The United Republic of Tanzania

Ministry of Agriculture, Livestock and Fisheries

Commodity Value Chain Brief No.12

Rice

Key Messages

- *Tanzania has made great strides in promoting rice production in recent years. Production has more than tripled in 10 years--from about 400,000 tons (of milled rice equivalent) in 2004 to 1.5 million tons in 2015.*
- *The increase in domestic rice production in Tanzania mainland has resulted into a concurrent reduction in rice imports from 200,000 tons in 2004 to insignificant amount currently.*
- *Currently Tanzania ranks second in rice production after Madagascar in East, Central and Southern Africa. The gains made could be attributable to public investment under ASDP in irrigation, input subsidy and extension services; and under EAAPP in research and extension services.*
- *The strong market demand associated with rapid urbanization has provided further market incentives to farmers.*

1. INTRODUCTION

Rice is the third most important food crop in Mainland Tanzania after maize and cassava. It accounts for about 20% of total cereal consumption, 5% of total value of production, and represents 10% of total caloric intake in Tanzania's diet. According to the Agricultural Census of 2007/8, 992,548.91 agricultural households (18%) grow rice. Rice production in the United Republic of Tanzania (URT) covers approximately 906,708 ha representing 18% of all cultivated land. Virtually all rice (99%) is grown by smallholder farmers using traditional methods. Rice is grown in different areas in URT mainly within three main ecosystems (SAGCOT, 2010):

i. Rainfed lowlands (68%): average productivity 3-5 mt/ha
ii. Rainfed uplands (20%): average productivity 1-2 mt/ha
iii. Irrigated rice cultivation (12%): average productivity 3-8 mt/ha

2. PRODUCTION, PRODUCTIVITY AND FARMING SYSTEM

Rice production grew by 7.3% per annum from 2001 to 2011 and average production is about 1.35 million tons (Stryker, 2012). Notwithstanding this increase in production, yields remain significantly lower than in neighboring countries. Rice productivity in the URT is about 1-1.5 tons/ha lower than in most neighboring countries and is one of the lowest in the world[1]

[1] Tanzania ranks 95 out of 116 countries for which rice yield data is available in FAOSTAT (2004-2010 average).

Most irrigated plots are part of small, village-level schemes; however, some are part of large-scale schemes that were formerly state-managed farms (Minot, 2010). Nearly half of the country's rice production is concentrated in the regions of Morogoro, Shinyanga, Tabora, Mwanza and Mbeya.

3. DEVELOPMENT PARTNERS SUPPORTING THE VALUE CHAIN

Rice value chain in Tanzania is supported by the following development partners: the Japan International Cooperation Agency (JICA), the United States Agency for Interantional Development (USAID), the International Fund for Agricultural Development (IFAD), AfricaRice, the Food and Agriculture Organization of the United Nations (FAO) and Bill and Melinda Gates Foundation. In Mvomero District, JICA supported the construction of irrigation scheme infrastructure for two schemes, Mkindo and Mbogo, and it has improved rice production from 5 tons per ha to 10 tons per ha in 2014/15.

The Bill and Melinda Gates Foundation supported training of farmers on the System of Rice Intensification (SRI) technology, while the World Bank is supporting construction of paddy warehouses in Iringa and Mbeya regions to enable farmers have collective selling.

The FAO through its partnership with the Alliance for a Green Revolution in Africa (AGRA) and AfricaRice supports on going work at country level to increase rice production and supply due to increased consumption through provision of extension services, agricultural inputs, access to mechanization and market linkages. All these have shown positive results; for example, in 2014/15 Makifu Scheme in Iringa recorded increased productivity to 10 tons/ha compared to 6.25 tons/ha in the past (MALF, 2015)

4. CONSUMPTION

Consumption of rice in the East African Community (EAC) grew at an average rate of 4% per annum over a ten-year period to 2012. This trend is projected to continue in the foreseeable future. The increase was driven by: i) increasing population (about 3% per year); ii) growth in demand by the expanding middle income class willingness to pay for the convenience provided by storage and cooking characteristics of rice compared to traditional staples; and iii) increasing consumption by the producers themselves. For example, an average of 30% of the rice produced in Tanzania is consumed by the producers (Kilimo Trust, 2015). Increase in rice consumption has been driven by increase in per capita incomes and rapid urbanization in the past decade. This resulted into a substantial increase in annual per capital rice consumption of nearly 20 percent to about 25-30 kg/year (Kibanda, 2008).

