance from the financial sector stakeholders. The broad metrics would include:

- Business scalability
- Potential business viability
- Entrepreneur potential.

Funneling strategy: Successful seed investments will feed into formal financial sector support stages (e.g., bank loans)

SEED FUND

- Investment size: \$2.5 million
 - Sunflower Enterprises: \$50 - \$200K
 - Diverse Enterprises: \$10 - \$50K
- Structure: Highly flexible and can involve equity, debt and/or convertible debt based on the companies' needs over time
- Target for 30 percent of portfolio to receive 1:1 co-investment
- Entrepreneur must have minimum of 30 percent of the amount in matching assets/cash

**Pillar 5:
LINKAGES &
NETWORKING**

Activities

Needs
Addressed

	Government	Private Sector	University R&D	Procurement	Donors
Activities	<ul style="list-style-type: none"> Work closely with the government and interested parties to develop policies that support the development of the agribusiness sector Identify government programs that can support initiative (e.g., export trade missions) 	<ul style="list-style-type: none"> Build AIC brand to provide visibility and credibility to supported firms Promote private sector procurement Encourage private sector support via funding/links 	<ul style="list-style-type: none"> Expand linkages with innovation centers, R&D institutes and incubators locally and internationally Be a focal point for international arrangements (technology transfer, joint collaboration) via local institutions 	<ul style="list-style-type: none"> Create linkage with potential procurers of product Create linkage with raw material suppliers to source better and more cost effectively 	<ul style="list-style-type: none"> Create long term linkages for access to finance Develop partnerships with donor countries and private sector for trade
Needs Addressed	<ul style="list-style-type: none"> Active engagement with policy makers on policies needed to support growth of the sector 	<ul style="list-style-type: none"> Lack of access to formal sector Lack of coordination in business community 	<ul style="list-style-type: none"> Gaps in technology transfer 	<ul style="list-style-type: none"> Coordinated market access Inefficient buying behavior 	<ul style="list-style-type: none"> Lack of credibility and scale in dealing with donors Lack of access to export markets and trade critical to growth

7.3 SPECIFIC INITIATIVES TO SUPPORT SUNFLOWER PROCESSING

Sunflower processing has high potential for enterprise growth. However, production is mired by many problems already elaborated upon in this report.

The constraints and challenges run across the whole value chain. Disorganized production and input supply systems end with low-quality output, especially unimproved seed. Traditional, low-input farming is dominated by underdeveloped smallholder farmers. Poor technology is used for processing, and product development and marketing systems are lacking.

Study of the sunflower value chain also reveals that the only direct flows of commodities are between farmers and oil processors of various scales to consumers. There is a lack of vertical integration across the various categories of oil processors.

An AIC would have to address these constraints and shortfalls along the value chain and, if possible, shorten the chain to enhance vertical integration. For example, a well developed, medium-scale oil processor could conveniently subcontract with primary producers or establish outgrower schemes. Interviews during field visits suggested that these options were possible. The ultimate aim would be to upgrade domestic industry production from crude sunflower oil to refined and even double-refined oil. This is a niche that AIC could help processors exploit.³⁶ On the other end, an advanced AIC client would also link directly to the wholesalers and some retailers, shortening the chain and making the most out of the margins. In doing so, such entities would have to employ more people and engage them under better employment terms.

For oil processors to generate adequate revenue, they will have to tap all the three major products of the sunflower: sunflower oil, sunflower seed cake and slurry. Each has a specific market: consumers, animal feed producers and the soap industry, respectively. Considering the edible-oil market challenges—technological, policy and trade—the AIC would enhance its viability by paying equal attention to the oil, animal feed, confectionary, soap, and industrial uses, if the supported enterprises are to be viable.

Policy and international trade issues significantly affect the viability of oil processing. The AIC will have to forge working relationships with advocacy agencies to address the policy environment issues and challenges posed by the international trade regime.³⁷

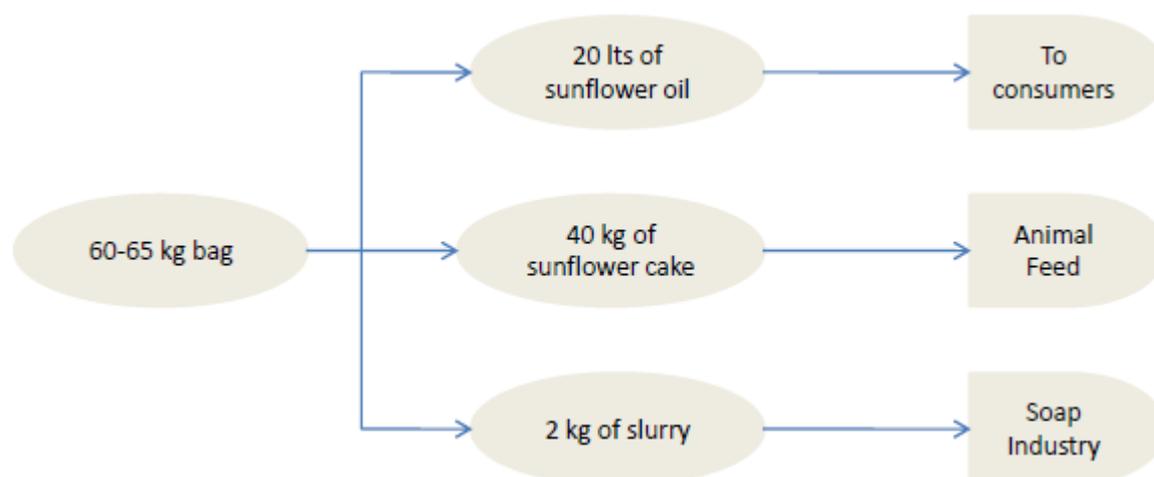
There is room to improve the effectiveness and efficiency of the technologies used for oil processing and for other desirable products.

³⁶ According to RLDC (2008), TBS classifies edible sunflower oil into: (i) Raw—oil obtained by a mechanical expression or solvent extraction and cleared of foreign particles, sediments and particles; (ii) Refined—oil obtained by expression and neutralized with alkali, washed with water, dried, bleached, deodorized and steamed, but without addition of chemical agents. It is around this processing stage that the AIC may carve a niche.

³⁷ MITM-SIDO, page 34, presents a list of on-the-shelf edible oil brands, local and imported, revealing stiff competition.

Figure 17 summarizes the estimated amounts of each product that can be derived from a 60-65 kg bag of sunflower. The AIC impact assumes an average of 20 liters of oil, 40 kg of sunflower seed cake and 2 kg of slurry.

Figure 17 Outputs from processing a 60 kg bag of sunflower seed



Source: Authors

The model would require that AIC clients have their own oil-processing facilities, even if rudimentary, with around 500-liter-per-day capacity. In line with the gaps and needs identified previously, these clients would be supported to grow to 4,000 liters per day by improving their businesses across a range of areas:

- Improve firm management such as operations oversight, record keeping, financial management, business planning and human resource management.
- Establish profitable supply deals with sunflower seed producers.
- Facilitate other service providers to support farmers to improve productivity and sunflower seed quality.
- Improve post-harvest handling and transportation from farm to factory.
- Improve processing technology, acquiring new machines and enhancing oil extraction levels, filtering and refining.
- Improve the quality of oil, sunflower cake and slurry to meet the requirements of end users.
- Add real value to the products by advancing from producing crude oil to single refining, double refining and ultimately deodorizing—and, if possible, fortification.

- Facilitate certification (TBS, TFDA, traceability where needed), improving branding and marketing.
- Articulate and forge better edible oil distribution systems, within Tanzania and regionally, to command better prices for oil, sunflower cake and slurry.

7.3.1 FIRST YEAR SUPPORT

During this period, a prospective client will apply to join the AIC. Specific criteria for selection will need to be developed, but, as stated previously, prospective clients must have some processing equipment and be capable of producing 500liters of oil per day.

At the time of acceptance, a client will use largely the same technology and business it has been using. The revenue target this year is for a 100percent increase.

The AIC will introduce clients to methods of better business organization, improved recordkeeping systems and financial management, and expose them to better ways of processing and establishing input supply contracts. A better business plan will be developed that will focus on greater strategic thinking, technological upgrades, costs and financial implications, and links with banks and guarantee firms.

The level of production will increase by 100 percent to 1,000 liters per day, the average amount currently processed by small sunflower oil processors. Major improvements that will take place in this year:

- Extraction efficiency of 20 liters of oil per 60 kg bag of sunflower will be achieved (more than 50 percent of processors struggle to achieve this level).
- Processors will operate for five of every seven months in a season (many processors currently operate well below capacity, up to only three months).
- Farmers will be supported to develop more certain market access.
- Through interventions by other organizations (possibly coordinated by the AIC), farmers will be supported to improve productivity from 800 kg per ha to, say, 1,500 kg per ha. This is still considered low, but the increase will assist in meeting increased demand from processors under the initiative.

These goals are modeled below in terms of input requirements, output of the three products, and costs and revenue projections.

Table 10 Basic Coefficients Reflecting the 1st Year

VARIABLES		
Season length (months)	5	
US\$ to TSh	1500	
1 acre produces	12	bags of 70kg
1 bag produces	20	10il
	45	kg seed cake
Average farm size	3	acres
Oil sales price (1)	3500	Tsh
Seed cake sales price (kg)	350	Tsh
Price of bag of seed (70kg)	30000	Tsh
Collection cost/bag	3000	Tsh
Transport cost/bag	3000	Tsh
Loading/bag	2000	Tsh
Crushing/bag	10000	Tsh
Filtering/bag	3000	Tsh
Packaging/bag	5000	Tsh

INCOME STATEMENT			
	Monthly	Annual	Annual
	Tsh	Tsh*	\$
Revenue			
<i>Oil</i>	70000000	350000000	233333
<i>Seed cake</i>	15750000	78750000	52500
Sub total	85750000	428750000	285833
Cost of sales	30000000	150000000	100000
Gross Profit	55750000	278750000	185833
Overheads	28140000	140700000	93800
<i>Staff</i>	800000	4000000	2667
<i>Collection cost</i>	3000000	15000000	10000
<i>Transport cost</i>	3000000	15000000	10000
<i>Loading</i>	2000000	10000000	6667
<i>Crushing</i>	10000000	50000000	33333
<i>Filtering</i>	3000000	15000000	10000
<i>Packaging</i>	5000000	25000000	16667
<i>Ad hoc (5% of total)</i>	1340000	6700000	4467
Operating Profit	27610000	138050000	92033
	\$ 18406.667		

PROCESSING PLANT		
Capacity per day	1000	L
Production days/month	20	L
Litersoil per month	20000	L
Seed cake per month	45000	Kg

Source: Authors

7.3.2 SECOND AND THIRD YEAR SUPPORT

In Year 1, the nature of the technology used and the business model will have advanced. The processor will now have better business organization, better recordkeeping, and sound financial management, while management will have established better input supply contracts. An improved business plan will be in place and strategic thinking will be ongoing regarding further technological upgrading, costs and financial implications and links with banks and guarantee firms.

The level of production will be targeted for an increase to 1,500 liters per day in year 2 and over 2,500 liters per day in year 3. The major improvements that will take place in this year are:

1. Stabilized efficiency of extraction, ensuring 20liters of oil per 60kg bag despite an increased volume of seed to be processed
2. Production continues to occur in five months out of seven per season
3. Farmers confident of their market, with further improvements in productivity from Year 1, i.e., possibly achieving 2,000kg/ha.

This is modeled below in terms of input requirements, outputs of the three products and costs and revenue projections, as follows.

