
The Sunflower Sector in Tanzania – A Great Potential for Industrial Competitiveness

(A Sectoral Policy Study)

Douglas Zhihua Zeng

Senior Economist

Trade and Competitiveness Global Practice

The World Bank Group

Abstract:

Tanzania has great potential in the sunflower oil seeds sector, which can be scaled-up as one of its key sectors for industrial development. This policy note provides an overview of the government policies and initiatives in this sector, including the RLDC initiative and Dodoma cluster, financing scheme as well as the monitoring & evaluation framework. It also identifies the key constraints for scaling-up the sector and the possible solutions.

The Sunflower Sector in Tanzania – A Great Potential for Industrial Competitiveness

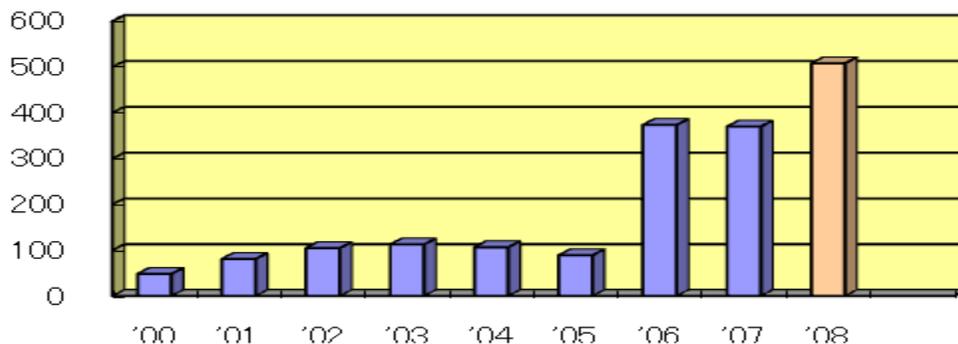
Douglas Zhihua Zeng¹

Tanzania is one country among others in the world producing sunflower oilseeds for raw materials in processing cholesterol-free edible cooking oil with a by-product used as livestock feeds. Currently sunflower oil makes about 13% of the world edible oil production.

Sunflower was introduced in Tanzania during colonial times and it was found to grow in almost all parts of the country. Interestingly, the crop grows well in the dry weather conditions of the Central Corridor compared to other crops like maize and wheat. Sunflower in the Central Corridor is also interesting from a pro-poor or welfare perspective as most of the sunflower is grown by small farmers. In Dodoma, for example, about 50% of farmers are engaged in oilseeds production.² With a population of about 43.7 million people, Tanzania's minimum national demand for edible oil is expected to be about 219,000 tons per year, but the actual national demand is probably much higher, although there are no reliable figures available. Demand for vegetable oil is at least growing with the rate of population growth. The production of oilseeds in Tanzania mainly focuses on ground nuts (40%), sunflower (36%), sesame (15%), cotton (8%), and palm oil (1%). The palm tree nuts have the highest oil content (46% – 67%) than its counterpart; however the palm tree requires specific climatic conditions which are only found in some parts of Tanzania, such as Kigoma.³ While there is a large production of other oilseeds such as groundnuts and sesame, there has been no substantial oil production from these seeds, thus making sunflower oil the most important vegetable oil produced in Tanzania.

While the production of sunflower oil seeds varying between 75,000 to 100,000 tons from year 2001 to 2005, it increased in the last two seasons dramatically to more than 350,000 tons since 2006 (Figure 1).

Figure 1: Sunflower Seeds Production in Tanzania (2000-08; unit: 1000 tons)



¹ The author is a Senior Economist at the World Bank and he is very grateful to Yoshiyasu Mizuno (Senior Advisor, Ministry of Industry, Trade and Marketing (MITM) of Tanzania, secondee from JICA). The case is based on a World Bank mission to Tanzania in May 2011.

² Brochure by the Oilseeds Dodoma Cluster Initiative. Dodoma, 2010.

³ RLDC: Sunflower Sector Market Development Strategy, Nov 2008.

Source: MAFSC (Ministry of Agriculture, Food Security and Cooperatives).