The preferred variety type for consumption is aromatic long grain rice but there is also a demand for sticky white long grain rice. Very few other products are available although there are limited supplies of brown rice and rice flour. Value added products such as rice crackers, as produced in Thailand, appear to have no place on the Tanzanian market.

5. MARKETING, TRADE AND INVESTMENT OPPORTUNITIES

Thailand and Vietnam are the world's largest exporters of rice grain with 25 and 20 percent shares, respectively, of world exports during 2009-2012. Pakistan had a 10 percent share and is traditionally the lowest priced exporter of common rice. Wholesale rice prices in Dar es Salaam are consistently higher than international prices due to the high production and transportation cost of local rice. Price margins widened substantially in 2011 and 2012 (Wilson and Lewis, 2015).

As a second largest producer of rice in eastern and southern Africa, Tanzania is at an advantage to supply the increasing demand gap of rice resulting from increased urbanization and changes in consumption patterns locally and across the continent. The rate of urbanization in Africa is greater than in any other region of the world, and this causes shift in preferences toward conveniently-prepared foods like rice. It is estimated that in 2015 Africa imported 11 million tons of milled rice, at a cost of US$ 4 billion[2]. This implies that there is a readily available market for rice within the continent.

The East African Region has an annual rice deficit of about 541,000 tons as reflected in recent years' imports. In order for Tanzania to be able to exploit this market the rate of production needs to increase from 5% to at least 10% per annum to enable the country to cater for its rapidly growing domestic demand. Otherwise it will be difficult to produce surplus for export (Wilson and Lewis, 2015).

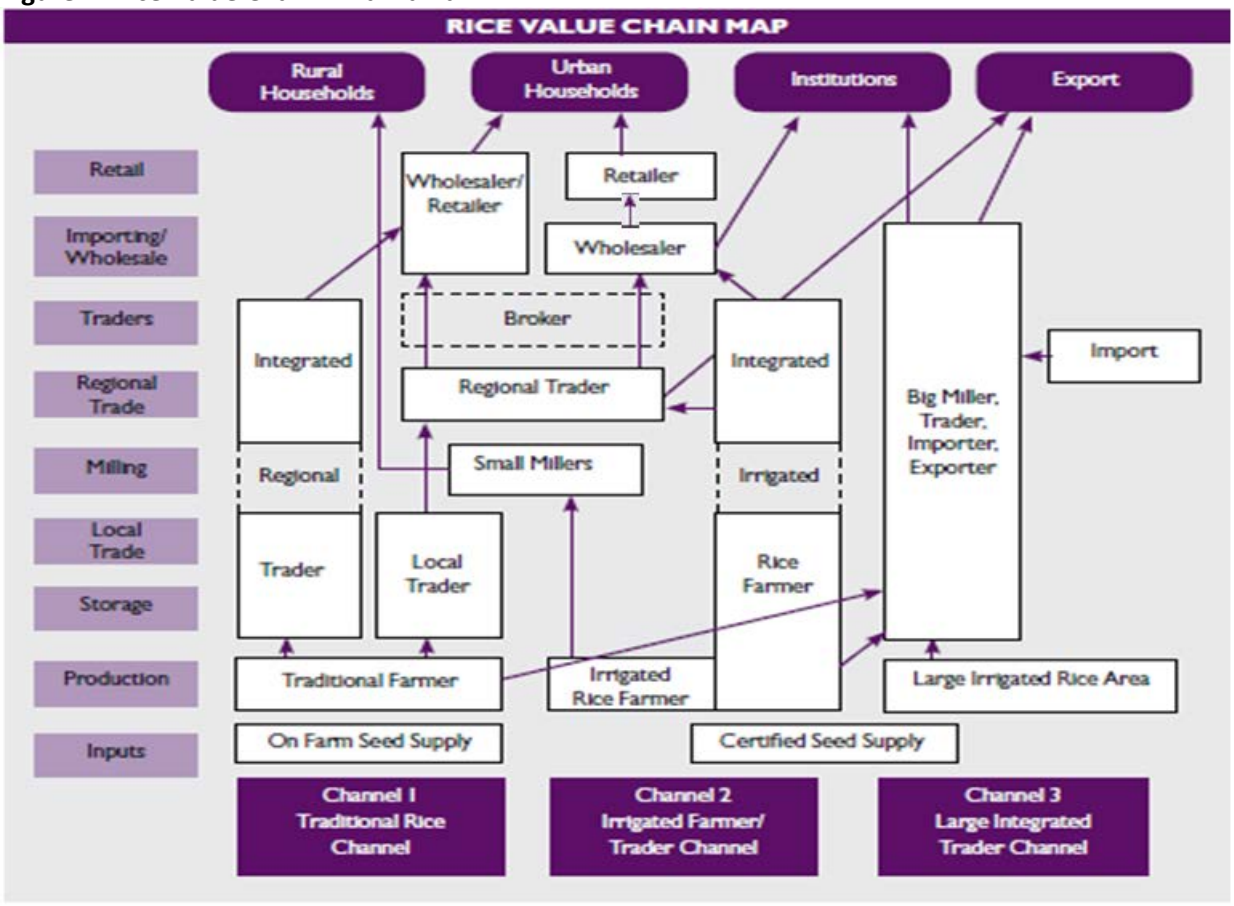
Tanzania is almost self-sufficient in rice as only 8% of the country's consumed rice is imported (Minot, 2010). The FAOSTAT trade data show that Tanzania imported 284,787 MT in 2013 while regional exports to neighboring countries were around 51,433 MT.

