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Monitoring Price Incentives for Rice in Mozambique

Meizal Popat, Emílio Tostão, Francisco Fontes, and Orcídia Chiziane Vilanculos

OVERVIEW

Rice is a key crop in Mozambique in terms of food security and poverty alleviation, as it is the third most consumed crop in the country, after maize and cassava, and it is mainly produced by smallholder farmers. Rice production had increased substantially between 2007 and 2011, but decreased significantly afterwards remaining well below the potential and the regional average. Rice imports remain high, accounting for around two-thirds of the total demand. There are a number of factors that contribute to low rice production levels in Mozambique, including the rain-fed system, use of local varieties and limited milling capacity.

In addition to these constraints, MAFAP indicators reveal that the policy and market environment in the 2005-2016 did not provide price incentives for rice farmers but that it provided incentives to retailers. Throughout the period analyzed, farm gate prices were substantially lower than what would have been expected given world market prices. In particular, higher disincentives were witnessed in years where the international prices peaked, resulting from poor price transmission as a result of market inefficiencies and government interferences. The large incentives for retailers could stem from the fact that the rice import market is characterized by a small number of licensed importers, which can lead to higher margins and prices, at the expense of consumers.

Measures to improve the competitiveness of the value chain along with investments to promote domestic production and trade are recommended.

One important aspect is to ensure that farmers receive a price that incentivizes production. To this end, the Government could consider the promotion of farmer organizations (to increase bargaining power) and market information. Direct price intervention could also be assessed as a policy option to support the sector, but a price setting mechanism should consider both the effects on farmers and consumers. With regards to the retail sector, policies geared toward fostering competition among importers and retailers could lead to lower margins and benefit consumers.

Editor da Série

Emílio Tostão

Endereço

Praça 25 de Junho, 5º Andar
Caixa Postal 257
Maputo - Moçambique

Contactos

Tel: (+258) 21 30 72 71

Fax: (+258) 21 30 72 72

Website: <http://ceppag.uem.mz>

Facebook: <http://www.facebook.com/uem.ceppag>

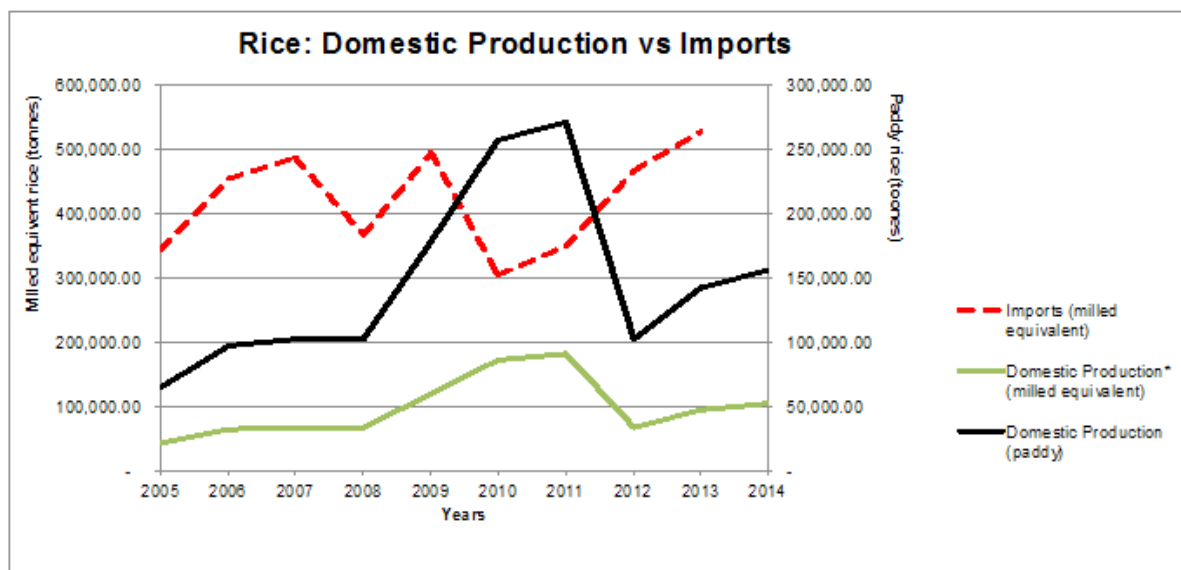
Email: ceppag@uem.mz



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COMMODITY CONTEXT: PRODUCTION AND MARKET TRENDS



* It is assumed the average milling rate of 67% for Mozambique, as reported by Calima et. al (2014)

Source: Data from FAOSTAT (2017)

In Mozambique, rice is considered a very important crop in terms of food security and poverty alleviation (CARD, 2011). In recent years, data indicates that rice is the third most consumed crop in Mozambique after maize and cassava (INE, 2013, cited by FAO, 2014) and the fourth most cultivated staple crop (FAO, 2014). Currently, approximately 90 percent of the rice production in Mozambique is produced by subsistence smallholder farmers (less than 0.5 ha) (INE, 2010). As a result, increasing the productivity of the sector can have large direct implications in terms of poverty alleviation. In addition to this, given the current production levels, increasing rice productivity will also be key if Mozambique is to become self-sufficient in rice.