Table 11 Basic Coefficients Reflecting Year 2 Support

VARIABLES		
Season length (months)	5	
\$ toTSh	1500	
1 acre produces	12	bags of 70kg
1 bag produces	20	10il
	45	kg seed cake
Average farm size	3	Acres
Oil sales price (1)	3500	Tsh
Seed cake sales price (kg)	350	Tsh
Price of bag of seed (70kg)	30000	Tsh
Collection cost/bag	3000	Tsh
Transport cost/bag	3000	Tsh
Loading/bag	2000	Tsh
Crushing/bag	10000	Tsh
Filtering/bag	3000	Tsh
Packaging/bag	5000	Tsh

PROCESSING PLANT		
Capacity per day	1500	L
Production days/month	20	L
Liters oil per month	30000	L
Seed cake per month	67500	Kg

INCOME STATEMENT			
	Monthly	Annual	Annual
	Tsh	Tsh	\$
Revenue			
<i>Oil</i>	105000000	525000000	350000
<i>Seed cake</i>	23625000	118125000	78750
Sub total	128625000	643125000	428750
Cost of sales	45000000	225000000	150000
Gross Profit	83625000	418125000	278750
Overheads	41790000	208950000	139300
<i>Staff</i>	800000	4000000	2667
<i>Collection cost</i>	4500000	22500000	15000
<i>Transport cost</i>	4500000	22500000	15000
<i>Loading</i>	3000000	15000000	10000
<i>Crushing</i>	15000000	75000000	50000
<i>Filtering</i>	4500000	22500000	15000
<i>Packaging</i>	7500000	37500000	25000
<i>Ad hoc (5% of total)</i>	1990000	9950000	6633
Operating Profit	41835000	209175000	139450
\$	27890		

Source: Authors

Table 12 Basic Coefficients Reflecting Year 3 Support

VARIABLES		
Season length (months)	5	
US\$ to Tsh	1500	
1 acre produces	12	bags of 70kg
1 bag produces	20	10il
	45	kg seed cake
Average farm size	3	Acres
Oil sales price (1)	3500	Tsh
Seed cake sales price (kg)	350	Tsh
Price of bag of seed (70kg)	30000	Tsh
Collection cost/bag	3000	Tsh
Transport cost/bag	3000	Tsh
Loading/bag	2000	Tsh
Crushing/bag	10000	Tsh
Filtering/bag	3000	Tsh
Packaging/bag	5000	Tsh

INCOME STATEMENT			
	Monthly	Annual	Annual
	Tsh	Tsh	\$
Revenue			
<i>Oil</i>	175000000	875000000	583333
<i>Seed cake</i>	39375000	196875000	131250
Sub total	214375000	1.072E+09	714583
Cost of sales	75000000	375000000	250000
Gross Profit	139375000	696875000	464583
Overheads	69090000	345450000	230300
<i>Staff</i>	800000	4000000	2667
<i>Collection cost</i>	7500000	37500000	25000
<i>Transport cost</i>	7500000	37500000	25000
<i>Loading</i>	5000000	25000000	16667
<i>Crushing</i>	25000000	125000000	83333
<i>Filtering</i>	7500000	37500000	25000
<i>Packaging</i>	12500000	62500000	41667
<i>Ad hoc (5% of total)</i>	3290000	16450000	10967
Operating Profit	70285000	351425000	234283
\$	46856.667		

PROCESSING PLANT		
Capacity per day	2500	L
Production days/month	20	L
Liters oil per month	50000	L
Seed cake per month	112500	Kg

Source: Authors

7.3.3. GRADUATION AND IMPROVEMENTS IN THE FOURTH YEAR AND BEYOND

After three years, clients will have changed their technology usage and their business models will have improved significantly. Each firm will now be a good business organization, with an acceptable standard of recordkeeping and sound financial records. Management will have been established for at least three years, and input supply contracts will have operated for a number of years. A constantly improving business plan will be under implementation, and strategic thinking will have shifted to look at how the firm will be able to stand alone after exiting the AIC process.

The level of production can be increased to 4,000 liters/day, with state-of-the-art technology achieving above average production levels.

The major improvements that will take place just prior to graduation are:

(i) Continued enhanced efficiency of extraction, ensuring 20 liters of oil per 60kg bag, with increased volume of seed supply

(ii) Processing to occur over all seven months of the season

(iii) Farmers fully confident of the market, with further improvements in productivity from years 2–3, i.e., possibly achieving 2500kg per ha

This is presented in terms of input requirements, outputs of the three products and costs and revenue projections, as follows.

Table 13 Basic Coefficients Reflecting the Graduation Period

VARIABLES		
Season length (months)	7	
US\$ to TSh	1500	
1 acre produces	12	bags of 70kg
1 bag produces	20	10il kg seed cake
Average farm size	3	Acres
Oil sales price (1)	3500	Tsh
Seed cake sales price (kg)	350	Tsh
Price of bag of seed (70kg)	30000	Tsh
Collection cost/bag	3000	Tsh
Transport cost/bag	3000	Tsh
Loading/bag	2000	Tsh
Crushing/bag	10000	Tsh
Filtering/bag	3000	Tsh
Packaging/bag	5000	Tsh

PROCESSING PLANT		
Capacity per day	4000	L
Production days/month	20	L
Litersoil per month	80000	L
Seed cake per month	180000	Kg

INCOME STATEMENT			
	Monthly	Annual	Annual
	Tsh	Tsh	\$
Revenue			
<i>Oil</i>	280000000	1.96E+09	1306667
<i>Seed cake</i>	63000000	441000000	294000
Sub total	343000000	2.401E+09	1600667
Cost of sales	120000000	840000000	560000
Gross Profit	223000000	1.561E+09	1040667
Overheads	110040000	770280000	513520
<i>Staff</i>	800000	5600000	3733
<i>Collection cost</i>	12000000	84000000	56000
<i>Transport cost</i>	12000000	84000000	56000
<i>Loading</i>	8000000	56000000	37333
<i>Crushing</i>	40000000	280000000	186667
<i>Filtering</i>	12000000	84000000	56000
<i>Packaging</i>	20000000	140000000	93333
<i>Ad hoc (5% of total)</i>	5240000	36680000	24453
Operating Profit	112960000	790720000	527147
	\$ 75306.667		

Source: Authors

At this stage, companies can graduate from the AIC. Further increases to 8,000 liters/day will be possible as key scaling foundations will be in place (e.g., market and farmer linkages).

7.4 INITIATIVES TO SUPPORT DIVERSE PROCESSING CLUSTERS

The diversity of production and the multitude of potential products allow for only a generic support program to be identified at this stage. The AIC will have the flexibility during final business planning to identify more specific focal areas that may include, for example, various types of fruit, vegetable, snack and herb/spice processing.

The main criteria will be business potential and entrepreneurial ability.

At this stage, with the information at hand, the following generic support initiatives have been identified.

7.4.1 FIRST YEAR SUPPORT

First-stage support will focus on micro-enterprises and include pre-incubation activities. The initial support process for the first year will be aimed at assessing each entrepreneur and his or her business. The AIC may oversee the process, but will look to work in partnership with other organizations such as SIDO. Courses to develop basic business skills and technological competence will continue throughout the year.

The AIC will work with the enterprises over the year to improve the products and their market access to increase turnover and profitability. Markets are likely to remain very local.

Support to access finance will necessitate a good business understanding, and business planning will be a core part of the outputs of this stage.

7.4.2 SECOND AND THIRD YEAR SUPPORT

Enterprises that show potential in the first year support program and are capable of raising finance will be accepted into the second year program. Entrepreneurs accepted into this stage will have good business grounding and a business that has shown growth in Year 1. They will be capable of moving towards small business status.

The second and third years of the program aim to help businesses grow revenue to at least \$5,000 per month. Market access and improved procurement will form the basis of the support, and improvements in process and packaging will form the focus of activities to strengthen the reliability of production and quality of the product. The second part of this stage will focus on increasing production and increasing sales. In this stage, the AIC will assist the enterprise by supporting its market research and sales management.

Markets for the supported businesses will be local to regional and will include some formal retail. They are likely to operate from semi-dedicated facilities, but may not yet have sufficient equipment to meet processing demand.

During this stage, increased coaching will assist in contextual learning.

Finance facilitation will originate in the seed fund. However, with growth in the first stage, and improved business practices, there may be opportunities to raise other financing.

7.4.3 FOURTH AND FIFTH YEAR SUPPORT

Enterprises that have improved their processes and product quality and increased sales will be accepted into the fourth and fifth years of the program, which focus on market expansion. This will require additional financing, which will be sought from partner banks.

During this stage, enterprises will receive intensive support, which will include sales training and handholding by AIC experts. Product quality will be improved, and equipment and facility expansion will likely be required. More advanced support for procurement management will be required.

Additional training will be needed in human resource management, as staffing will increase.

The outcome will be well-established, small-to medium-scale enterprises that have competitive products and market growth. They will likely operate from dedicated premises and have sufficient equipment to manufacture products. Distribution will be regional to national, and will be mainly through formal retail channels, e.g., shops, bulk production, etc. Businesses will be starting to export their products.

At the end of this stage, each enterprise will be capable of further growth, and ready to graduate and grow without support.

7.5 LOCATION OF THE AIC

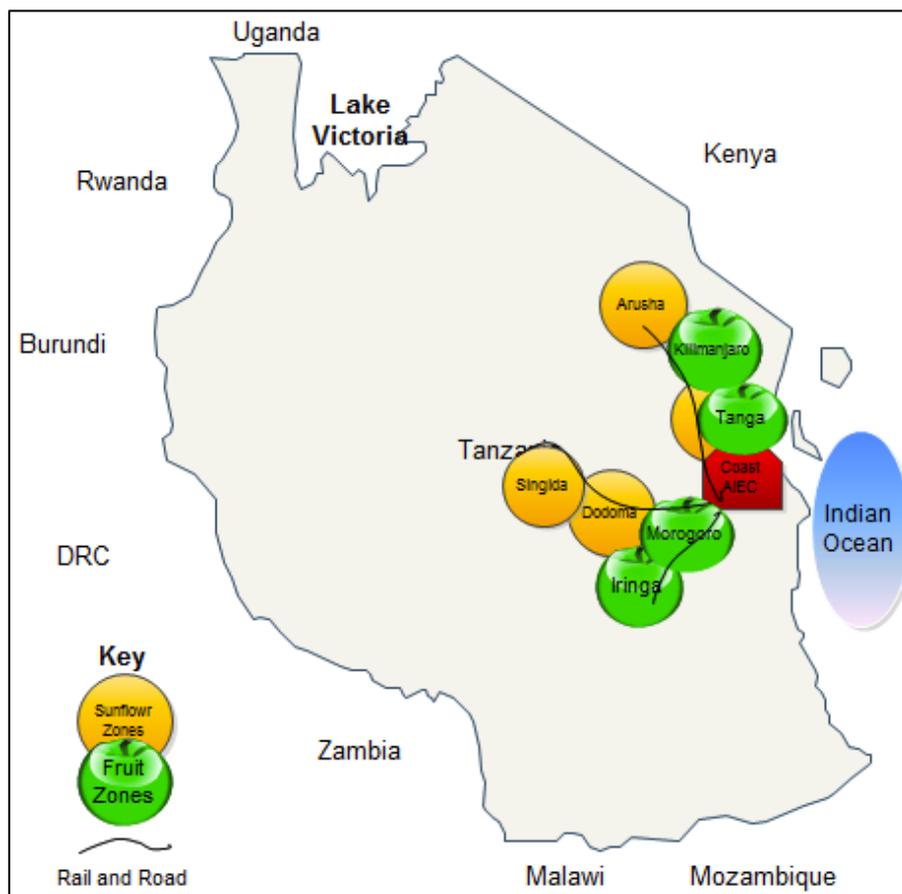
A critical decision point for all incubator-type initiatives is location. The following criteria were utilized to determine the most feasible location:

- Within 150km of a large number of the target clientele
- Within an area that allows economical procurement of raw materials, processing equipment, processing infrastructure and packaging
- Convenient from a logistics perspective
- Near sources of expertise (e.g., technical, business, R&D, etc.)

