



Rice farmers, local markets and rice trade

A case study of local market dynamics in Mozambique and its implications for a cooperative model.

Wouter Beekman and Sietze Vellema

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c/o Wageningen International
Wageningen University and Research Centre
P.O. Box 88, 6700 AB Wageningen, The Netherlands
Phone: +31 317 486807
E-mail: africa.wi@wur.nl
Internet : <http://www.dgjs.wur.nl/UK/VC4PD/>

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1 Introduction

Nante is a major rice production area in the District of Maganja da Costa, Zambezi province in Mozambique. Nante has been a breeding ground for the implementation of farmer-led cooperatives, importantly modelled on the experiences with cooperatives in Europe, in the rice production and trading. The cooperative model used was supposed to offer an alternative to other rural development models, like out grower or estate farm models. Like all development models the farmer cooperative model needs to show its viability and impact in the context of Mozambique. One of the basic assumptions in the case examined in this paper was that Mozambique knows a market vacuum in rice: production exists with almost no trading and processing organisation. This vacuum is addressed by implementing a 2-tier umbrella cooperative model that fills the voids between production, processing and trading.

Although the existence of small scale traders and processors is known, they are described as having small margins and volumes and are largely disregarded in development policy and practice. This paper is motivated by the idea the existence of these traders and processors implies that procurement and processing practices are there and do work within the Mozambican context. Understanding the actual practices of trading and processing is important because previous experience with the cooperative model demonstrated that a blue print answer is not adequate and that adaptations of the model are necessary to fit the reality in which Mozambican farmer are producing.

Nante was chosen to deepen insight in what types of traders do come to local markets and procure rice that is subsequently processed and sold in the region. The existence of trading does not mean that there are no problems. Local farmers indicate that one of the major restrictions for rice production is the poor marketing, aiming at the timing and quantity of the products bought. Hence, exploring how a cooperative model can or cannot build on on-going processes may be informed by the paper.

This paper presents the results of a research of the local market dynamics and traders in Nante in an attempt to describe the different sourcing models and to demonstrate that although the volumes are low, it is far from being a vacuum.

The main questions in describing the Nante case are:

1. **What are the local trade routes in the whole Municipality of Nante?** Describing the different routes and products that come to and go from Nante and the location of the different markets in the whole area of Nante.
2. **What trade products come from or go to external markets?** Describing the size and types of products
3. **What are the modes of trading found in local markets?** Describing the type actors that can be found in the different markets in Nante.
4. **What are the differences in prices at Municipality level per location and in time?** Describing the price variations that can be distinguished between the different markets.

With the results to these questions a discussion will be held about what the relation is between farmers, local markets and rice trade in the case of Nante, and what the implication could be for an intervention like the farmer rice cooperative of EOZ concerning alternative institutional models.

2 The markets in Nante

2.1 What are the local trade routes in the whole Municipality of Nante?

Trade routes in Nante follow the roads network. The main link is the bridge at Malei to Maganja da Costa (the district capital), and then to Nante. The roads from Malei or Mocuba to Nante are all dirt roads. Since 2008 a short cut is available that goes down from Cariua directly to Nante. Public transport however, continues to go first to Maganja da Costa, where a change in bus is necessary to continue towards Nante, see Figure 1.