RICE VALUE CHAIN MAP

Figure 2 shows the rice value chain in Tanzania. In general, rice marketing is fragmented into three main channels: (1) the traditional rice producers channel; (2) the irrigated farmer/traders channel; and (3) the larger irrigated farmer/trader with millers and brokers playing a central role in the trading process. The first and second supply channels for rice are generally long and many actors are involved before the crop reaches final consumers. In fact, it is estimated that there are about 35 cash transactions along the value chain before rice reaches final consumers (ECI, 2003). Long supply chains, combined with poor transport networks, have contributed to large marketing margins (Eskola, 2005). However, more structured supply chains are emerging, and there is increasing interest from large-scale foreign investors in the crop value chain. (Match Maker Associates, 2010).

[2] Source: World Bank and USDA

Figure 1. Rice Value Chain in Tanzania



6. PROFITABILITY

There are two examples of financial implications of smallholder rice production; one is from Kilombero District where Kilombero Plantations Limited (KPL operates a smallholder outgrower's scheme. The other is from Mbeya and is associated with the Mtenda production facility and based on information provided by a large trader. Both examples demonstrate the profitability of adopting improved technology packages.

Smallholders associated with Kilombero Plantations Limited, Mngeta

Smallholders growing rice under traditional rainfed conditions are estimated to have a gross margin of Tshs. 66,000 per hectare whereas those adopting KPL's SRI improved technology package will have a gross margin of Tshs. 788,000 per hectare holding.

Smallholders associated with Mtenda Kyela Rice, Mbeya

Traditional rainfed smallholders are estimated to have a gross margin of Tshs. 331,200 per hectare whereas those who adopt Mtenda's improved technology package (including improved seeds, fertilizer and other aspects) will have a gross margin of Tshs. 1,028,800 per hectare (Wilson and Lewis, 2015).

However, on average rice profitability increases with productivity, farmers could double their yields from 4tons/ha to 8tons/ha and profit from Tshs. 1,610 per ton up to Tshs. 2,760 per ton respectively if using improving agronomic practices including use of improved seed and application of fertilizer (Table 2).