As the AIC will be a hub with limited facilities consisting of a demonstration area, offices, meeting rooms and training rooms—and given the potential for a future hub and spoke structure—the AIC must be central to both production and markets in the area it serves.

It is proposed that the AIC be located in the Kibahaor Morogoro regions. This would serve the major sunflower seed-producing areas of Northern and Southern Highlands and the Central Zone. It would also be well placed to expand into other crops (horticulture) at a future date. This is depicted in Figure 18.

Figure 18 Locating the AIC with Respect to Production Zones



Source: Authors

For information, the SAGCOT corridor is illustrated in the map below.

Figure 19 The Southern Agricultural Growth Corridor of Tanzania



Source: SAGCOT

Regional authorities in Kibaha and Morogoro have welcomed the suggestion of placing an AIC in their regions. Both regions have good local facilities and infrastructure. The regional authorities have indicated that they would push for local facilities (e.g., buildings) to be made available. A good road network exists. Both regions are also in close proximity to Dar es Salaam.

Locating in Morogoro or Kibaha will allow for the dual focus on sunflower and diverse enterprises, given these regions' proximity to primary production of many value chains within the radius of support.

The facility will require around 450 square meters of office space, meeting rooms, a training facility, and shared space for a kitchen and other facilities.

8.0 IMPLEMENTATION

8.1 IMPLEMENTATION PLAN

The table below shows the staged roll-out plan for the AIC based on *infoDev*'s experiences implementing similar programs and centers. Year 0 will be a critical time of securing the requisite funding, establishing the infrastructure and making key hires. The majority of the AIC programs will be launched and developed between Years 0–4. Finally, the program will be scaled up after Year 4.

Table 14 Proposed High Level Project Timing (Years 0–4)

		Year 0	Year 1	Year 2	Year 3	Year 4
SETUP PHASE	Finalization of business plan	■				
	Funding secured	■				
	Governance structure in place	■				
	Key staff appointments	■				
	Demonstration plant (oil)	■				
	Facility development (offices)	■				
	AIC policies developed	■				
	Seed fund process defined	■				
	Curricula defined and developed	■				
SUPPORT PHASE	Partnership activities		■	■	■	■
	Linkage activities		■	■	■	■
	Selection of entrepreneurs			■	■	■
	Support to entrepreneurs			■	■	■
REFINEMENT PHASE	Refinements to model and processes			■	■	■
	Sourcing additional funds			■	■	■
	Sourcing additional partners			■	■	■

Source: Authors

8.2 MANAGEMENT PLAN

8.2.1 GOVERNANCE

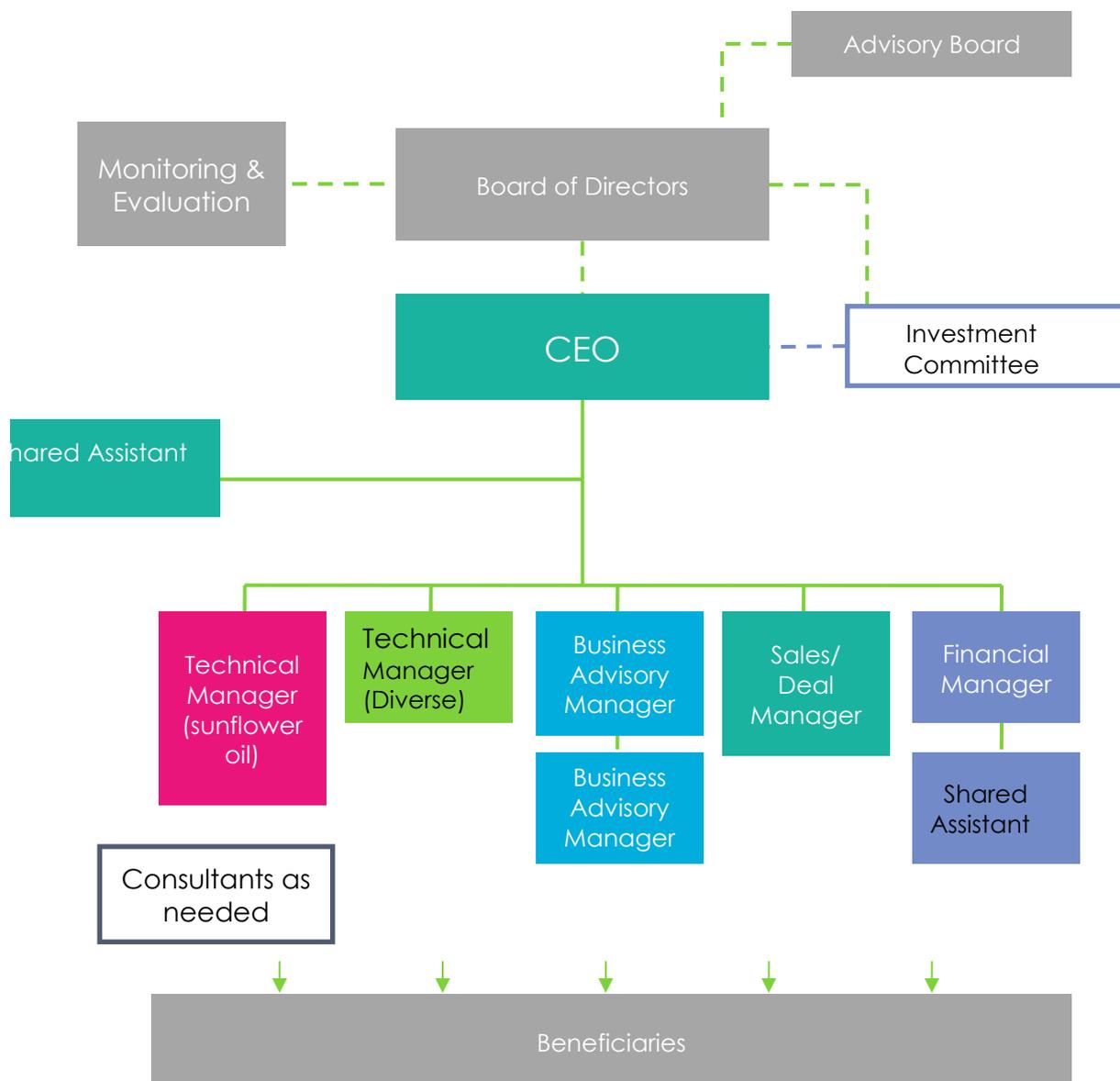
Board of Directors: Based on international good practice, the Board of Directors will include seven to 12 members, among them two to three government stakeholders; one or two university/R&D institutions and four to seven private sector stakeholders (i.e., industry associations, financiers, entrepreneurs, large companies). The founding members of the AIC will have first right of refusal to join the Board. Half of the Board would rotate every three years. Once established, the Board may setup a body of technical, managerial and financial experts to advise on specific issues.

Investment Committee: The AIC will establish a Seed Investment Committee comprising private sector finance and investment experts to screen and approve all client investment applications. This will ideally be a committee of four to five individuals whose principal investment experience is in Tanzania.

Incorporation and Ownership: The AIC will need to operate as an organization that is not for gain. It is likely to be incorporated either as a Trust or a Private Company under the law of Tanzania. Seed finance, which will make up the majority of the Center's budget, will be provided in the form of equity or debt (or a combination of both) that will be repaid. Therefore, a well-defined, legal, long-term ownership structure is necessary to enable investments to return to the AIC. Foreign donors must be able to remit funds to the Center. Additionally, charitable, scientific and institutional tax registration would give the organization and donors' tax benefits. Upon finalizing the investor base, the AIC can, in discussion with these stakeholders; determine the specific legal structure of the Center.

8.2.2 ORGANIZATIONAL STRUCTURE

Figure 20 Tanzania AIC Organizational Structure



Source: Authors

In accordance with the organizational design, program budgets will be managed by the appropriate supervisors. The Financial Manager will manage the budget for most funding activities (including seed investments, investment syndication, working capital facilitation and the investment database), with direct oversight from the CEO, who will take a hands-on role in investment activities.

Scouting, sourcing and conducting due-diligence on potential deal flow will be conducted with strong support from partnership development staff and Center affiliates. In this way, the Center's partners can help reduce the operational and staffing costs of the AIC, while also benefiting from access to financing.

Over and above operational oversight, the AIC will be managed by its Board of Directors, which will represent the interests of its key stakeholders. Rules for Board-level representation will be constructed in coordination with major donors and key partners. However, as previously discussed, appointments will balance expertise and ownership. In addition, the AIC may consider establishment of a trust to house any money donated for its operations. The trust could help protect the interests of donors by allowing them to appoint trustees who would release funds to the Board annually and on the achievement of pre-determined milestones.

8.2.3 STAFFING REQUIREMENTS

Figure 21 below outlines the staff requirements in Year 0, 1, 2, and 3+.

Figure 21 Staff Requirements during Phased Growth

POST	ROLE	YEAR 0	YEAR 1	YEAR 2	YEAR 3+
Chief Executive Officer	Overall management of the AIC. Front and back end oversight	 (1.00)	 (1.00)	 (1.00)	 (1.00)
Financial Manager	Oversee financial management of AIC and supports client decisions. Conducts due diligence on investments	 (1.00)	 (1.00)	 (1.00)	 (1.00)
Assistant	Work with staff to support operations		 (1.00)	 (1.00)	 (1.00)
Technical Manager (Oil)	Manage all technical support in oil sector and is a production specialist	 (1.00)	 (1.00)	 (1.00)	 (1.00)
Technical Manager (Diverse)	Manage all technical support; a production/packaging specialist			 (1.00)	 (1.00)
Business Advisory Manager X 2	Provide business support to clients. Coach and mentor incubatees..	 (1.00)	 (1.00)	 (2.00)	 (2.00)
Sales/Deal Manager	Put deals together on behalf of clients. Strong sales experience and ability.		 (1.00)	 (1.00)	 (1.00)
TOTAL:		(4.0)	(6)	(8)	(8)

Source: Authors

It is envisaged that:

1. The CEO will oversee general management of the AIC and be the primary link with stakeholders for position and fundraising.
2. The Technical Managers will oversee all aspects of the technical advancement of clients in oils and diverse value chains.
3. The Business Advisory Managers will oversee all aspects of business management support to clients and manage a small team of consultant business advisors.
4. The Financial Manager will oversee all financial and fiduciary duties associated with the running of the AIC and support clients via the business advisors. The Financial Manager will manage an assistant, who will perform bookkeeping functions.
5. The Sales/Deal Manager will be responsible for negotiating contracts for clients of the AIC, in collaboration with the clients themselves and the technical and business advisors.
6. The Administrative Assistant will support managers in performance of their duties, and will undertake reception and financial assistant duties as required.

The staffing plan is phased to enable staff training and AIC establishment in Year 1 and gradual increases in staff as the number of clients increase.

The ratio of professionals to clients is 1:10, which is high but falls within accepted norms.

8.3 IMPLEMENTATION, OVERSIGHT AND GOVERNANCE

Based on *infoDev*'s track record and experience in implementing such projects in over 50 developing countries, the implementation of the AIC must be managed by the Board of Directors. This oversight is critically important to ensure that fiduciary responsibilities are maintained, timelines and project plans are followed, management and oversight are established, and that expertise and knowledge of global best practice are available at all times. Other issues to consider throughout the implementation phase include reassessing the Center's focus (programmatic offerings), investments, objectives/impacts, and governance structure, as appropriate.