Following a long period of stagnant domestic production levels and rapid import growth pre-2007, rice production in Mozambique increased substantially between 2007 and 2011. This increase in production can be partly attributed to a number of Government policies, including the distribution of improved seeds and agricultural tools to farmers, which aimed to foster the rice sector. These policies have led to higher levels of production since the 2007/2008 cropping season (Kajisa, 2014; FAO, 2014). In terms of the geographical distribution of rice production, currently, the Central and Northern provinces represent the main rice producing regions in the country, with Zambezia province alone accounting for around 50 percent of the total domestic production (Kajisa, 2014; FAO, 2014). However, data from the 2012 agricultural survey reported by FAO (2014) highlighted the low levels of commercialization and showed that less than 13 percent of the rice farmers sell their produce.

Increasing production and productivity is key for food security in Mozambique, given the recent increasing trends in demand for rice. According to Kajisa (2014), between 1990 and 2010, domestic consumption of rice has grown at an annual rate of around 8.6 percent and is

predicted to grow further, given current population growth rate. As a result, domestic production does not meet the total demand, which implies that the country remains a net importer of rice. Currently, rice imports account for approximately two-third of the total domestic demand (Calima et. al, 2014). However, the import market is characterized by a small number of licensed actors, who are responsible for all the rice imports in Mozambique (Kajisa, 2014; FAO, 2014).

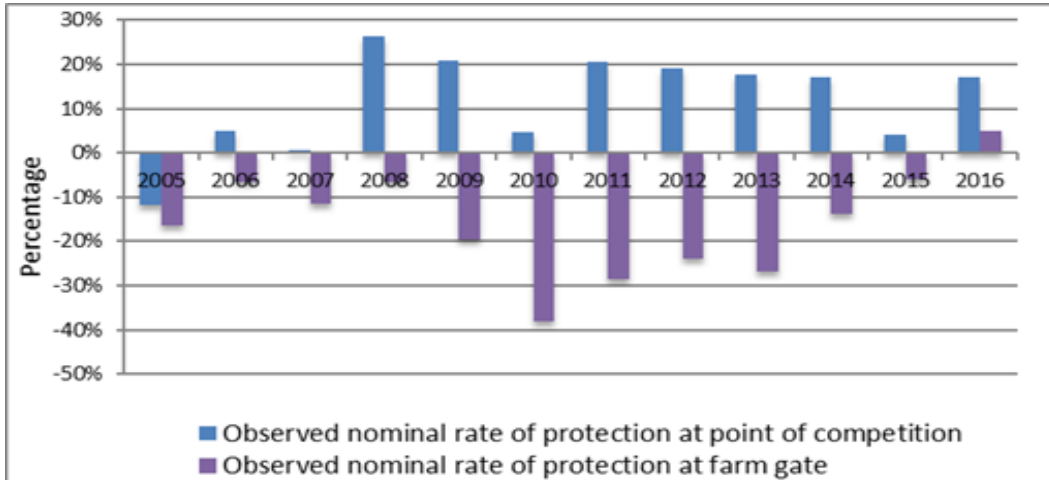
There are a number of factors that contribute to low rice production levels in Mozambique. One factor relates to the conditions under which rice is cultivated. According to Calima et. al (2014), most of the rice is cultivated under rain-fed conditions, using local varieties, with processing activities often occurring at the household level. A second factor is linked to large post-harvest losses due to sub-optimal post-harvest management practices. Third, the national milling capacity remains limited, which affects the national processing capacity. Finally, a fourth aspect is tied to infrastructure and technology adoption, especially irrigation and improved varieties.

