

MECHANIZED

Transforming Africa's Agriculture Value Chains



Although Tanzania is currently not on track to reach Malabo Commitment area #3.1, "Access to agriculture inputs and technologies," according to the 2018 Biennial Review Report by the African Union its score of 3.67 out of 5.53 and initiatives by the government reflect an increased attention to mechanization in the agriculture value chain.¹ The overall commitment category is 10. The increased effort in Tanzania is reflected in the country's classification as rapidly mechanizing, with a high annual machinery growth of almost three percent and a high agricultural output growth of 6.6 percent between 2005 and 2014.

INSTITUTIONAL COMMITMENTS

Between 1960s and the beginning of the 1980s, agricultural production was high on the political agenda. Farmers groups and cooperatives were equipped with machinery, and governance boards were set up to guarantee markets for farmers' produce. In 1981, the Centre for Agricultural Mechanization and Rural Technology (CAMARTEC) was set up by the government. The aim of the center was to improve the quality of rural life through the development, adaptation, adoption and dissemination of locally appropriate technologies to advance agricultural mechanization, improve housing and rural transport, expand the availability of renewable energies, and improve post-harvest handling processes. The center still operates today and implements several programs in the field of mechanization along the value chain.²

In 1986, the Center for the Development and Transfer of Technology (CDTT) of the Tanzania Commission for Science and Technology (COSTECH) was established, and it still operates today. Within CDTT the long-term goal was to create an enabling environment that would stimulate the design and development of sustainable, locally adapted technologies. Over the years the center has worked with different stakeholders, including the Government, NGOs,

the private sector, training institutions, entrepreneurs, manufacturers, and international organizations.³

By the mid-1980s, when Tanzania became a free-market economy, the government withdrew from many social and economic development services, especially within the agricultural sector. Neither the private sector nor farmers themselves were prepared for this sudden transition. Hence, between the mid-1980s and the early 2000s mechanization dropped off the agenda. During that time, the number of smallholder subsistence farmers increased, municipal services deteriorated, extension services shrank, and the transport infrastructure was in a state of decay.⁴ From the early 2000s, increased development partner and government support put agricultural mechanization back on the political agenda, and more efforts were dedicated toward private sector training and capacity building.

Subsequently, the Ministry of Agriculture established the Agricultural Mechanisation Division to build expertise on the mechanization of agricultural production in the country. The division primarily facilitates the upgrading of farm machinery, including the use of renewable energy sources and conservation agriculture equipment.⁵ In 2007-2008, a new Crop Mechanization Department was created within the Ministry of Agriculture to foster new investment in agribusiness and crop diversification.

In 2011, the government released the Tanzania Agriculture and Food Security Investment Plan (TAFSIP) aimed at delivering on the CAADP Commitments. The 10-year plan lacks clear indicators and targets. However, the investments in mechanization, rural infrastructure, research development, and improved agricultural input supply through both the public and private sector are set as priority areas to increase agricultural productivity. The plan also acknowledges the need for further extension and investments in mechanization programs and privately-owned mechanization service centers to enable smallholder producers to use ox plows and tractors.

POLICY AND PROGRAMMATIC COMMITMENTS

CAMARTEC, a center set up by the government, undertakes research and development in agricultural mechanization and rural technologies for the provision of high-quality technical services to clients in an environmentally friendly manner. The center mainly conducts applied research in the areas of agricultural mechanization; develops and manufactures approved prototypes; tests farm machinery; and conducts short course trainings designed to provide practical skills and knowledge, especially for farmers, engineers, governmental organizations, and private enterprises. Moreover, CAMARTEC produces and



disseminates agricultural inputs under six different sectors: power and machinery, post-harvest, farm structure and water supply, biogas, cookstoves, and solar and wind. This includes machines like harrow planters, nut shellers, oil press machines, wheel barrows, pulling carts and oxen carts, water harvesting tanks, and brick making tools.⁶ Mainly due to financial and regulatory constraints, the company is not working as efficiently as it could.⁷ Regarding mechanization, CDTT completed several projects in Tanzania, like the development, manufacturing, and testing of a powered plow or the installation of hybrid solar and wind energy systems for the Mary Leakey camp in Olduvai Gorge.