9.0 FINANCIAL PLAN

9.1 BUDGET YEAR 0–5

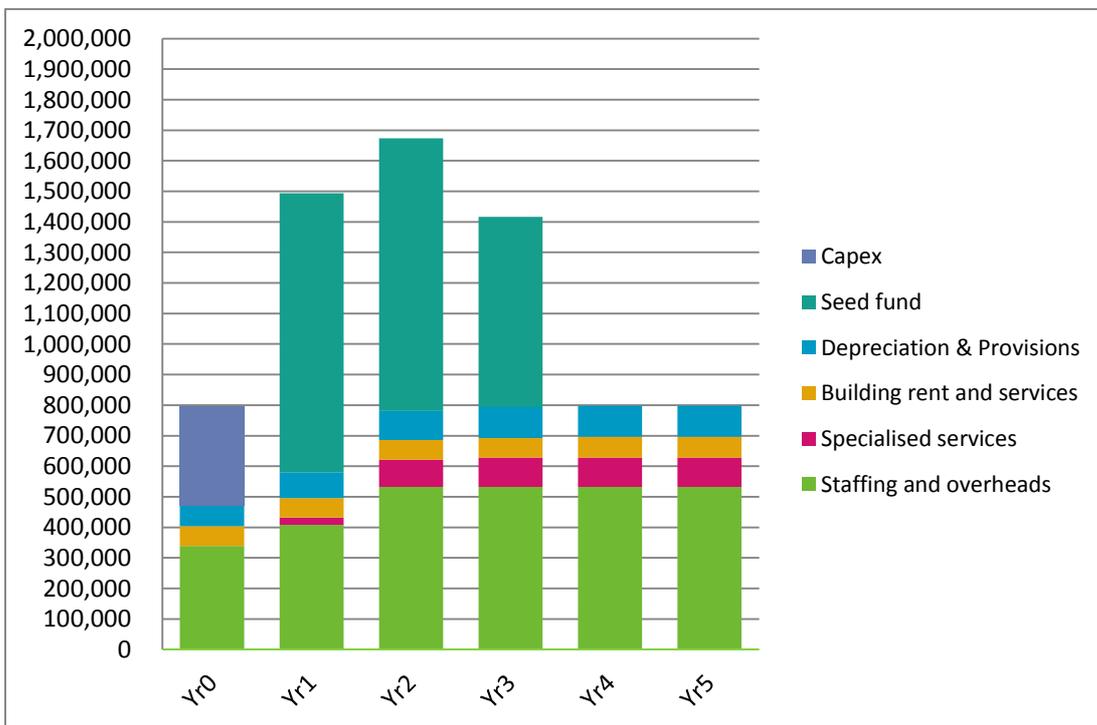
Figure 22 illustrates the costs to start and operate the AIC over six years.

The first year, called Year 0, will primarily be dedicated to establishing the AIC's infrastructure and start its implementation and will therefore require a budget of around \$405,000 for staffing, overhead and support costs, and \$325,000 for capital expenditures. An amount of \$70,000 is required for depreciation provisions. Subsequent years will require an operational budget that stabilizes at around \$800,000 per annum from Year 4 onwards.

The total investment required to cover operating expenditure for Years 0 to 5 (6 years) is \$4.55 million for the operation of the AIC. An additional \$2.5 million is required for the revolving loan or loan guarantee fund that is needed to support early investments in the SME sector and \$1.65 million for implementation facilitation and trust fund management.

The total of \$8.7 million includes the implementation, launch and scale-up of the AIC, as well as a seed fund. **This assumes no revenue generation.**

Figure 22 AIC Budget Years 0–5 (6 years)



Source: Authors

9.2 SOURCES OF FUNDS

The AIC intends to recover its investments from its seed capital fund with a limited income from interest rates on its seed fund, and also by charging a 10 percent royalty fee on revenue growth. This is summarized as follows in Table 15:

Table 15 Expenditure and Income Generated from Years 0–5 (6 years)

Category	Yr0	Yr1	Yr2	Yr3	Yr4	Yr5
Operating costs	\$0.8	\$0.58	\$0.78	\$0.8	\$0.8	\$0.80
Investment returns	\$0.00	\$0.45	\$0.71	\$0.78	\$0.78	\$0.78
Cost recovery	0%	0%	0%	0%	0%	98%

Source: Authors

To avoid the risk of lower-than-expected investment returns in the first years of operation, it is proposed that the expected investment returns not be applied for the first five years, but rather placed in a reserve fund (therefore cost recovery in Table 15 for years 1–4 reflects as 0%). The resultant gap should be covered fully by the initial start-up funding of the AIC. This does not mean that the investment returns are not actively sought and managed - if collected, the size of the reserve will amount to \$2.7million by Year 5 and in the following years (i.e., from Year 6), this reserve will be used to cover any shortfalls in investment return. However, based on projected revenues, the AIC management team will not be required to use the reserve if the 10 percent royalty on revenue is successfully implemented.

If the AIC meets targets, the reserve funds will be used to recapitalize any shortfalls in the seed fund and then to increase it. Additional funding can be used to expand the scope of the AIC operation—perhaps into new areas.

9.3 SEED CAPITAL FUND

Financing for agribusiness was identified as a key constraint on growth. As such, a seed capital fund is needed to support the acquisition of equipment and to finance bridging loans for production (primarily to acquire raw material for processing). This will be a revolving fund with production loans repayable in one year after the season ends, and equipment loans repaid within three years.

The loan amounts will be between \$20,000 and \$100,000. This fund is not envisaged to be used in isolation, but to leverage other funding, either through guarantees or through co-funding mechanisms.

On this basis, a \$2.5million fund can provide 50 percent of the financing needed to support 50 percent of the supported enterprises. It will charge a market-related interest rate, contributing to the income-generation component of the AIC.

The fund will be managed by the AIC and a partner organization, preferably a financing institution. Funding criteria will need to be developed using both financial and incubation good-practice insights.

9.4 SUSTAINABILITY

The AIC will work towards self-sustainability, largely through its cost recovery activities, which are anticipated to cover 95 percent of the operating costs from Year 4 onward, as well as some limited capacity to replace capital assets. The Center can introduce other revenue streams once a strong value proposition has been achieved in the early years.

However, no provision exists for bad loans or new capital equipment. The investment reserve fund will allow the application of funds to these areas without undue strain on the cash flow of the AIC.

It takes time to realize investments in early-stage companies. It is estimated that it will take a minimum of five years to reach an equilibrium state and therefore more reliable and sustainable revenues.

Programs contributing to sustainability include:

- **Revolving seed fund.** It is assumed that a significant portion of the seed fund would be paid back by beneficiaries over time. This will allow additional disbursement, even within the first five years.
- **Financial advisory services.** By brokering finance as a service, the AIC can generate revenue as a percentage of the finance secured. This may be taken in cash or re-invested in the investee's business. The revenue potential for such a service should be explored in the future, when demand for the AICs financial services is projected to increase.
- **Facilities leasing.** The AIC will explore the adoption of a pay-per-use model for the Center's facilities, such as meeting rooms and a demonstration plant.
- **Sponsorship.** The AIC will recruit corporate sponsors that will attract private sector participation. Industry and the private sector will benefit from this affiliation by gaining, among other things, access to SME activity, technology innovation and market research.
- **Tailored training.** In later years, the AIC may be able to monetize its market and technical knowledge. The capacity building team will develop training models that can be provided to industry at a fixed fee. Charging for training will be explored from Year 3.
- **Consulting work.** The Center may in time leverage in-house talent and resources to provide consulting services to third parties for a fee. Lessons learned, relationships built and expertise accumulated by the AIC's work would provide a wealth of information for private sector, government and development partners.

The revenue model strategy has two distinct benefits for the AIC and companies it assists.

1. The ambitions of both are aligned, sharing the common objective of building a significant business. Actions that benefit the company also maximize the return to the AIC.
2. Importantly, the success-sharing model builds a sustainable future for the AIC, with a model that is scalable and replicable. Returns from company success can be used for incentives to management.

9.5 CO-INVESTMENT AND LEVERAGE

Co-investment from clients for all investments will be necessary. Initially, AIC financing from its seed fund will reach only 50 percent of clients, but as the value proposition of the AIC grows this figure will increase.

9.6 FUNDING/FUNDRAISING PLAN

For the AIC's operations in Years 0–5, \$7.45 million is needed, based on expenditure and income planning and the proposed seed fund.

InfoDev intends to secure commitments for 100 percent of the required capital in advance of launching the AIC. Securing this funding is important to ensure that the AIC remains adequately resourced throughout its maturation period. *InfoDev* is targeting investors with missions aligned to the AIC. The ideal investor base would consist of two to three funders making both cash and in-kind contributions.

Investment in the AIC presents a clear value proposition to prospective investors:

- **Financing Pipeline.** AIC investors, notably financing and equity investment companies, will be exposed to an ongoing stream of agribusiness ventures that are screened through the finance and advisory service activities of the AIC. While the AIC will use its own criteria to select beneficiaries, the AIC investors will have the opportunity to learn from and potentially collaborate with any enterprises that have contact with AIC.
- **Knowledge.** AIC investors gain considerable knowledge from their association with the Center. In addition to published research and market analysis, investors will have access to in-depth R&D and technical activity, as well as cutting-edge information on agribusiness in Tanzania.
- **Partners.** AIC investors gain access to the complete network of AIC partners and stakeholders, from R&D facilities and universities to industry and government. These relationships will be strategically valuable to any investor with programs related to, among others, agriculture and agribusiness.
- **Measured outcomes and impact.** AIC investors will benefit from transparency concerning the outcomes of the AIC's activities. In addition to providing investors with regular performance reports, the AIC will provide synthesized data and evidence on economic and social returns from the investors' contribution.

- *Development goals.* In addition to directly measurable impact, AIC investors will be contributing to real transformation in Tanzania's agricultural and processing sectors.

9.6.1 STAKEHOLDER IN-KIND SUPPORT

Various government and private stakeholders have shown strong support for the AIC.

Stakeholders have offered their support for the Center in various forms—either financially or in-kind.

International agencies, including the Danish International Development Agency (Danida), the UK Department for International Development (DfID), Finland and SAGCOT-related entities could be approached to provide direct funding support, as well as facilitating global interactions with potential international partners.

The private sector has been active in developing the AIC. It includes finance institutions, manufacturers and specialized service providers.

Academic and research institutes such as the Tanzanian Industrial Research and Development Organization (TIRDO) have been equally enthusiastic and supportive of the AIC. These institutions could offer technical support as well as in-kind support such as hosting the Center and allowing use of research labs and facilities.

Government agencies such as COSTECH, SIDO and the Ministry of Industry, Trade and Marketing could provide in-kind support in the form of space and technical expertise.

9.6.2 HOSTING THE AIC

InfoDev recommends that the AIC be an independent organization and does not advocate the governance of the AIC by one institution. However, based on *infoDev*'s international experience in project implementation of PPP initiatives, it is recommended that if the institution is housed in an organization, it should be governed by a board of directors drawn largely from the private sector (as discussed in the governance section of this report).

9.6.3 EXIT STRATEGY

While donor money will be necessary to seed the AIC over the first phase, it is expected that the CEO and management team will seek contributions (both cash and in-kind) from local stakeholders for operations after year five. The aim is for donor funding to act as a catalyst to establish the AIC as a proof point, generating successes and demonstrating that it is a valuable program for both the Tanzanian government and private sector to fund in the long term. Thus, donors will exit as major funders of the AIC after the first five years, with the private sector, local public sector and internal revenue generation-supporting operations thereafter.