Table 2. Generalized Rice Crop Budget

Cost/Revenue	Current Yields	Potential Yield
Yield - ton/ha	4	8
Amount consumed – ton/ha	0.8	1.6
Marketed amount – ton/ha	3.2	6.4
Farm-gate price – '000' Tshs./ton	800	800
Cash revenue – '000' Tshs./ton	2,560	5,120
Cash cost – '000' Tshs./ton	950	2,360
Cash profit – '000' Tshs/ton	1,610	2,760

Source: MALF BRN reports, 2015

7. STRUCTURE CONDUCT AND PERFORMANCE

Rice production in Tanzania is a mixture of corporate farms and smallholders. It is mainly concentrated in the following areas: the Tsonga River Valley in the south and Arusha/Moshi in northern Tanzania. Other production areas include Magugu in Manyara Region, Ifakara and Kilombero in Morogoro Region and Kahama in Shinyanga Region.

According to an FAO study conducted in 2015, there are mainly four large private rice producers who are the biggest individual suppliers of rice to wholesalers in Dar es Salaam but are still small in terms of Tanzania's overall production. As large suppliers, however, they influence others in the value chain. Each of the four companies has indicated that their future plans include improved marketing (with more branding) to wholesalers and retail consumers with the offer of different pack sizes. In this plan, however, they have

been pre-empted by some of the large traders who have adopted a tentative 'place-of-origin' or 'geographic' branding approach. The four main private rice producers have managed to improve the rice sector performance through different approaches as explained below:

Mbeya Region

Mtenda Kyela Rice Supply is an export trading company working with contract farmers. It provides training and inputs to over 10,000 smallholders, and distributes milled rice (from the Wela Mill) to wholesalers in Dar es Salaam. Kapunga Rice Farm (Southern Highland Estates) is a production and processing company with the largest rice farm in the region and has plans to launch an outgrower's scheme. Mbarali Rice Farm is a production and processing company with the second largest rice farm in the region.

Kilombero District

Kilombero Plantations Limited is a production and processing company that distributes milled rice to wholesalers in Dar es Salaam. With 4,700 hectares it is Tanzania's largest rice producer. It also has 1,500 out-growers and that number was expected to increase to 5,000 by 2016. It provides inputs, training, finance, storage and milling for smallholders along with research and development.

Large-scale production linked to outgrowers is expected to expand in the future not only through existing businesses but also via new entrants. In the second category, Intarsia has already purchased 30,000 hectares while the Korea Rural Community Corporation has acquired some 100,000 hectares for rice production.

8. POLICY ISSUES

Promote Tanzania's competitiveness in rice export by eliminating export bans

The Government of Tanzania has on several occasions issues cereal export bans as a means of ensuring food security in the country. Although the policy is well intended (ensuring food access to consumers) research has shown that an export ban as well as controlling food prices or preventing exports are not effective measures of ensuring food security (SERA, 2012). The consequences of this policy action are severe: export bans are a huge disincentive to producers; once in place they raise transport and handling costs which are transmitted to farmers through reduced farm gate prices. They also discourage investment in the sub sector by creating uncertainties, promoting bribery, and eroding trading relations with regional markets (Wilson and Trevor, 2015). There is a need to promote a more comprehensive emergency food security strategy that is less distortive to the grain market.

Promote the establishment of a rule based system for emergency rice imports

The Government's decision to allow duty free rice imports in 2012/2013 production year, led to a significant drop in rice prices, with traders reporting up to 70% drop in rice prices at the market (Kassim, 2013) and at farm gate. Moreover, Tanzania's rice lost access to regional markets due to increased blending with the cheap imported rice. Establishment of a rules-based system which carefully analyses the rice commodity market and price differentials between domestic and international markets prices prior to importation will significantly reduce distortions in the rice market (SERA, 2016).