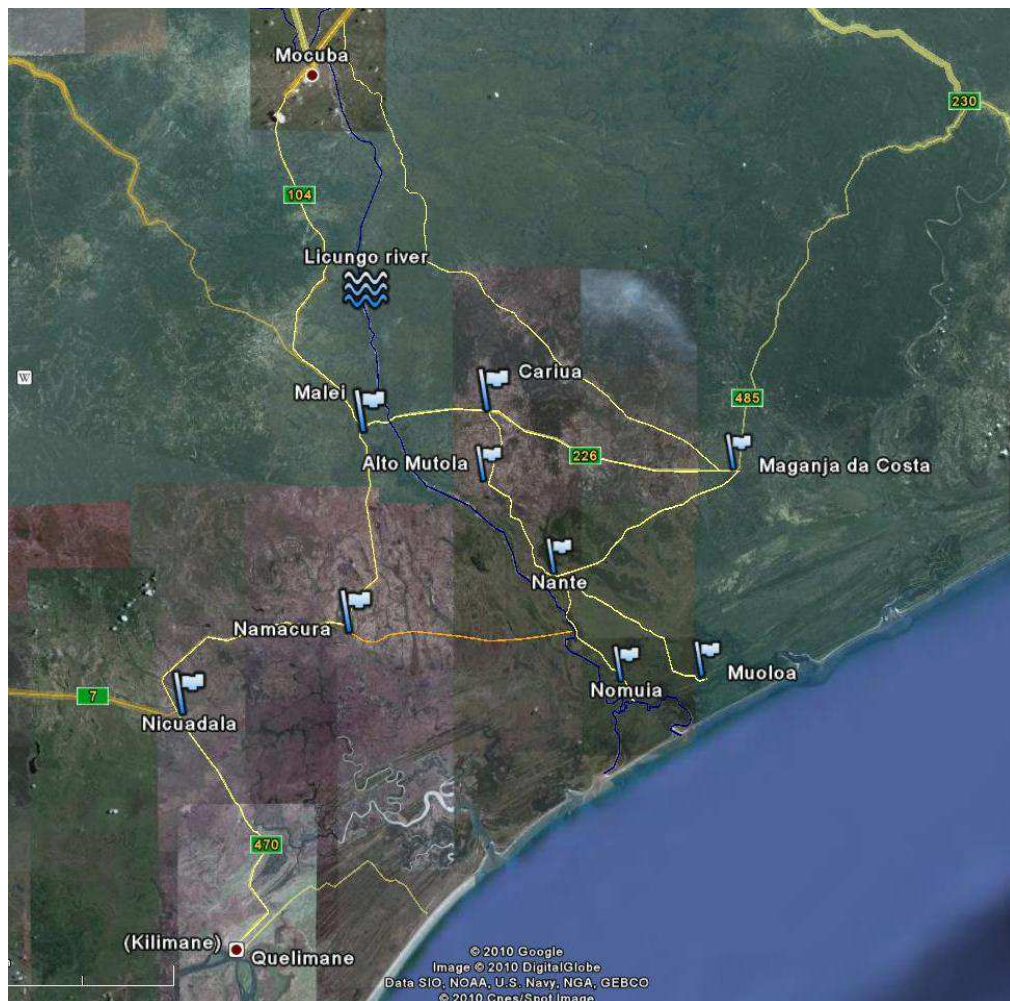


Figure 1, Overview of important location and roads in relation to Nante

Two alternative routes exist of which one has been abandoned. The first route is a relative fast route from Quelimane to Nante but does not allow for a lot of transportation. For this route people cross the river by boat at Mugoloma (see Figure 2), continue by bicycle taxi to Namacura where they take the bus to Quelimane. The second route via sea was available for a long time to the villages in the south-east of Nante; Muoloo and Nomuia. In the coastal area a large coconut plantations exist and the Copra company Madal transported the raw products via sea to Quelimane, allowing for passengers and cargo. Recently disease in the coconut trees resulted in a drop in production and Madal has stopped the active management of the plantations in Nante and currently runs an extensive scheme buying the remaining small production through local traders. The transportation now runs only via road.

In 2010 three routes are available to Nante; C, D and E. A and B are the different routes to Maganja da Costa, the district capital. For Nante this is the administrative district capital but also a commercial and service centre. The sea route, F, is not available any more. With flags all the different market centres are indicated that exist in the administrative areas of Nante and the distance between each market.