9.7 OTHER IMPLEMENTATION ISSUES TO CONSIDER

A number of questions remain unanswered and will require additional work by the project implementation team and future AIC management. These include:

- *Governance.* Questions including board membership, management structure and ownership of the AIC will be addressed in detail when founding members are identified.
- *Investment governance and structuring.* The issues include design of financial mechanisms, oversight, staffing and partnerships with existing financial institutions.
- *Staffing review.* This includes reassessment of in-house versus outsourced staffing requirements for each business line.
- *Sector and processing priorities.* Issues to be covered are understanding sector opportunities and how the AIC's technology specializations and expertise will evolve over the first four years of operations.
- *Intellectual property rights.* Rights to be addressed include ownership issues among the AIC, affiliates, partners and investees.
- *Performance metrics.* The priority impacts and objectives the AIC will measure over the first five years must be determined.

10.0 OUTCOMES AND IMPACT

10.1 SOCIAL AND ECONOMIC IMPACT

The social impact of AIC interventions will be felt across the agribusiness sector, including farming, ancillary and supportive services. The affects will be felt among women, youth and the unemployed/underemployed. Technical skills upgrading will provide managerial staff with broader career opportunities, and improved quality-control training will open new markets to farmers and suppliers. Though difficult to quantify, the forecast that each company will double production in the first years of support will most certainly have direct and indirect social and economic impact.

Employment creation is the most direct and easily recognized impact. With the growth forecasts listed above, companies within the AIC program are expected to double their number of employees within the first three years of participation.

The phasing of the AIC program over a six-year period should allow 177 growth-oriented enterprises to be supported, the majority of which are expected to become sustainable small- to medium-sized operations.

As the output of SME producers more than doubles, it is logical that their input purchases will double as well. This will not only affect raw agricultural material purchases, but also packaging, machinery and services such as graphic design, printing, transportation and laboratory analysis. These purchases will have a direct impact on unemployment and underemployment of personnel in each sector.

Direct and total economic impact from this initiative will bring tangible benefits to women in Tanzania, who contribute significantly to employment in agribusiness, agriculture and food processing. An increase in production, as well as a higher degree of training, will allow women entrepreneurs to succeed in ways not currently available.

10.1.1 IMPACT ON TAX REVENUES

Taxation gains are another critical area of economic impact. It is estimated that half of the companies that can be supported are not fully compliant with tax and other regulatory laws. A significant increase in tax revenue is possible if the AIC works with companies to ensure registration and compliance. With a streamlined company registration process, more agribusiness companies currently operating outside of the formalized system would register with the government, and tax revenue would increase by more than \$1.6 million in the first six years. If one includes the tax revenues created after the enterprises have left the AIC and the tax revenues from other enterprises that take-up the technology and marketing innovations demonstrated by the AIC, the impact on tax revenues will be even greater.

10.1.2 IMPACT ON JOB CREATION

Conservative modeling indicates that over 650 direct jobs and 1,859 indirect jobs can be created over six years. These are weighted towards the latter-stage companies that exit the AIC, and thus are seen as sustainable jobs of good standing.

10.2 INNOVATION IMPACT

Improved processing practices are perhaps the most innovative impact that will be felt as a result of this program. Entrepreneurs will increase productivity dramatically by cutting waste, implementing quality controls and maximizing processing times with the availability of modernized processing equipment. Working with various institutional partners, new processing equipment will be developed to suit the needs of entrepreneurs.

Lastly, innovations will be made with regard to the process and distribution models utilized by the entrepreneurs involved. Moving from small-scale, localized distribution to partnering with large, national and international distribution firms will allow entrepreneurs to increase access to local, domestic and international markets.

10.3 MONITORING AND EVALUATION

A range of qualitative and quantitative measures are required to evaluate performance related to both internal processes and outcomes. The core of the monitoring and evaluation system should be assessment of performance against key performance indicators (KPIs), on a quarterly and annual basis, and using these organizational indicators as a basis for development of KPIs for all staff.

10.3.1 KEY PERFORMANCE INDICATORS

Performance indicators are in four key performance areas:

1. Customers
2. Financial
3. Human resources
4. Innovation

Table 16 The AIC's KPIs

Focus area	Indicator	Measurement	Frequency
Customers	Customer satisfaction; also calling for suggestions for improvement	<p>Bivariate client satisfaction survey with all resident and affiliate clients. A bivariate survey measures the satisfaction for particular service elements as well as the relative importance of each to the client. The first survey sets the baseline for subsequent improvement.</p> <p>Anonymity is important for honest feedback and will be achieved with a ballot box system if clients do not want to email completed forms back to the incubator. Another alternative is a web-based survey conducted by a reputable independent company.</p>	Annual
		Evaluation of content and presenters for workshops and events, satisfaction levels	Every workshop and event
	Client Business Performance	<p>Outcomes survey</p> <ul style="list-style-type: none"> • Turnover—against actual targets from the model • Employment • Wages paid • Investment • Business survival—80% of clients and graduates expected to survive for at least a 5-year period after graduation (the monitoring period) • Business growth, by comparing one year's figures to another 	Annually and for 5 years after graduation
		Formal client performance reviews, noting that informal contact with clients on a daily and weekly basis is still crucial	<p>Frequency set on entry, but typically quarterly</p> <p>More frequent for high tech</p>
	New clients, industry and type (service or technology)	KPIs for clients entering the AIC compared to the targets	Monthly and quarterly reporting to the board

	Graduation	Clients graduating and period under support (average 3–4 years anticipated)	From client records with quarterly reporting to the board
Financial	Efficiency	Budget vs. actual and variance	Quarterly reporting to board
Human Resources	Staff satisfaction	Bivariate independent staff satisfaction survey—first survey sets the baseline for improvement. Anonymity is crucial so it will need to be conducted by a reputable independent company, ideally with a web-based survey instrument.	Annually
Innovation	New programs	Progress developing and implementing new programs	Annual review of business plan and specified new projects

Source: Authors

Once performance indicators have been agreed to by the board, individual key performance indicators for each staff member will be negotiated with the staff member related to these organizational indicators.

10.3.2 IMPACT ASSESSMENT

The baseline data of the AIC's clients will be recorded at the time the client enters the AIC. Assessment of impact should be undertaken independently every three years at the instigation of stakeholders, drawing upon data from the AIC's monitoring and evaluation system and combining this with qualitative information gathered from stakeholder interviews and client case studies. Data should be obtained from independent surveys of clients and graduates and socio-economic data if the AIC's data is flawed or seen as inadequate. Data will be used to judge:

- the overall socioeconomic impact flowing from the client businesses, making use of input and output multipliers in terms of employment, wage rates and sales revenues
- the cost effectiveness of the AIC intervention, noting that six years of support is required before significant impacts will be evident, as it takes time for businesses to grow and have impact
- impact on the business environment, in particular improved culture of entrepreneurship, improved early stage financing mechanisms, improved regulations
- performance against the objectives of the AIC.

Table 17 Outcome & Impact Indicators (first six years)

CLIENT BUSINESSES	177 growth-oriented businesses supported Additional \$36.7 million in revenue generated
EMPLOYMENT	650 direct jobs created 1859 indirect jobs created
TAX REVENUES	Additional \$ 1.6 million recorded

Source: Authors

10.3.3 PLANNING

Planning involves stakeholders, the management board and the management team, and encompasses the needs of clients and the desired outcome of stakeholders.

Annual planning should be implemented for strategic and business planning, involving the board, informed by management reviews of performance.

Table 18 AIC's Planning Scheme

Planning	By Whom	When
Strategic planning	Board, management and stakeholders	Annual or biannual
Business planning and annual budget	Management Approval by Board	Annual
Sustainability	Management and Board	As a part of annual business planning
Program review	Management	To inform annual business planning

Source: Authors

10.3.4 REPORTING

To ensure good governance and to facilitate stakeholder involvement, regular reporting mechanisms will be instituted.

Table 19 AIC's Reporting Scheme

Reporting	By Whom	When
Management report to Board	Management will prepare and submit a report addressing the key performance indicators, for consideration by the board at quarterly meetings	Quarterly
Annual Report	Management will prepare and submit a report addressing the key performance indicators for consideration by the Board at either its final meeting in each year or the first meeting in the next year	Annual
Management liaison with Chair of the Board	CEO/Manager and Chair of the Board	Minimum monthly and as required
Program review	Management, to feed into the final management report each year and the annual report	Annual

Source: Authors

11.0 RISKS

Along with expected successes, it is clear that a broad range of risks are associated with a new and innovative approach such as an AIC, in terms of both the Center's implementation and the external operating environment. These risks offer differing degrees of complexity and require various mitigation strategies. The stakeholder outreach conducted provides an indication of the major risks that will be encountered, as well as potential management strategies for dealing with them. However, a key role of the Center's board and management team will be to examine, evaluate and manage risks over time. Included below is an overview of the key risks identified:

Table 20 Risks to implementation and possible mitigations

Center Implementation Risks

Risk	Description	Potential Mitigation
Finance	<ul style="list-style-type: none"> ▪ Securing initial finance for Center implementation ▪ Securing post year 5 finance ▪ Accepting/dispersing finance in an efficient and transparent manner ▪ Budget outlined in business plan is insufficient to execute current model ▪ Investment assumptions optimistic 	<ul style="list-style-type: none"> ▪ Ongoing discussions with numerous donors, government & investors ▪ Financial sustainability as an explicit aim of the Center post-year 5 with a clear focus on revenue generation ▪ Clear governance structure and strong implementation partners ▪ Close monitoring by trustee of financing decisions including flexibility in reallocating program budgets and assistance in further fundraising ▪ Continue to evaluate investment risks vs. potential growth and adjust model as necessary (sensitivity analysis)
Stakeholder support	<ul style="list-style-type: none"> ▪ Continued support and buy in from government, industry and partner institutions. 	<ul style="list-style-type: none"> ▪ Partnership building to maintain and develop relationships, board seats for key stakeholders.
Management team and staff	<ul style="list-style-type: none"> ▪ Identification and recruitment of appropriately skilled board members, management professionals and staff. 	<ul style="list-style-type: none"> ▪ High profile initiative with remuneration in line with market.
Market Demand	<ul style="list-style-type: none"> ▪ Demand for Center services. ▪ Reputation/brand of Center. 	<ul style="list-style-type: none"> ▪ Center continually adapts to market gaps and reallocates budgets as necessary ▪ Emphasis on customer feedback, quality control and M&E

Source: Authors

Table 21 Market Risks

Market Risks		
Risk	Description	Potential Mitigation
Finance	<ul style="list-style-type: none"> Ability to leverage market investors 	<ul style="list-style-type: none"> Include investors on board and investment committees Continue to engage financial stakeholders
Market Supply	<ul style="list-style-type: none"> Ecosystem of investable companies 	<ul style="list-style-type: none"> Services respond to market gaps and affiliates should aid the identification of potential investments. Ability to offer financing in a market where it is lacking should be a major draw for the Center
Market Demand	<ul style="list-style-type: none"> Demand for products and services provided by companies in Center 	<ul style="list-style-type: none"> Investment decisions will be based on clear demonstration of market demand and adapted as necessary
Improving regulatory/ policy environment	<ul style="list-style-type: none"> Business environment 	<ul style="list-style-type: none"> The Center aims to play an active role in providing evidence and advocating the development of agri-business regulations and policies
Competition from other innovation centers/initiatives	<ul style="list-style-type: none"> Overlap with other initiatives Change of focus of donor/ government spending Additional innovation centers 	<ul style="list-style-type: none"> Close coordination with existing initiatives and focus on Center visibility Demonstrable support from stakeholders and local government

Source: Authors

12.0 CONCLUSIONS

Tanzania represents an agricultural production zone with few equals. It has tremendous agribusiness potential. Yet there are clear gaps in institutional support and financing for scaling up a robust agribusiness ecosystem.