MAIN POLICY DECISIONS AFFECTING THE COMMODITY

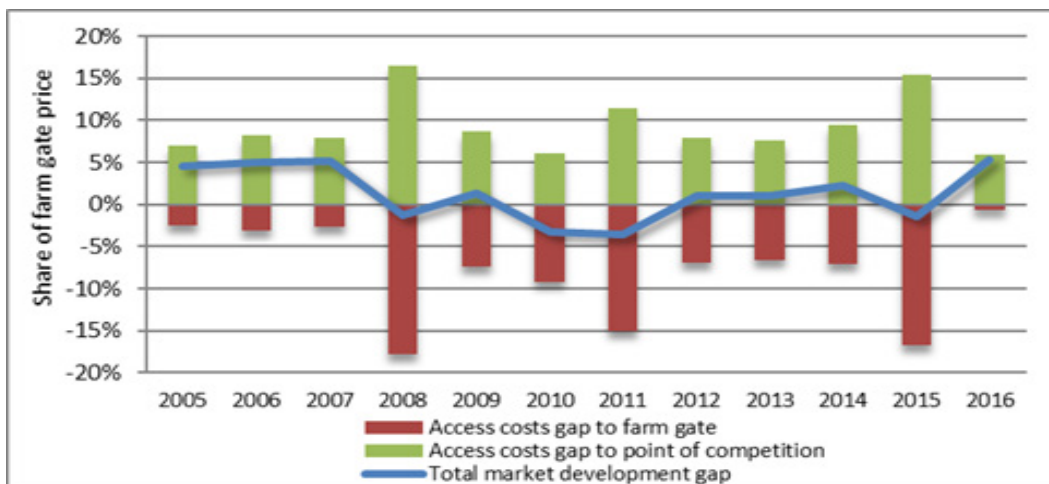
Trade	<ul style="list-style-type: none"> Under the WTO rules, the Government of Mozambique (GoM) has established free trade agreements (FTAs) on rice with SADC member countries since 2010, with import tariffs set at 7.5 percent and 2.5 percent for semi-milled or wholly milled rice (whether or not polished or glazed) and broken rice, respectively, still prevailing for the other most favoured nations (MFN) as per the WTO classification (WTO, 2016; FAO, 2014; World Bank, 2010). Failure to inspect the quality of imported rice has led to import of whole rice as if it were broken rice and, as such, paying only 2.5 import tariff (instead of the 7.5 percent), could create production disincentives for local producers. However, given the low percentage of imports of broken rice, the magnitude of this issue remains unclear.
Domestic market	NA
Inputs subsidies and other support services	<ul style="list-style-type: none"> The GoM, through its National Plan for Investments on the Agricultural Sector (PNISA) 2013-2017, has defined some actions to promote rice production, namely: availability of certified seeds and fertilizers at subsidized prices, and partnerships with private companies for certified rice seed production. To promote the use of fertilizers, the GoM has applied a VAT exemption for fertilizer companies, leaving only an import tariff rate of 2.5 percent (World Bank, 2012).
Post-harvest and processing support	NA
Agricultural infrastructure development	The GoM has been implementing the “Programa de Desenvolvimento de Irrigação Sustentável” (PROIRRI) to increase irrigated area by about 5 500 hectares, contributing to an increase in local production of rice and vegetables to reduce import dependency (PROIRRI, 2013).
Exchange rate policy	NA
Other policies	NA

PRICE INCENTIVES INDICATORS

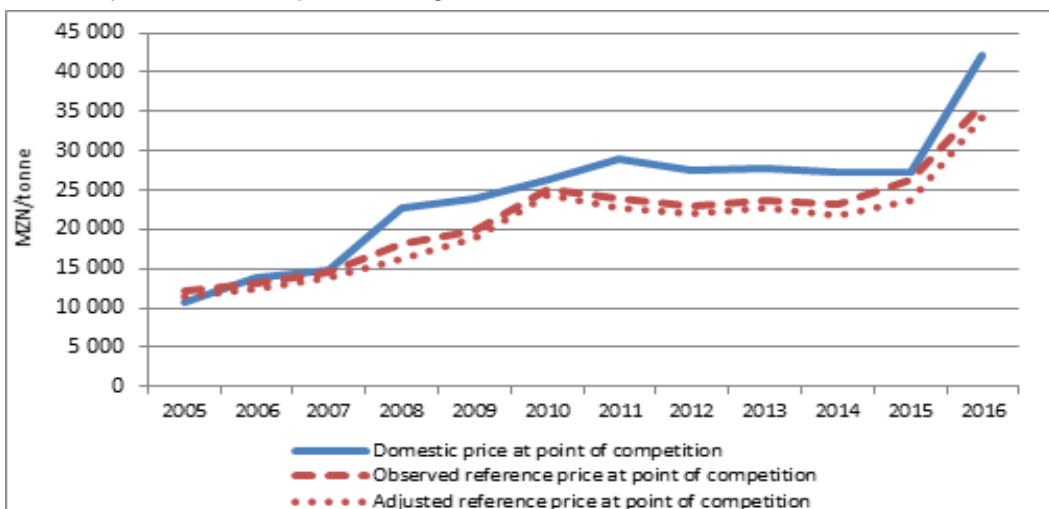
NRP for rice at farm gate and at point of competition (retail)