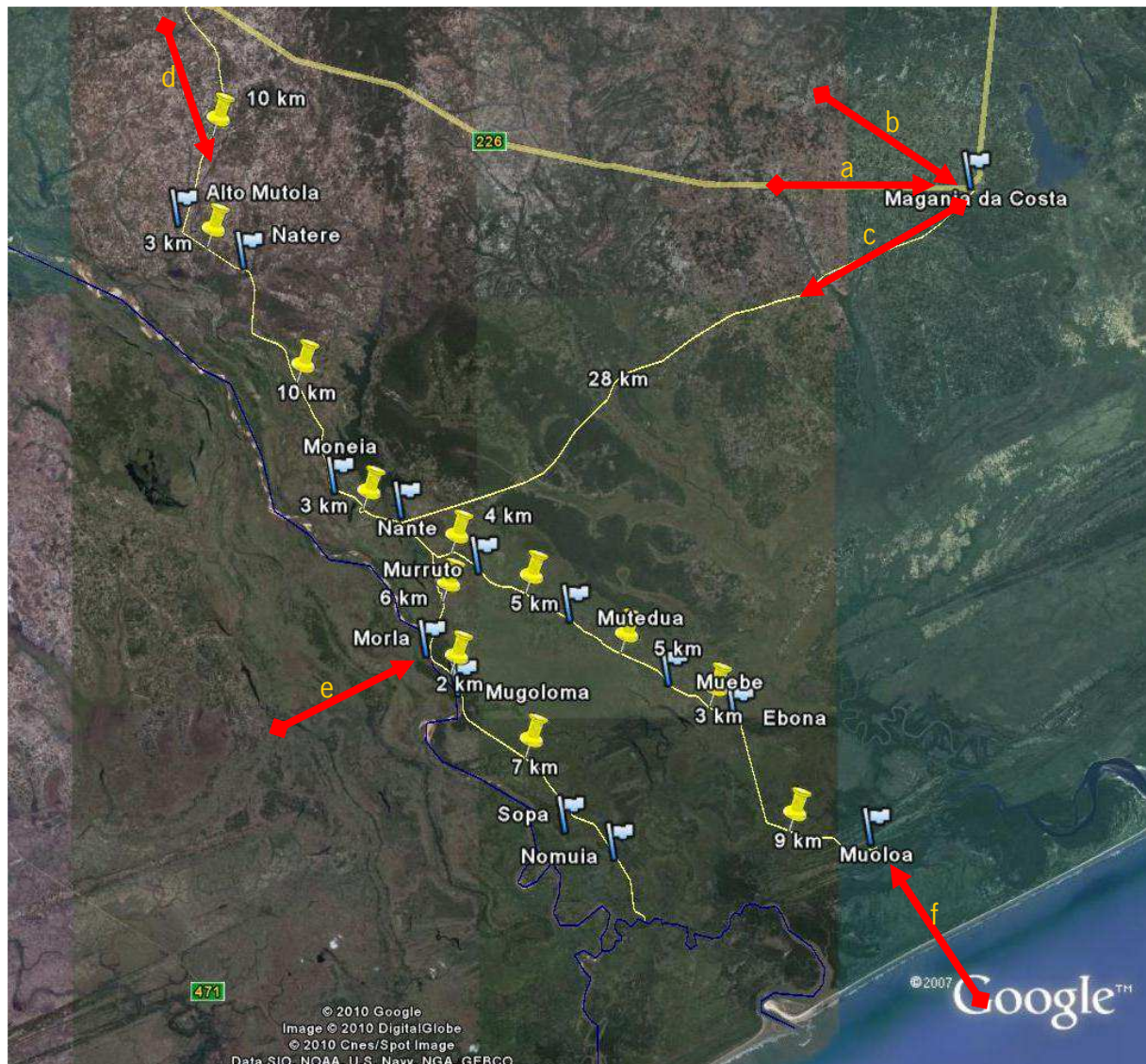


Figure 2, The administrative post of Nante and its local markets

Below the distance from Nante or Maganja to Quelimane is indicated per route:

- A. 175 km to Quelimane , 135 to Mocuba (of which 50 km is dirt road)
- B. 95 km to Mocuba (of only dirt road) (300 km to Quelimane via this route)
- C. 28 km from Maganja da Costa to Nante (all dirt road)
- D. 140 km to Quelimane, 100 km to Mocuba (of which 45 km is dirt road)
- E. 100 km to Quelimane (of which 30 km is dirt road)
- F. sea route

The three routes to Nante are very different in character and function. Route C is the main route between Nante and Maganja da Costa. This route is the main public transport route as it passes

the district capital. It is for most (locals) the only route allowing for transportation of goods to and from Nante. Maganja da Costa is also a big market town and offers several services (mechanical repairs, agricultural inputs, rice- maize- and cashew processing units, health care). The Maganja da Costa area is unlike the flood plains of Nante, situated on a higher elevation and Cahew, Maize and Beans are the main cash crops for this area.

Route D is a new road, making a shortcut from Nante to Quelimane. This route has no public transport and is mostly used by privates, NGO's, government officials or big traders (mainly EOZ/Coops, but sometimes a bigger trader enter through this road). Cariua and Malei are the main (small) trade centres for farmers on the branch of Moneia to Cariua. The area on that branch has a more dry land production, crops like beans, peanuts, cassava and maize are mainly produced here and Cariua is a ready market for these crops. This route, however, is mostly an agricultural trade route out of Nante, it is not an import route for goods.

Route E, is a shortcut to Quelimane, but a significant part of the route is done by bicycle, up to Namacura. The river is crossed by canoe. Individuals that need to go to Quelimane take this route as it is cheaper and potentially faster, but little transport is possible here. It is also a trade route in and out for smaller goods as goods transported via this route need to be carried by bicycle, increasing the transport costs if the product is bulky.

2.2 What trade products come from or go to external markets?

Table 1 below gives an overview of the products found at the markets in Nante. Each of the 14 local markets (see Figure 2) was visited every 2 weeks by a local research team, noting the products that were sold, the prices and the number of persons selling products at each market. The focus in this research was put on local agricultural production, but as a comparison and to get insight on market dynamics also a number of imported goods were researched.