This sharp increase since 2005/06 crop season was achieved largely thanks to the promotion and mass-production of quality seeds, through partnerships between the government, international donors and the private sector. Steady joint efforts between donors, central and local governments expanded quality seeds production to small farmers through contract farming and successfully cleared the barrier for mass-production of quantity seeds at lower price.

Government Policies and Regulations

Seed production and certification in Tanzania is governed by the Seed Production Act 2003, amended in 2007, and administered by the Ministry of Agriculture, Food Security, and Cooperatives. There are currently 20 registered entities in Tanzania whose work is being monitored by TOSCI (Tanzania Official Seed Multiplication Institute). The process of seed production goes through three different levels:

- **Breeder Seeds:** They are produced in very small quantities by research centres, like Ilonga
- **Foundation/Basic Seeds** are produced by the Agricultural Seed Agency based on the breeder seeds. These farms are Msimba farm in Kilosa and Naliendele farm in Mtwara.
- **Certified Quality Seeds** are then produced on the basis of foundation seeds by other registered seed producers. In the Central Corridor producers licensed for production of certified quality seeds are STRAD, and TANSEED.

As there are only two seed producers in the Central Corridor, the Ministry has encouraged selected small farmers to produce Quality Declared Seeds (QDS) in collaboration with the local District Councils.

The effect of high quality seeds to triple or quadruple the yield has been widely observed but did not spread due to limited availability of the high quality seeds and their high price. Steady joint efforts between pro-poor NGOs, Ministry of Agriculture, Food Security and Cooperatives and local governments expanded quality seeds production to small farmers through contract farming and successfully cleared this barrier realizing mass-production of quantity seeds at lower price.

The RLDC Sunflower Sector Initiative and the Dodoma Cluster

The Rural Livelihood Development Company (RLDC) is an initiative of the Swiss Development Cooperation (SDC) formally founded through the registrar of companies as a non-profit company by two Swiss foundations: Intercooperation (IC) and Swisscontact (SC). Technical assistance to RLDC is provided by a consortium of IC and SC. In addition to the two founding members, the Council of RLDC also includes four associate members: Ministry of Industry,

Trade and Marketing (MITM), Confederation of Tanzanian Industries (CTI), Muungano wa Vikundi vya Wakulima Tanzania (MVIVATA) and SDC, which provides a great platform for the public-private and donor partnerships.

RLDC undertook an in-depth market assessment of the entire sunflower sector. The results of this market assessment were integrated in the design of a sunflower sector strategy, which focuses on seed production and seed marketing, sunflower production through contract farming, a light version of a warehouse receipt system, pollination for increased yield, business plans for refineries, and sunflower oil branding and marketing. The sunflower sector initiative was implemented through a number of private business partners.⁴

RLDC provides grants through a challenge fund to seed producers for establishing sunflower seed farms and to improve the quality of the sunflower seeds. Via the challenge fund, RLDC also supports training of farmers and establish extension services for seed production. More specifically, RLDC interventions helped rural sunflower producers in two major ways: the first was helping sunflower producers gain access to agro-inputs to enhance their production and the second was helping them gain access to reliable markets and processors to ensure a base for continued income.

RLDC's first collaboration has been with STRAD Co. Ltd., a private enterprise that works with farmer groups to produce and distribute certified and Quality Declared Seeds (QDS) to sunflower farmers. RLDC designed an intervention to assist the company to mobilize farmers into groups, provide seeds production trainings, inputs, ploughing, supervision, certification and extension services, and later buy the seeds from farmers at premium price. An example of contracting farming is provided in Box 1.

Box 1. Contract Farming in the Kiteto Districts, Tanzania

In 2007, the RLDC business partner in Kiteto started to run a sunflower oil processing plant in Kibaya. The partner processes 40-50 bages of sunflower seeds per day, operating the plant 7-9 months per year, processing a total of 9,000-13,000 bags per year. While there are other smaller processors in the region, the RLDC business partner is the only one filtering and packing the oil into containers of 1, 5 and 20 liters. He assures the seed supply through a diversified system:

1. Contract farming and credit scheme for tractor ploughing and agro-inputs;
2. Payment of premium price for sunflower seeds;
3. Warehouse receipt system (farmers deposit sunflower seed in the warehouse and sell later when the price is better; at the same time, the stored seed serves as a guarantee for the RLDC business partner to give credits to farmers);
4. Credit for supplies sold in own shop in Kibaya.