Market Development Gap (percentage of farm gate price)

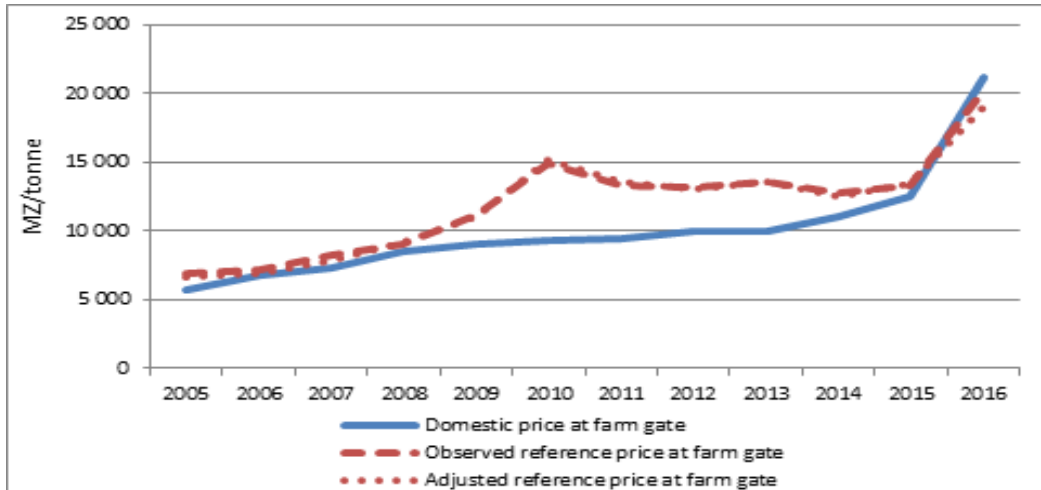


Domestic price vs reference price at farm gate



Source: MAFAP, 2017.

Domestic price vs reference price at point of competition (retail)



Source: MAFAP, 2017.

INDICATORS INTERPRETATION

During the 2005-2016 period, MAFAP indicators reveal that policy environment has resulted in significant price disincentives for rice producers in Mozambique, whereas it has generated price incentives for retailers. At farm-gate, until 2010, increasing international prices failed to translate into commensurate increases in farm-gate prices, leading to a negative NRP. However, since 2011 farm-gate prices have seen a steady increase, despite falling international prices. This has led to an increase in the NRP, which culminated in a positive NRP in 2016. For retailers, the fact that the Mozambique rice import sector remains characterized by a few licensed importers may explain why retailers have typically faced large positive incentives during the analysed period.

Only a small proportion of rice farmers sell rice in Mozambique. Typically, the prices received during the 2005-2016 period were below the price that would have prevailed in absence of domestic policy and market distortions. This is captured by the Nominal Rate of Protection (NRP) indicator, which is negative in every year (except 2016). Such a price structure does not provide high incentives for farmers to commercialize their produce. However, more recently, the disincentives have become smaller and, in 2016, the NRP was positive. These increases in the NRP at farm gate level since 2014 suggest that interventions along the rice value chain (improved inputs distribution for instance and improved irrigation infrastructure), as well as the rapid depreciation of the local currency against the USD since 2013, have benefited farmers, particularly in 2016. Our analysis also suggests a slow transmission between international and domestic farm-gate rice prices in Mozambique. This was especially true for the 2008-2011 period, where world prices increased substantially while the NRP at farm gate reached up to minus 40 percent in 2010. From 2011 onwards, international rice prices have gradually decreased while the farm gate prices in Mozambique have increased, which has contributed to an increase in the NRP.

While farmers have faced substantial price disincentives, retailers have generally benefited

from price incentives, receiving, on average, prices approximately 15 percent higher than the reference price during the analysed period. High price incentives for retailers are likely to lead to higher prices for consumers, especially the poor, who had to pay a higher price for rice. This was particularly true in 2008 and 2009, during the food crisis, and during the 2011-2014 period. The fact that retailers have typically faced higher prices than the reference price could be partly attributable the structure of the rice import sector in Mozambique, which is characterized by a small number of agents (Kajisa, 2014).