Establish strict measures to control illegal importation of rice in the country

Effective implementation of rice importation policy is largely constrained by illegal rice imports in the country. These imports enter the country through unsupervised boarder points and as transit cargo which is dumped into the domestic market. The imports do not have permits and thus not subjected to the 75% import tariff, they usually end-up disrupting the market by driving down the prices of locally produced rice and encourage blending as traders are able to sell the rice below the prevailing market price. In terms of revenue it is estimated that the country lost an astounding 60 million dollars in revenue every year in the period between 2011and 2015 (SERA, 2016). On the positive note, there is positive perception that the new government after the October 2015 elections, has stepped up boarder control and hence it has contained illegal trade to a great extent. The FAOSTAT trade data is up to 2013; therefore, it would be interesting to observe the trade trend as the new data sets evolve.

Improving agricultural business environment for promoting increased investment and development of the rice industry

The growth and development of the rice industry requires a dedicated investment in a number of issues: a) Improved operating business environment of the sub- sector including reducing the number of local taxes, levies and other charges along the rice value chain; promoting a preferential taxation scheme for investors in the sub-sector especially in the initial stages of investment. b) Enhanced production and productivity through promotion and distribution of improved seeds. The Common External Tariff (CET) on rice should be applied consistently in all EAC partner states in order to sufficiently protect domestic rice value chains from external competition.

9. REFERENCES

Baregu, S., Barreiro-Hurle, J. & Maro, F. (2013). Analysis of incentives and disincentives for coffee in the United Republic of Tanzania. Technical notes series, MAFAP, FAO, Rome.

Barreiro-Hurle, J. (2012). Analysis of incentives and disincentives for rice in the United Republic of Tanzania. Technical notes series, MAFAP, FAO, Rome.

Ebony Consulting International (ECI) (2003). Rice Sub sector study. DAI private Enterprise Support Activities Project – USAID.

Eskola, E. (2005). *Agricultural marketing and supply chain management in Tanzania: A case study* (Vol. 16). Dar es Salaam: Economic and Social Research Foundation.

FAO. (2013). FAOSTAT statistic database. Food Agriculture Organization of the United Nations. Rome. Retrieved from http://www.fao.org/faostat/en/#data/TP

Kassim, M. (2013) Government Revokes Tax Relief on Imported Rice. *The Guardian, p.1.*

Kibanda, N. J. M. (2008). Rice research and production in Tanzania. In *African Japanese Plenary Workshop on Sustainable Rice Production Held in Alexandria, Egypt on 23-25th August*.
Kilimo Trust (2014) Expanding Rice Markets in the EAC. Retrieved on http://cari-project.org/wp-content/uploads/2015/03/RICE-REPORT-EAC-for-web.pdf

MALF 2015) …….

Match Maker Associates (2010), Value chain analysis of rice and maize in selected districts in Tanzania. Retrieved from http://www.internetsolutions.co.tz/tap.or.tz/documents/201011_CV_STUDY_VOL_I_CONTEXT.pdf
Minot, N. (2010, January). Staple food prices in Tanzania. In *Prepared for the COMESA policy seminar on "Variation in staple food prices: Causes, consequence, and policy options", Maputo, Mozambique*

PROMAR (2011). High Value Agriculture Study: The African Coffee Industry and Japan's Trade and Aid Supporting the Tanzanian and Ethiopian Coffee Industries and Their Export Promotion. Ministry of Agriculture, Forestry and Fisheries and PROMAR Consult

SAGCOT Southern Agricultural Growth Corridor of Tanzania. (2010). Annex IV: Value chain and market analysis. Dar es Salaam.

SERA. (2012). *Time to rethink the food crops export ban* (policy brief no.1)

SERA. (2016). Rule Based Transparent System for Emergency Food Imports, 2016.

Stryker,D. (2012) Study of policy options for increasing Tanzanian exports of Maize and Rice, NAFAKA,USAID

URT, NBS. MAFS (National Bureau of Statistics, Ministry of Agriculture and Food Security et al.) (2012). *National Sample Census of Agriculture 2007/2008: Small Holder Agriculture*, *2*.

Wilson, T.R., and Lewis, I. (2015). The Rice Value Chain in Tanzania. FAO. Retrieved from http://www.fao.org/fileadmin/user_upload/ivc/PDF/SFVC/Tanzania_rice.pdf

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