Source: RLDC: Growing Sunflower for Employment, Dodoma, Tanzania, 2010.

⁴ RLDC: Growing Sunflower for Employment, Dodoma, Tanzania, 2010.

STRAD Co has managed to work with a total of 5 farmer groups from 5 different villages, cultivating a total of 273 acres which yielded 22.2 tons of sunflower seeds. RLDC has also been working with Tanzania Official Seed Certification Institute (TOSCI) to ensure seeds were properly inspected and ultimately certified and to build self-sufficiency within the regulatory body. Facilitation focused on training, production and certification with good progress made in 7 district council local authorities in Tabora, Singida, and Dodoma in terms of preparing and producing Quality Declared Seeds in Sunflower. A total of 50 farmers were able to go into production of QDS in 2009 producing 35.9 tons of sunflower seeds which were marketed and distributed at the local level.⁵

RLDC also collaborated with Honey Care Ltd. (HACT), to install 40 uncolonized beehives on a 40 acre farm in Kibaya in Kiteto. The aim of the pilot project was to explore the complementary role of pollination in increasing sunflower yield while at the same time producing high quality honey which would provide additional income to small scale sunflower farmers. Despite the drought, 9 hives were colonized by bees in 2009, and so far all 40 hives have been colonized.

Through these activities, RLDC managed to make considerable impact on three core intervention areas: seed production and marketing; improvement of production and sales through contract farming, and pollination for increased yields.

Furthermore, in Dodoma Region, inspired by the RLDC initiative, a group of newly entered oil expellers formed an association and systematically introduced contract farming model. Each oil processor participates in the association with 300 to 700 contracted farmers around and the processors lend high quality seeds and tractor tilling operation to the farmers in return of their priority procurement right for the harvested sunflower (table 1). New entry to the processing business is relatively easy and requires only 15 - 20 million T. Shillings as the initial capital for processing capacity of 40 bags of sunflower a day to produce 80 liters of oil per day. Thanks to the increased yield of quality seeds and favorable price condition in international market for 2009/2010, business of the association has grown and it is ready to take a next step to add further value by establishing an oil refining facility, which will enable them to sell high grade oil products to supermarkets in larger markets.⁶

Table 1: Contract Farming by Central Zone Sunflower Oil Processing Association in 2006

⁵ RLDC Annual Report 2009, Dodoma, Tanzania.

⁶ MITM: Integrated Industrial Development Strategy 2025, Dar es Salaam, 2010.

Companies	Processing Capacity	Contract farmers
1. Oil Processor A	1200 ton in seeds	300 farmers
2. Oil Processor B	1600 ton in seeds	700 farmers
3. Oil Processor C	1350 ton in seeds	700 farmers
4. Oil Processor D	1200 ton in seeds	700 farmers
5. Oil Processor E	1200 ton in seeds	500 farmers
6. Oil Processor F	1350 ton in seeds	700 farmers
7. Oil Processor G	800 ton in seeds	675 farmers
8. Oil Processor H	800 ton in seeds	545 farmers
Total	9500 ton in seeds	4820 farmers