The Market Development Gap (MDG) indicator is a measure of the effects of excessive access costs resulting from market inefficiencies on farm gate prices. Whilst a positive MDG suggest that farmers would receive lower prices if market inefficiencies were removed, a negative MDG means the opposite. For the case of rice in Mozambique, the MDG has remained moderate during the period (between -5% and +5%). However, this should not be interpreted as a sign that the rice value chain is performing efficiently. In fact, access costs are very large both from the farm gate to the market and from the border to the market (over 15 percent of farm gate prices in some cases). This can impose a significant cost on all agents, but especially on consumers. However, typically (especially in the earlier years), the access costs faced by the farmers were higher than the access costs faced by the importers, which meant that farmers

Policy	Sector Performance
<ul style="list-style-type: none"> o Free Trade Agreement with SADC members o Import tariffs for other Most Favoured Nations (MFNs) o Input subsidies and investments in infrastructure 	<ul style="list-style-type: none"> o Domestic supply highly dependent on large volume of imports o Import duties not enforced satisfactorily o Sector largely based on subsistence farming: low and volatile production levels o Weak price transmission from downstream to upstream markets

POLICY IMPLICATIONS AND RECOMMENDATIONS

A central issue for the rice sector in Mozambique is to increase productivity at the smallholder level and decrease access costs to local markets. This will allow local rice to be more competitive and reduce the need for an import tariff schedule to protect local producers. Ensuring that farmers receive a price more aligned with the international market is also a priority, as in the last decade farmers have typically faced price disincentives, which affected the profitability of rice farming. Policy options could include increasing farmer bargaining power and/or improving price information systems.

Several factors along the value chain hinder the development of rice sector in the country, namely: 1) lack of irrigation infrastructure and low intensity of use of modern inputs, which translates into very large yield and production gaps relative to the frontier production; 2) low levels of market participation by domestic rice producers, since farmers produce mainly for self-consumption; and 3) High access costs to farm gate, as well as high profit margins for traders (FAO, 2014).

To deal with these issues the government could consider both short- and long-term policy options. In the short run, the National Cereals Institute (ICM) or the Mozambique's Commodity Exchange (BMM) may play a more active role so as to improve the domestic rice commercialization through, for example, a warehouse receipt system that could raise farm gate prices. However, more information is needed about the feasibility and impacts of these type of interventions. As such, a study investigating the potential of these options is recommended. Another more drastic short-term solution, would be the creation of a price-setting mechanism, to ensure that farmers receive a "fair" price. However, these solutions are unlikely to solve the underlying constraints related to the competitiveness of the rice sector in Mozambique.

Long term policies should be geared towards fostering a sustained and sustainable rice productivity growth. To this end, productivity-enhancing investments and investments in infrastructure, such as those carried out under PROIRRI, are key. Enhancing transport infrastructure, particularly tertiary roads, is also important, given that most rice producing areas are far from consumption centers like Maputo. Without such investments, access costs will remain high, preventing domestic market integration that could lead to higher market participation and increased production.

FURTHER ANALYSIS

Potential additional research to be undertaken in support of policy reforms for the rice sector in Mozambique include:

- a. Detailed assessment on the implication of the different policy options that can be undertaken by the Government to improve producer prices for rice, including the possibility to establish floor prices or creating a warehouse receipt system.
- b. Detailed assessment on the impacts of the high access costs between farm gate and the point of competition. These costs hurt producers (lower prices received) as well consumers (higher market prices).
- c. Detailed assessment of the implications – for both producers and consumers – of increasing the protection to domestic farmers through higher import tariffs.

DATA SOURCES

Benchmark price: FOB prices: UN Comtrade trade flows (<http://comtrade.un.org/data/>) and ITC statistics.

Domestic price at point of competition: Average retail prices provided by SIMA.

Domestic price at farm gate: 2005-2013 prices provided by milling plants in Nicoadala, 2014-2016 prices provided through email by SDAE Quelimane.

Access costs from border to the point of competition: Transport costs from MASA/SIMA; margins from literature; port handling costs from World Bank Doing Business online database for 2005-2013 while other deflated using CPI.

Access costs from the point of competition to the farm gate: Transport costs from MASA/SIMA; margins, processing and handling costs and other fees from the literature (observed value only for 2006, others are derived using CPI).

ADDITIONAL INFORMATION

This analysis is the result of partnerships established in the context of the MAFAP programme with the Ministry of Agriculture and Food Security of Mozambique (MASA) and the Center for Studies of Agro-food Policies and Programs (CEPPAG).

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