Establishment of the AIC in Tanzania will serve to plug these critical gaps and accelerate the development, deployment and transfer of agribusiness initiatives. The service and programmatic offerings of the Center include finance facilitation, advisory services, linkages and networking development, access to market research, and access to facilities. Coordination among existing local and global market players is a key success factor and will be one of the main objectives of the AIC.

The projected cost to implement, launch and operate an AIC as designed by stakeholders is \$8.7 million over a six year period. Initially, public funds are required for the Center; however, the AIC aims to reach 95 percent financial sustainability from Year 5 of implementation.

The stakeholder engagement process has built a strong coalition of partners and the timing is right to capture the momentum that stakeholders have identified for establishing the AIC in Tanzania.

This holistic program, with real potential for long-term sustainability and very fast impact, can catalyze genuine transformation in the agriculture and processing sectors and help to develop new industries create jobs and produce products and services that equip the country and its people to respond to the challenges of economic development.

ANNEX 1 CONCLUSIONS OF INFODEV GLOBAL GOOD PRACTICES ASSESSMENT ON AGRIBUSINESS INCUBATION

In 2011, *infoDev* conducted a study of 10 agribusiness incubation programs located in eight countries. The full study—as well as video documentaries of incubation programs in the mountainside of Java, Indonesia, and rural South Africa, as well as rural areas of Brazil, Chile and Mexico—can be found at <http://www.infodev.org/en/Article.800.html>.

Examples of the results generated by these programs include the following:

- Fundación Chile has spearheaded the development of a salmon industry that in a span of just slightly more than 10 years has been able to grow by a factor of 1,000 and contributed to \$2.2 billion exports and more than 35,000 jobs.
- The efforts of Technoserve in Mozambique and Fundación Jalisco in Mexico have led to the upgrading of entire subsectors, such as poultry, cashew nuts, and blueberries.
- CENTEV-UFV in Brazil has developed a new model for commercialization of agricultural research in Brazil. It has cultivated such successes as a biotechnology business specializing in a fungus that protects plants from parasitic nematodes—a product that could help reduce the yearly \$100 billion losses in world agriculture.
- Timbali Industrial Incubator in South Africa has transformed the lives of poor women into assertive entrepreneurs in the highly competitive flower business.
- ABI-ICRISAT in India has supported the growth of successful biotech companies.
- IAA-IPB in Indonesia has promoted the growth of zero-stage enterprises owned by women into successful, competitive, and growing medium enterprises.

The table below provides a snapshot of the quantifiable outputs of these incubators vis-à-vis the public investment in them. The age of the incubators and the vastly different scale of investments must be taken into account when reviewing these results. It should also be noted that the “ROI” calculation does not take into account backward linkages—that is, while the calculations would include a processor who increased his/her sales by x , the increased income of the farmer who was able to sell more produce to the processor has not been taken into account. Neither has the impact on “copycats” that adopted the production practices that were demonstrated and started or scaled their own businesses. Nevertheless, the calculations provide some indication of what results are achievable.

Incubator	Graduates	Average Sales of Enterprises(\$ million)	No. of Years Incubator In Operation	Initial Investment in Incubator(\$ million)	Total Sales of Graduated Enterprises (\$ million)	“ROI” for Enterprise Sales/Initial Investment in Incubator
Fundación Chile	85	5	30	50	425	2.3
CENTEV	24	2.5	16	0.7	60	60.4
Fundación Jalisco	4	1.25	5	4	5	1.2
IAA-IPB	38	0.21	16	0.3	7.98	18.7
Timbali	140	0.03	8	2.8	4.2	1.3

Not all the programs reviewed were equally successful. In one case, an incubator focused on commercialization of domestic R&D had not yet achieved successful market entry. The review of the 10 programs, therefore, provided powerful insights into models that can be adopted, as well as factors that are critical to success.

It became evident that many viable models exist for agribusiness incubation. Selection of a model depends on the stakeholders' core objectives, combined with the unique characteristics of the local business environment and the amount and nature of the funding available to initiate the incubation activity. A commonality of the case studies assessed in this report was that most were structured as public-private partnerships. Beyond that, there were significant differences. The report identifies three types of agribusiness incubators :(1) agribusiness sector/value chain incubators; (2) agricultural research commercialization incubators; and (3) technology transfer incubators. Within each type, there are significant differences in terms of public-private partnerships, affiliations, target clients, business models, and organizational design.

Based on the literature review and the case studies conducted, it appears that the success of agribusiness incubators in creating sustainable and competitive enterprises relies upon six factors. These factors include the ability of the business incubator to effectively:

1. Help the entrepreneur manage the risks associated with an agribusiness enterprise through a combination of technology, institutional, and networking strategies
2. Understand the value chain affecting the success of the enterprise and assisting the enterprise with positioning itself in the value chain by linking farmers and enterprises to meet the demand of consumers for stable, quality, and affordable products
3. Identify and demonstrate innovative business propositions so as to catalyze broader sectoral take-up
4. Adapt the focus and business model of the incubator, and strategically scale it up in response to market opportunities and market failures

5. Promote proactive business orientation that actively identifies market opportunities
6. Support incubation design basics: Leadership with a business mindset and excellent agricultural market knowledge (preferably with agribusiness experience), a lean staff complemented by strong partnerships, an institutional framework that provides sufficient flexibility, allowing for learning by doing, strong capital structure, and dense networks—including effective linkages with sector leaders.

ANNEX 2 A GUARDIAN IPP NEWSPAPER ARTICLE

The Guardian IPP (Dar es Salaam)
"Fresh Look Needed on Edible Oils Production,"
July 28, 2011

Anyone taking a critical look at the production of edible oils in Tanzania will wonder whether the sector is experiencing acute problems under the weight of its own inefficiency or owing to sabotage.

Authoritative reports say Tanzania imports over 300,000 tones of edible oil because, while it cannot do without the vital food item, it just cannot produce enough of it.

It is on record that there have been times when a whole 55 per cent of Tanzania's total consumption of edible oil, amounting to 330,000 tones, is imported. Yet there are situations where imports shrink appreciably following decent production locally.

This, according to producers in the country, is possible only when the farmers get bumper harvests and local industries are thus facilitated to operate normally. But in the advent of the imposition of high tax on locally produced oil, as happened last year, the sector finds itself in trouble.

Last year alone, four edible oil companies suspended operations, citing high tax on the local oil products as the major reason.

"High rates of taxation are making locally produced edible oils much more expensive than imported ones due to subsidization of the latter at the source country," Mount Meru Millers manager Nelson Mwakabuta once told journalists at a stakeholders' meeting in Arusha.

According to edible oil producers, the factories which closed shop last year alone include NSK Oil of Arusha, Moproco Limited of Morogoro, Afro-Multipurpose and Palsons. This trend suggests the undermining of local production of oils in preference for imports, in which case it must be thoroughly examined if we are to resolve what one might refer to as the jinx of edible oil production.

We are saying this because some local producers complain that uncalled-for preference is given to oil importers rather than local oil producers. As a result, local oil production plays a muted role in the development of the national economy while imports shipped from Indonesia and Malaysia entrench themselves in the Tanzanian market.

Local oil producers meanwhile have serious reservations over the quality of some of the imports coming our way, suspecting that not all are produced in hygienic conditions.

As if that is not bad enough, oil imports rob Tanzanians of jobs that would have helped boost the incomes of not only their families but also the nation.

Statistics show that the local edible oil sector in the country generates an annual 55bn/- and engages over three million people in rural areas, primarily farmers. Apparently, some 500,000 families directly or indirectly rely on the oil seed farming sector for their survival.

Considering that the sector is mainly based on sunflower, cotton and soya crops, the importation of edible oils means that even other side-industries that depend on these crops are adversely affected in the advent of collapse of edible oil production.

Local production of edible oils would therefore benefit from more support from both the government and private sector players, at least so that it meets domestic demand and makes importation unnecessary.

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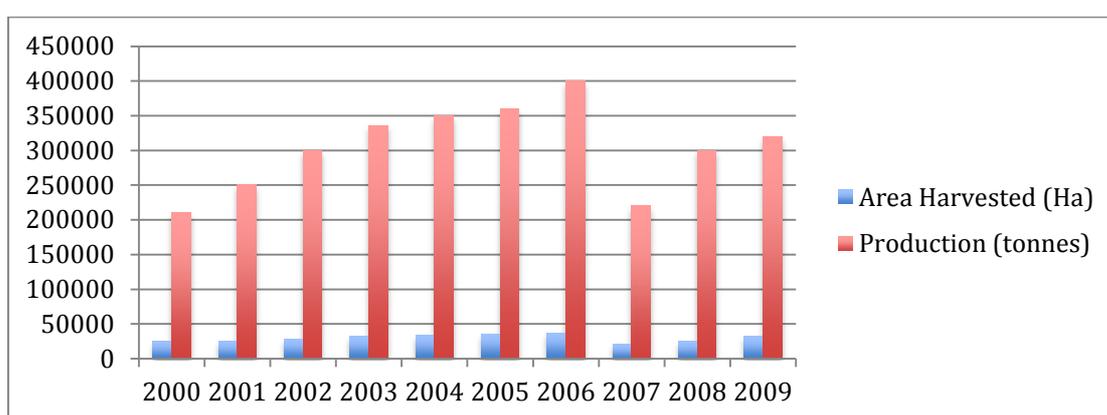
ANNEX 3 VALUE CHAINS FOR AN AIC FOCUS

Horticulture was identified as one of the value chains having the best comparative advantage and scalable production. What follows is a further analysis of mango, tomato and orange crops.

a) Mango

Mango (compared with pineapples and oranges), is a relatively more important tropical horticulture crop globally. Tanzania contributes only modestly to global output. Mangoes are grown in Tanga, Morogoro, Arusha, Kilimanjaro, Iringa and Mbeya. FAO data suggests that land area under mango remained static from 2000–2009 at around 3,000 ha, but that productivity and output levels improved.

Anecdotal evidence suggests that this has resulted more from the introduction of improved varieties than from improved farm management or agronomic practices.