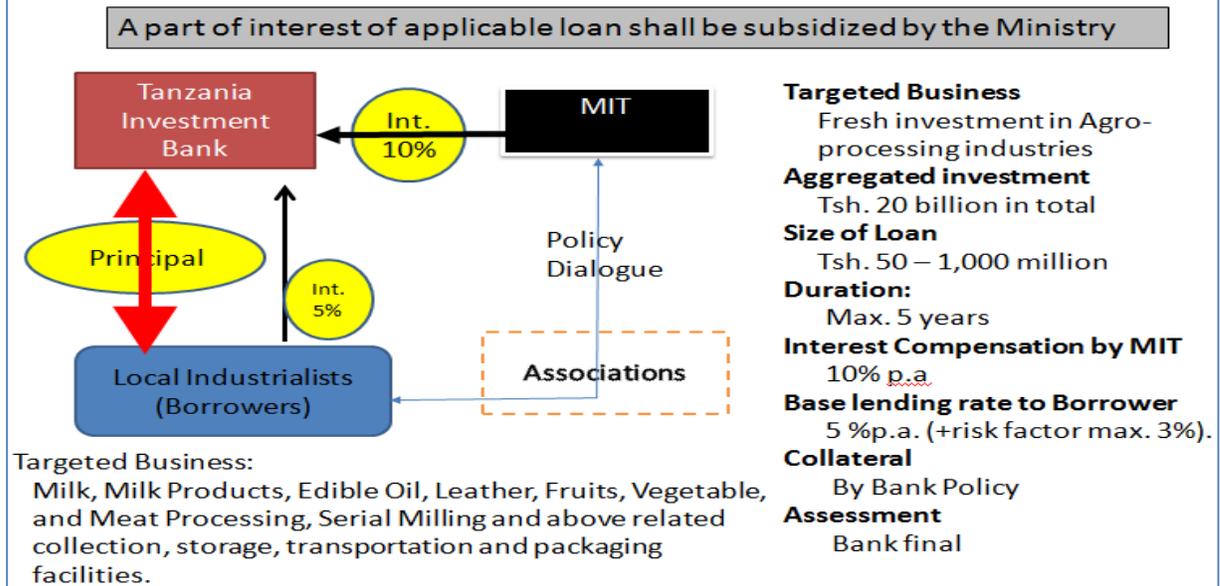
Source: MITM: Integrated Industrial Development Strategy 2025, Dar es Salaam, 2010.

Financing Scheme

In order to support the sunflower sector in Tanzania, various financing mechanisms have been harnessed. Except for the grants and credit programs and the warehouse receipt system (farmers deposit sunflower seed in the warehouse and sell later when the price is better; at the same time, the stored seed serves as a guarantee for the RLDC business partner to give credits to farmers) used by the RLDC, the Government of Tanzania is also exploring different ways to support the agribusiness and priority sectors:

- Industrial Development Support Loan. It is an interest subsidized loan to promote local investment for agro-processing industries amounting min. Tsh 50 million to max Tsh 1,000 million, implemented by the MITM jointly with the Tanzania Investment Bank. See figure 2 for details.

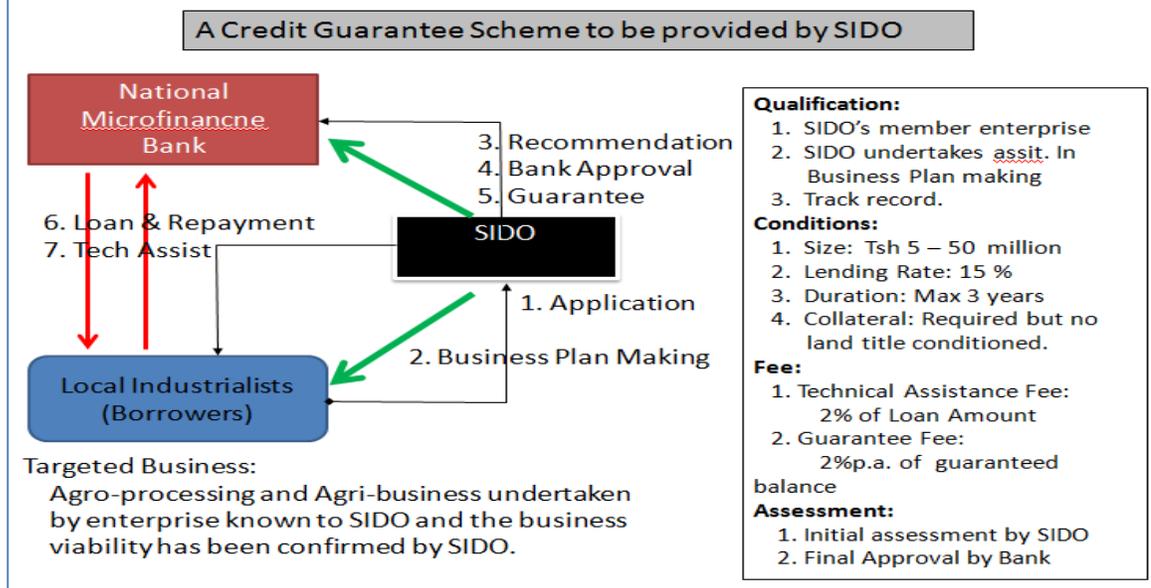
Figure 2. Industrial Development Support Loan (IDSL)



Source: Mizuno, Yoshiyasu, MITM.