In 2003, EFTA was set up by Equity for Africa Limited with the purpose of enabling small businesses and farmers to access finance to borrow farm equipment, such as tractors and other smaller tools and machinery. The company focuses on equipment loans of up to US\$60,000. For mobile products, including tractors and harvesters, the loan scheme requires a 20 percent advance payment, with a 36-month repayment schedule, starting 60 days after delivery. In the case that a farmer is unable to make the repayment, the company reclaims ownership. Only five to six percent of the company's loans end in repossession. In 2004, EFTA offered the first lease and in the following five years invested a total of US\$465,000.^{8,9}

In 1990, the Tanzania Farmers Service Centre Limited (TFSC), with the aim of providing small- and medium-scale farmers with much-needed agricultural services like plowing, planting, and harvesting. Initially TFSC main activity was the hiring of agricultural machinery. Still today the center offers a

machinery hiring scheme to small- and medium-size farmers in North Tanzania. For reasonable prices, calculated per acre of land, farmers can hire tractors, plows, moldboards, boom sprayers, harrows, transport, and sowing and offloading facilities. Besides TFSC's hiring scheme, the company sells agricultural machinery and implements, offers workshops for the repair of agricultural machines, and sells spare parts. TFSC is located in Arusha with two branches in Dar es Salaam and Iringa.¹⁰

In Tanzania's central region, the Rural Livelihood Development Programme (RLDP) (2005-2015) sought to increase income and employment opportunities along the sunflower value chain. In addition to improving seed quality and access to financing their purchases, such as a technology for sunflower oil refining, RLDP facilitated a study tour for eight processors to India and China to learn about the latest processing technologies.¹¹ RLDP was eventually able to successfully lobby the government to remove import taxes on machines and spare parts as well as reintroduce taxes on imported palm oil. During its 10-year lifespan, RLDP reached more than 91,000 farmers, whose income rose by 43 to 79 percent.¹²

The Government of Tanzania has shown a renewed commitment over the last two decades to increase its uptake of mechanization and technologies in the agriculture value chain. With dedicated mechanization and technology transfer centers, applied research and development into agricultural mechanization and rural technologies, and an enabling environment for small business to enter hiring service schemes, Tanzania has made much progress.

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- 1 AU. 2018. The 2017 Progress Report to the Assembly. Highlights on Intra-African Trade for Agriculture Commodities and Services: Risks and Opportunities. Addis Ababa, Ethiopia. <http://www.growafrica.com/file/2017-full-report.pdf>.
- 2 CAMARTEC (Tanzania Centre for Agricultural Mechanization and Rural Technology). History. Accessed 23 March 2018. <http://www.camartec.go.tz/History.html>.
- 3 COSTECH (Tanzania Commission for Science and Technology). Directorate, Centre for Development and Transfer of Technology. Accessed 23 March 2018. http://www.costech.or.tz/?page_id=1657.
- 4 FAO. 2011. Investment in agricultural mechanization in Africa. Rome, Italy. <http://www.fao.org/docrep/014/i2130e/i2130e00.pdf>.
- 5 Ministry of Agriculture, Republic of Tanzania. Agricultural Mechanisation Division. Accessed 23 March 2018. <http://www.kilimo.go.tz/index.php/en/about/agricultural-mechanisation-division>.
- 6 CAMARTEC. Accessed 23 March 2018. <http://www.camartec.go.tz>.
- 7 G.H. Sheikheldin. 2015. CAMARTEC: Directly Addressing Technological R&D Challenges in Tanzania. KINJIA. <http://kinjia.wordpress.com/2015/03/04/camarartec-directly-addressing-technological-rd-challenges-in-tanzania/>.
- 8 EFTA Equipment Loans. Accessed 25 March 2018. <http://www.efta.co.tz/>.
- 9 The Economist. 2016. SMEs in Developing Countries. Caught In The Middle. The Economist, 2 June 2016. <http://www.economist.com/news/finance-and-economics/21699931-big-and-tiny-firms-often-find-it-easier-borrow-medium-sized-ones-caught>.
- 10 TFSC (Tanzania Farmers Service Centre). About our company. Accessed 23 March 2018. <http://www.tfsc.co.tz/AboutUs.php>.
- 11 RLDC (Rural Livelihood Development Programme). 2013. Sunflower Subsector. Collaboration between Sunflower Oil Processors and RLDC for Improved Sunflower Sector in Tanzania. <http://www.rldp.org/national-markets-development-forum/2013/processor-sand-rldc-interventions.pdf>.
- 12 HELVETAS Swiss Intercooperation. 2016. Key Achievements of the Rural Livelihood Development Programme (RLDP), Tanzania. Zurich, Switzerland. http://www.rldp.org/downloads/Key_Achievements_from_the_RLDP_Tanzania.pdf.