*Mango Areas under Cultivation and Production*³⁸

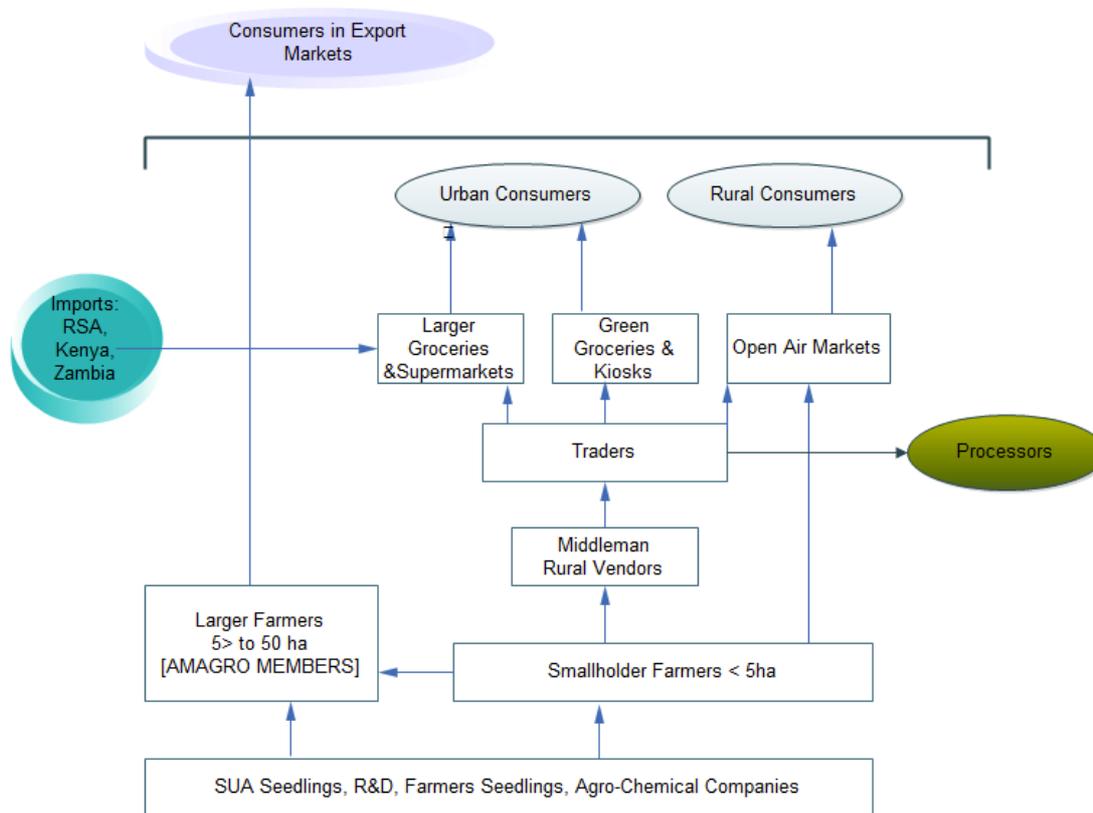
There are three main categories of mango growers in Tanzania: Subsistence farmers growing traditional varieties; small-scale farmers growing traditional varieties and improved varieties; and medium-to-large scale mango growers—those with orchards larger than 50 acres that grow improved mango varieties principally for commercial purposes.

Mangoes, like other many fruits, are principally sold at spot markets where quantities of fresh fruits brought to the market by farmers or intermediaries are offered for sale and where the price is bargained on the spot. However, three mango supply chains are identifiable in Tanzania.

The first chain is for high-quality fresh mango for the export market. In this chain, harvesting and post-harvest handling logistics and marketing are generally advanced. Examples

³⁸AMAGRO. 2011. *Mango Value Chain Analysis in Tanzania, Final Report*. Association of Mango Growers, Tanzania. Dar-es-salaam: Match Makers Associates.

of players in this chain include the well-known Natureripe Kilimanjaro Ltd. and a few others. The second chain is linked to growing local demand from medium-to-high income-earning consumers. This market segment demands high quality, disease-free and spotless mango in the main urban centers, Dar-es-salaam in particular. The third mango value chain links to processors. This chain focuses mainly on traditional varieties.



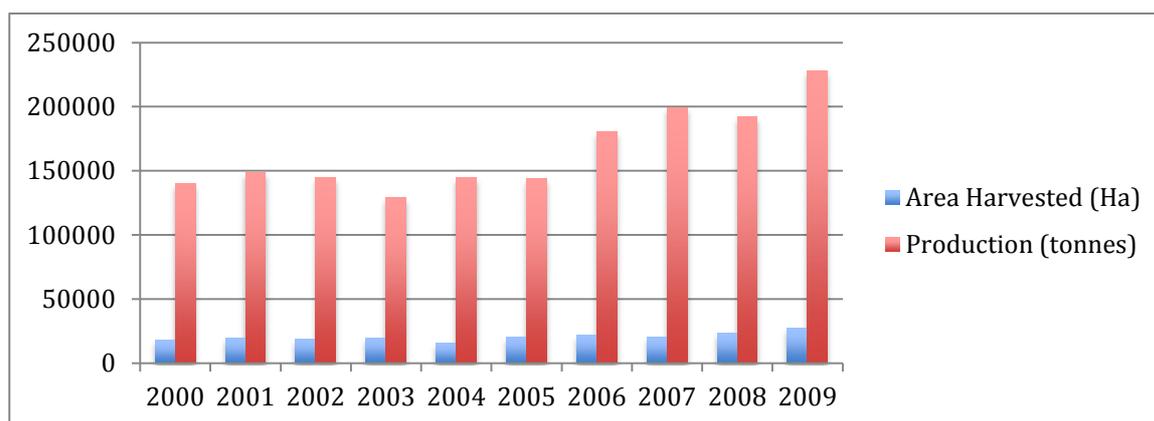
Mango Value Chain³⁹

The local demand for products from the mango processing chain is increasing fast. This is the result of an increase in local demand for juices and dried mangoes. Nonetheless, only small amounts of mangoes are currently processed in Tanzania. Not only is insufficient capacity a reason, but several other factors also come into play. These include the nature of the market: Good-quality fruits find their way to the export and high-income local consumers markets. Meanwhile, low-priced, imported mango juice and mango-flavored drinks enter Tanzania from Kenya, Mauritius, South Africa and Egypt—notably because preferential tariffs within the Common Market for Eastern and Southern Africa (COMESA) allow competition with fresh mango juice. Locally produced, chemically sweetened mango-flavored juice also poses competition.

b) Tomato

³⁹Source: Adapted from (AMAGRO 2011).

Tanzania produces about 225,000 tons of tomatoes annually, more than any other fruit or vegetable produced in the country. Yields have generally increased in recent years, due primarily to access to improved seed varieties. Indeed, while most tomato growers are smallholders, they generally use modern inputs, such as improved seed varieties, pesticides (insecticides and fungicides) and inorganic fertilizers, unlike farmers growing oranges, mangoes and pineapples. The two major commercial tomato production zones are the northern zone (Arusha, Kilimanjaro) and the southern zone (mainly Iringa Region).



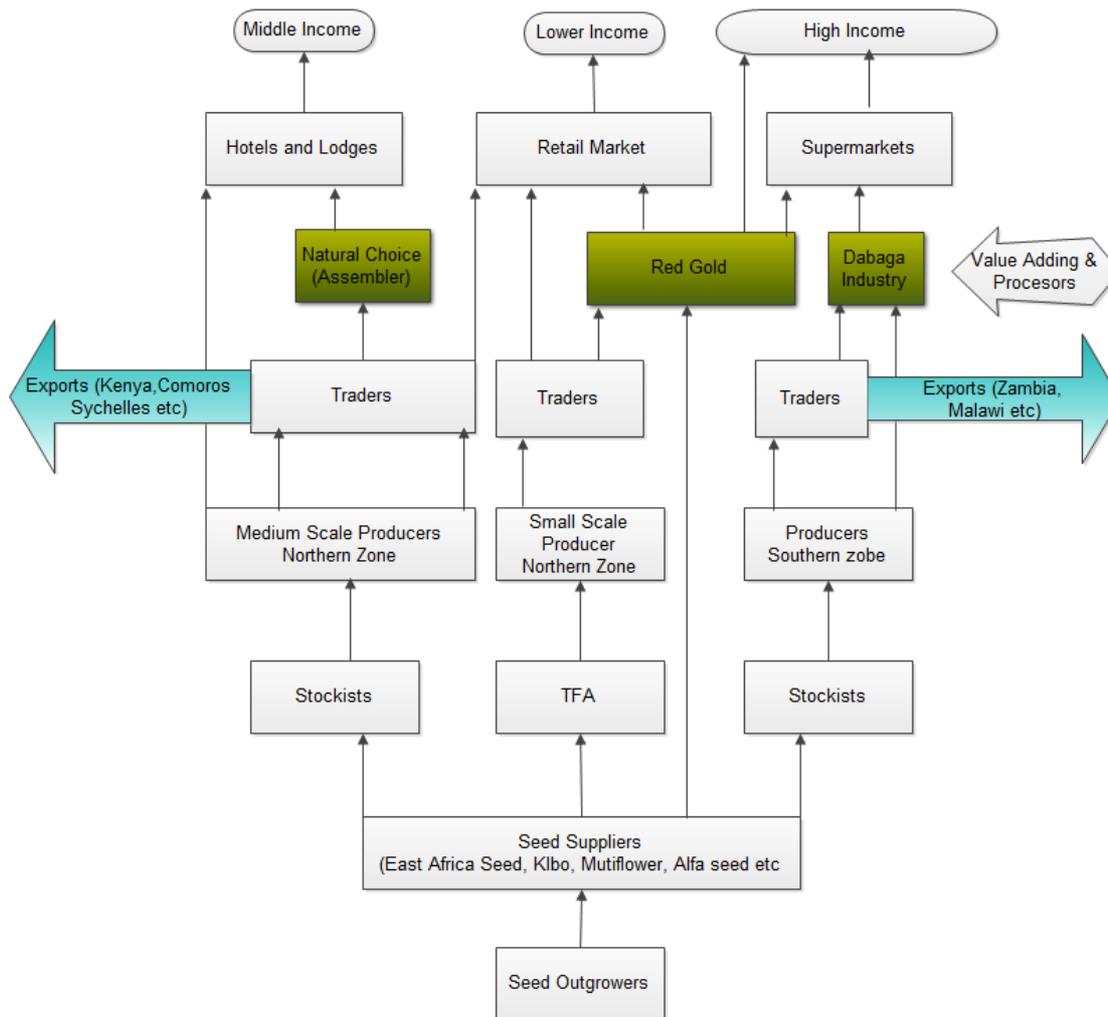
Tomato Production Trend⁴⁰

Tanzania consumes about 120,000 tons of tomatoes annually, 50 percent of which is consumed in the Dar es Salaam area.

Tomato products that are preserved using vinegar or acetic acid are imported from Oman (34 percent), UAE (31 percent), China (19 percent), Italy (7 percent), Iran (9 percent)—see (MITM - SIDO 2009). Common products include tomato paste, tomato sauce, tomato ketchup, tomato juice, tomato concentrate, chili sauce, tomato puree, tomato chutney, jam, and as a media for canned foods—beans, maize, carrots, green peas, etc.

There is every reason to believe the production base in Tanzania can compete with imported products, and the value chain analysis (see below) indicates that there are large-scale local processors in operation. It is estimated that Tanzania has the capacity to process 15,000 metric tons of tomato annually.

⁴⁰FAO. (2011). *FAO-STATS Data Base*. Food and agricultural Organisation of the UN, Italy, Statistics. Rome: FAO



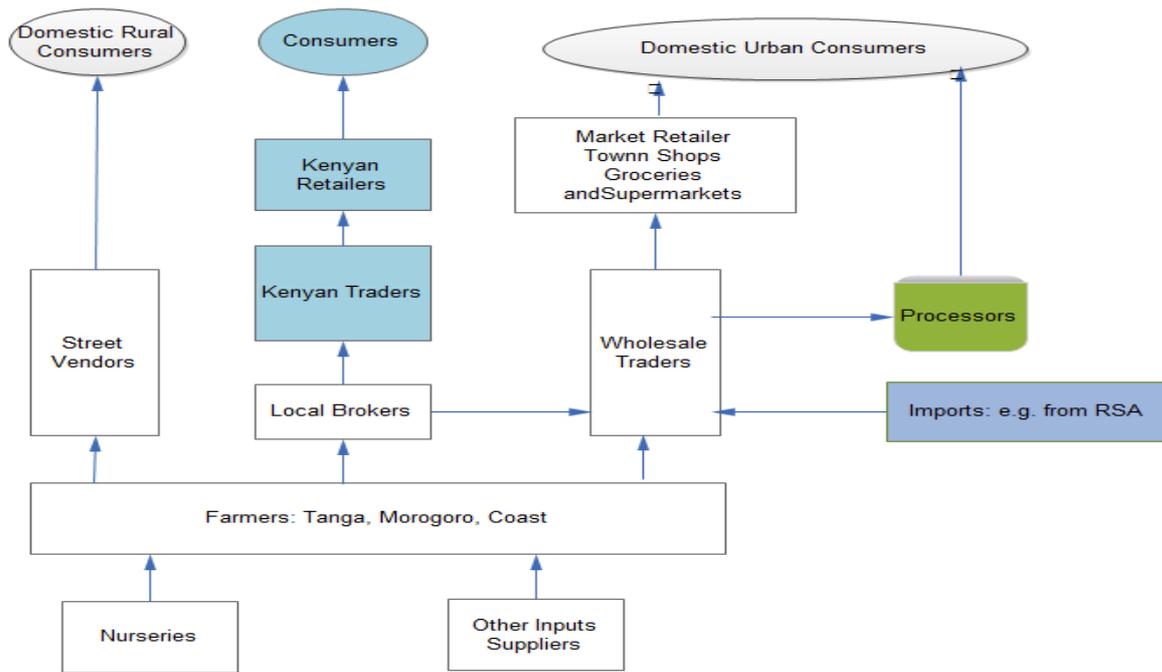
Tomato Value Chain⁴¹

c) Orange

Oranges are produced in almost every region in Tanzania. However, the major production regions are Tanga and Morogoro. The land under orange production in Tanga, the major orange producing region in the country, is 9,342 ha. Orange farming productivity is generally low, changing only in response to levels of precipitation, and land under orange cultivation has remained constant over a decade.