- SIDO (Small Industry Development Organization) Credit Guarantee Scheme. This is a credit guarantee scheme for agro-processing and agro-business sectors combined with technical assistance extended by SIDO. The amount ranges from Tsh 5 millions to Tsh 50 millions. In order to improve and verify project feasibility, SIDO provides technical assistance to MSMEs from business planning stage and undertakes repayment guarantee only for loans which SIDO can be confident for the repayment credibility. See figure 3 for details.

Figure 3. SIDO Credit Guarantee Initiative (SIDO/CGI)



Source: Mizuno, Yoshiyasu, MITM.

Monitoring and Evaluation

To effectively capture the program progress and evaluate its impact, RLDC has completed a monitoring manual in 2009, which includes relevant target goals and performance indicators, such as sunflower seeds yield, number of farmers producing QDS, etc. The purpose of the RLDC M&E system is to maximize project effectiveness by guiding RLDC operations and management decision making. It does this by tracking and documenting project activities, outputs and outcomes and by generating information on the changes occurring over time at the enterprise and sector levels.

Meanwhile, COSTECH (Tanzania Commission for Science & Technology) and PACF (Pan Africa Competitiveness Forum) are also producing a monitoring and evaluation framework for the Tanzania cluster initiatives, which involves thinking, systems, people and action.⁷

All these systems will serve as useful tools for improved project design and implementation as well as reporting to the stakeholders.

Challenges for Scaling Up

Despite of the initial success and great potential of the sunflower seeds oil sector in Tanzania, it also faces many challenges for scaling up. These include⁸:

- Unavailability of technology/machines. While the small processors in Manyara are organizing themselves to look for possibility of obtaining machine for refining, their colleagues in Singida seem to be reluctant in adopting the new standards at the beginning. However, both regions are complaining about the high price for technologies and machineries for refining, and inadequate knowledge of appropriate technology for processing and packaging of sunflower oil (both raw and doubled refined). Currently there is only one operating oil refinery for sunflower seeds oil in Arusha. Sunflower farmers and oil extractors wish to have local refineries to avoid monopoly.
- Lack of awareness of TBS (Tanzania Bureau of Standards) Standards and Procedures. Awareness of the sunflower oil standards is needed to all stakeholders in the whole value chain (supplier of quality seeds, farmers, processors, and traders). Also, food safety is increasingly a concern, which means a stakeholder training on TBS standards is quite necessary. So far only 8 oil extractors among estimated 500 have acquired TBS certificates.
- Lack of bulk provisions. Bulk provision is low due to weak associations and poor marketing systems. While there is a strong association in Manyara known as UMAMBE,

⁷ COSTECH, "National Stakeholders Workshop on Cluster Development in Tanzania", March 2011, Dar es Salaam.

⁸ Mainly draws on Yoshiyasu Mizuno, "Progress in Finalization of Sunflower Oil Specifications," MITM, 2011.

associations in Singida are still weak though the plan of joining their colleagues in Dodoma to form TASUPA is under way. In addition, while the sunflower warehouse receipt system is operational in Singida since 2009, Manyara is still in the early stage.

- Poor infrastructure. Although the construction of tarmac road in both regions has reached far to attract reasonable investment, the storage facilities and working sites are still in poor conditions. Majority of the small processors are working at their backyard and not oriented to Good Hygienic Practices (GHP).
- Lack of business linkages between large and small enterprises. While linkage between large and small producers could facilitate market access, evidence shows that there is no good linkage between big oil refinery operators and small processors.

Possible Solutions

The above mentioned challenges are calling for collaborative measures to build confidence among the sector's different actors by encouraging public-private partnership (PPP) and commitment in formulating and implementing long-term and short-term policies to sustain the sector.

In the short term to medium term, the following measures could be proposed:

- Improving the oil quality through standards. This could be achieved through a public campaign through media, associations and TBS seminars to call public awareness for safety food products certified by TBS, and urge oil extractors to apply for TBS certificate.
- Promoting oil refining. It is important to break the monopoly in the sunflower oil refinery sector in Tanzania. With collaboration of RLDC and JICA, a pilot plant of mini refinery is proposed to be installed in Dodoma to examine the economic and technical viability. Once it is successful, SIDO and other relevant agencies can help to promote it in other regions.
- Further rolling out the warehouse receipt system. While proving to be effective, the warehouse receipt system needs to be implemented in other regions other than Singida. In collaboration with RLDC, CRDB Bank is developing its own warehouse receipt system for sunflower seeds, in which CRDB provides loans to farmers who have harvested sunflower seeds as collateral. This will help to scale up the system.

In the long run, efforts need to be made to strengthen the clusters in the making for edible oil industries. Currently the government (especially the MITM and Commission of S&T) and the private sectors are keen in pushing forward the clusters for edible oil industries, which are still at the early stage. Clusters will make it possible for mass production and bulk transactions which will help to solve the supply side constraints. They are also sources of sustainable jobs and income for farmers. Several initiatives are already taking place. Through Manyara Agricultural Development Initiative, an extractors association in Babati is negotiating with Babati Municipality to obtain a 4-acre plot for a cluster operation. Singida Regional Commissioner Office has promised to allocate a 5-acre plot to establish a Micro Manufacturing

Enterprise Park proposed by MITM and agreed to develop the area as a model of sunflower oil cluster.

To implement these measures and initiatives successfully and sustainably, a concerted effort and a strong public-private and donor partnership is definitely needed. The RLDC's initiative has provided a great example in this regard.

A Summary of the Public-Private Interactions

	Regulatory & tax environment	Infrastructure	Access to finance	Skilled and trained labor	Access to technologies and R&D
Public actions	<ul style="list-style-type: none"> - Seed production & certification is governed by the Seed Production Act 2003, amended in 2007, and administered by the Ministry of Agriculture, Food Security and Cooperatives; - There are 20 registered entities whose work is being monitored by TOSCI (Tanzania Official Seed Multiplication Institute); - The Ministry of Agr encourages selected small farmers to produce Quality Declared Seeds. 		<ul style="list-style-type: none"> - Industrial development support loan, ranging from Tsh 50 million to Tsh 1,000 million; implemented jointly by the Ministry of Industry and Tanzania Investment Bank; - SIDO credit guarantee scheme, ranging from Tsh 5 millions – Tsh 50 millions. 		<ul style="list-style-type: none"> -Public universities, such as University of Dar es Salaam provides some technical support to the clusters
Joint public-private sector actions		<ul style="list-style-type: none"> -RLDC, supported by the Ministry of Industry & Trade and Confederation of Tanzanian Industries, collaborates with private sector such as Honey Care Ltd to install beehives; - Government works with RLDC and JICA to acquire land for upgrading the 		<ul style="list-style-type: none"> -Training workshops for farmers/producers by the industrial associations, in partnership with global institutions such as TCI, government and assistance agencies such as RLDC 	<ul style="list-style-type: none"> - RLDC, in partnership with private firms, such as STRAD Co. and the Tanzania Official Seed Certification Institute (TOSCI) to provide Quality Declared Seeds, technical assistance, and certification - The MIT, in collaboration with RLDC and JICA, to set up a pilot oil

		sunflower cluster, such as in Babati and Singida.			refining plant to demonstrate and disseminate new technologies
Private sector actions		Household premises, such as backyards	<ul style="list-style-type: none"> - Challenge Fund by the Swiss NGO RLDC; - Contract farming and credit scheme for seed farmers by RLDC; - Warehouse receipt system 	<ul style="list-style-type: none"> -On-the-job training and apprenticeship -Training by RLDC via the Challenge Fund 	-Support from business associations for better production methods