The fresh orange market for Tanzania is very vibrant, both domestically and regionally, but processing is mainly done at micro and small-scale levels. Diversification into jam, marmalade, concentrates, and other innovative nutritive products such as candied orange peel may offer potential and should be assessed.

⁴¹Source: Updated version of VCs by (SCF 2008)(Plan 2008)(MITM - SIDO 2009)



Orange Value Chain⁴²

⁴²Source: An improved version of an original by Match Maker Associates (See SCF 2008).

ANNEX 4 SUNFLOWER OIL PROCESSORS IN CENTRAL TANZANIA

No.	Organization	Contact
1	Ndimini Enterprises-Babati	0784303414 (JumaNdimini)
2	Shafii Sunflower Oil Mill-Babati	0785286521 (MaulidShafii)
3	Kololi Oil Mill-Babati	0784472947 (A.Kololi)
4	KitetoAgribusiness-Kiteto	0713604153 (Emmanuel Papian)
5	Hassan Mwande-Kiteto	0787208485 (Hassan Mwande)
6	Geneva Oil Mill-Kondoa, Dodoma	0786355550 (Abbakari)
7	Nipponica Oil Processing-Morogoro	0756702174 (Massawe)
8	Agri Acre Oil Mill-Morogoro	0714-737111 (Hassan Ramadhan)
9	Uncle Milo Oil Mill-Dodoma	0767670052 (Joseph Luoga)
10	Jackma Enterprises-Dodoma	0713624175 (Jackson Massawe)
11	Songela Investment-IrambaSingida	0767611422 (MsRosemarina Jima)
12	RIG Investment-Dodoma	0754483864 (TheogonBana)
13	Afrifarm Products and Marketing Enterprises-Dodoma	0716014906 (Ringolringo)
14	Nyemo Investment-Dodoma	0754488866 (Rashid Mamu)
15	Furaha Oil Mill-Dodoma	0754 362102 (MasoudOmary)
16	Sam Oil Mill-Dodoma	0754492685 (Frank S Mrisha)
17	Dodoma Sunflower Oil Mill-Dodoma	0767638563 (SaidAthumani)
18	Mangalus Oil Mill-Kondoa, Dodoma	0784610308 (ShabanMajam)
19	River Oil Mill-Dodoma	(EliatuuElisante)
20	Mwenge Sunflower-Singida	0786319953, 0784699945 (Hongoa S Hongoa)
21	Sunshine Sunflower Oil Mill-Singida	0784384451 (SalumKhalfan)
22	Singida Fresh Oil Mill-Singida	0262502347 (Abdalah A Omary)
23	Msarali Oil Mill-Dodoma	0712083676 (YahayaMsarali/Mbena)
24	Said-Iramba	0788800228, 0784400414 (Said)
25	Kazungu Sunflower Farming Enterprise-Dodoma	0784332672 (Kazungu)
26	Precious Blood-Manyoni	0752528242 (Farther Mapinduzi) arcmap@yahoo.com

ANNEX 5 PROCESSORS INTERVIEWED IN DAR ES SALAAM

1. Ms FatmaRiyami
Managing Director
NatureRipe Kilimanjaro Ltd
743 Mindu Street, Upanga West
PO Box 5496, Dar es Salaam
Tel: +255 22 2151457
Cell: +255 773 284800
Email: fatma@natureripe.co.tz
Web: <http://www.natureripe.co.tz>

2. JayenChandarana
Operation Manager
Honey Care Africa (Ltd)
PO Box 2635, Dar es Salaam
Tel: +255 22 2862544
Cell: +255 786 457172
Email: jayen@honeycare.co.tz
Web: <http://www.honeycare.co.tz>

3. Mr Mohammed Ndalulssa
Owner
Swish Food and Beverages Ltd
Plot 12, Opposite Pepsi
Nyerere Road
PO Box 21672, Dar es Salaam
Tel: +255 715 707 710
Cell: +255 717 800 234
Email: sales@swishtanzania.com

4. Ms Monica Kabezi
Director
Kalmon Enterprises
Block 41 Shop 11
Kawaw Rd, Morocco
Kinondoni B
PO Box 76938
Dar es Salaam
Tel: +255 713 254 948
Email: kalmon_ent@yahoo.com

5. Mr Stephen Tumsifu
Managing Director
Best Animal Feed Ltd
PO Box 34343
Dar es Salaam
Tel: +255 73 29997811

Fruit processor seeks \$3.7million for watermelon plant

Tue, 05 Jun 2012 09:07



Region

Tanzania

Sector

Summary:

Resources & Returns Company Limited is looking for financing to set up a watermelon processing plant in Tanzania. The company intends to pioneer large-scale processing of watermelons in the country.

RESPOND TO OPPORTUNITY

Contact

SalumAwadh

Email

[RESPOND TO OPPORTUNITY](#) Tel+255 786 092920



Resources & Returns Company Limited is looking for financing to set up a watermelon processing plant in Tanzania. The company intends to pioneer large-scale processing of watermelons in the country, and to capitalize on the growing demand for healthy and natural products locally and abroad.

Project: Watermelon processing plant

Location: Dar es Salaam

Summary: Tanzania-based company Resources & Returns Limited, plans to establish a watermelon processing plant in Dar es Salaam. The company is looking for finance to install plant infrastructure, equipment, and working capital for year one. The proposed Tetra Pak processing plant will have the capacity of processing at least 5 million litres per year in year 1, at 50 percent capacity utilization. The product will be packaged and sold at 1 litre in local retail chains. The company plans to diversify into other fruit flavours and develop different size packages after the first

year of operation, depending on how the business performs. Processing is currently underway at the domestic scale. The company is supplying 5-litre gallons hotels and restaurants.

Cost of investment: US\$3.7-million

ROI: 28.01 percent

NPV: US\$2,076,602.60

Payback period: 2.49 years

IRR: 46.00 percent

Investment structure: Equity—investor can exit via a buy-back, trade sale, an IPO (Small Enterprise Window at Dar es Salaam Stock Exchange), or any other viable exit option.

Documentation: Available to credible investors upon request

[About Resources & Returns Ltd.](#)

Registered in Tanzania, Resources & Returns Company Limited invests in agribusiness, consulting, real estate, energy, financial services, mining, and ICT.

Sector: An estimated 40 percent of fruits and vegetables in Tanzania go to waste after harvest due to lack of enough processing factories and storage infrastructure. A few major players who do not make natural juices dominate fruit processing industry. The other major brands in the market are imported from countries including South Africa, Kenya, and the Middle East. With the rapid urbanization that is occurring especially in Tanzania's major cities, the demand for food processing activities is increasing. However, the supply capacity of the existing processors is stifled by the lack of financial and technical support, which if availed would increase production, market accessibility. Watermelon—a tropical fruits grown along the coast region of Tanzania—has not been exploited for processing and value addition. A few hotels and households are currently processing at a very small-scale. Many consumers are becoming health conscious, and production of 100 percent fruit juice without any flavour or additives would be a great value proposition for them.

[Investing in Tanzania](#)

For a non-oil-producing African country, Tanzania registered impressive rates of growth in the 2000s. It's GDP was in excess of 6 percent for eight consecutive years until the global economic downturn in 2008. The East African country—the second largest economy in the region—is now on the path to recovery. The African Development Bank estimates growth at 7.3 percent in 2012. The price of gold—a major Tanzanian export—increased significantly in the two years before 2011. The country's reserves, which also include gas, will continue to attract investors over the medium-term. As one of the fastest growing economies of the world, Tanzania's large population, huge natural resources (especially for agriculture, energy and mining), relatively good infrastructure (particularly in the tourism, telecommunications and ICT sector), and low political risk, are some of factors that are attractive to local and foreign investors. Offsetting the strengths are inadequate transport and power infrastructure, and various issues in regulatory and investment climate.

For further information on this opportunity, contact Salum Awadh, chief executive office, Resources & Returns Co. Ltd.

Email: sawadh@randrzt.com

Tel: +255 786 092920

http://www.tradeinvestafrica.com/investment_opportunities/1288584.htm

Tanzania Daily News (Dar es Salaam)

EMAIL PRINT SHARE

Tanzania: Govt Seeks to Reduce Cooking Oil Imports

Tagged: [Agribusiness](#), [Food and Agriculture](#), [Business](#), [East Africa](#), [Governance](#), Tanzania, Trade

14 AUGUST 2012

[Comment](#)

Dodoma—DESPITE an increase in the production of oilseeds, the country still imports 60 percent of cooking oil, the parliament was told.

The Minister for Agriculture and Cooperatives, Mr Christopher Chiza, said this while responding to a basic question by lawmaker Josephine Genzabuke (Special Seats—CCM) who wanted to know the government's plans to distribute oilseeds in Kigoma Region and strategy to empower small scale entrepreneurs to establish oilseed industries.

MrChiza said the government in collaboration with district councils, NGOs and private companies, is continuing with research, production, and processing of sun flower, sesame, ground nuts, cotton seeds, Palm seeds, and Soya beans.

He said the production of sunflower increased from 348,877 tones in 2009/10 to 786,902 tones in 2010/11.

In Kigoma Region, MrChiza said more than 500 hectares under sunflower are found in Kasulu, Kibondo and Kakonko districts.

The region produces a total of 980 tones of sunflower, out of which 750 tones are produced in Kasulu District alone. He explained that the government continues to increase production of oilseeds in different regions including Singida, Tabora, Shinyanga, Iringa, Rukwa, Katavi and Kigoma.

Citing an example, MrChiza said in 2011/12 the Agriculture Seed Agency (ASA) started distributing sunflower seeds to farmers in Kigoma Region. "ASA has also started preparing Agents who will help distributing Sunflower seeds to farmers," he explained.

He said the exercise to improve and increase production of oilseeds is geared at increasing internal capacity to produce cooking oil whose estimated demand is at 200,000 tones. He said the Agricultural Input Trust Fund has also increased its scope of giving out loans, to include small processing machines which can easily be bought by individual farmers or by groups.

He explained that his ministry is ready to assist farmers acquire small oilseed processing machines, which are already available in Kigoma Region. "This is also a good opportunity for groups especially women entrepreneur groups to acquire small oilseed processing machines to process sunflower seeds," he explained.

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Tagged: [Agribusiness](#), [Food and Agriculture](#), [Business](#), [East Africa](#), [Governance](#), Tanzania, Trade

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