Table 1, Products sold at local markets

Processed local products	Fresh local products	Imported goods	Exported local products
Rice	Fresh Cassava	Spaghetti	Rice in Husk
Maize Flour	Fresh tomato	Tomato puree	Brown bean
Dried Cassava	Onion	Oil	Green bean
	Garlic	Salt	Peanut
	Pepper	Sugar	Cooking Coconut
	Chili's	Potato	Sweet potato
	Banana	Maize flour	
	Corn		
	Drinking coconut		
	Cabbage		
	Pumpkin		
	Salad		
	Carrot		

(source: own research and observation)

The products produced locally are seasonal, while the imported trade goods are more or less constant. However, the turnover of imported goods depends on the availability of buyers for exportable products and the acquisition of cash by farmers. One shop owner complained that in

the last years commerce was getting less because less rice was being sold. The exportable goods do also have an internal market as fresh local products.

In Nante, rice is the main cash crop and known at provincial level for its good quality (often measured by being aromatic, but also that no chemicals were used in the production). Next to rice, there is also a large production of sweet potato that has a ready regional market, as this product combines very well in sequence with rice production (see **Error! Reference source not found.**). In the areas of Naterre and Alto Mutola, the cash crops are peanuts and beans, as these are higher, dryer and sandier areas.

The imported goods are mostly (edible) small packaged products, not necessarily high value, with a long expiring date not needing cool storage.

Production calendar in Nante

The typical yearly production cycle in Nante is one of cassava, rice and sweet potato, starting in the dry period around august with the preparations of bunds for cassava. The harvest of this yearly crop often takes place around this period, but the harvest can be postponed so that the crop remains in a good condition in the ground. Unlike rice and sweet potato, cassava is planted on the higher, sandier soils and does not compete with rice around arable land. At the end of the dry period, together with land preparation for rice in October/November, cassava seedlings are planted to take root with the first rains. December to May is the rainy period and is dedicated to the rice production harvested in May and June. Rice is produced in the clayey flood plains. The cool period from May to August, is mainly used for production of sweet potato. Sweet potato is planted on the same soils as rice, making use of the residual soil moistures. Slowly vegetable production is picking up in this period as well.

2.3 What are the modes of trading found in local markets?

The main markets in the Administrative area of Nante are Naterre, Nante, Mugoloma, Nomuia and Muoloa. The difference in size for all markets in the area is reflected in the averages of number of persons and products visible in the market (Figure 3 and Figure 4). Maganja da Costa is the district capital and a busy business centre. The reason why these local markets are the main markets seems to be related to the historical background of the markets during Portuguese times. Except for Mugoloma al these larger centres have colonial buildings that were houses and shops in Portuguese time and forming a clear centre. The market of Mugoloma is situated between two main community centres and is also the location for boats to take off across the Licungo to Quelimane.

What the combination of these two figures demonstrates is that in the numbers of sellers clear distinctions can be made between the big markets and the small communities markets(in Maganja da Costa the average was 447 sellers while in Muebe it was 12). But if you compare them with the number of products sold at the different markets the difference becomes much smaller. This exemplifies that although the larger markets have a distinctive higher number of sellers, the agricultural products sold are relatively the same at the different markets.

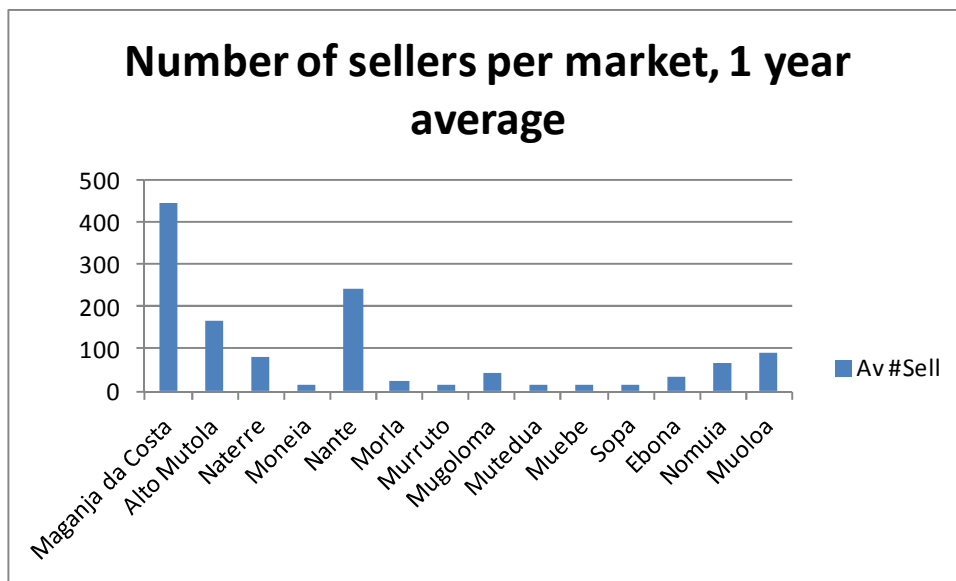


Figure 3, Number of sellers per market (source: field work)

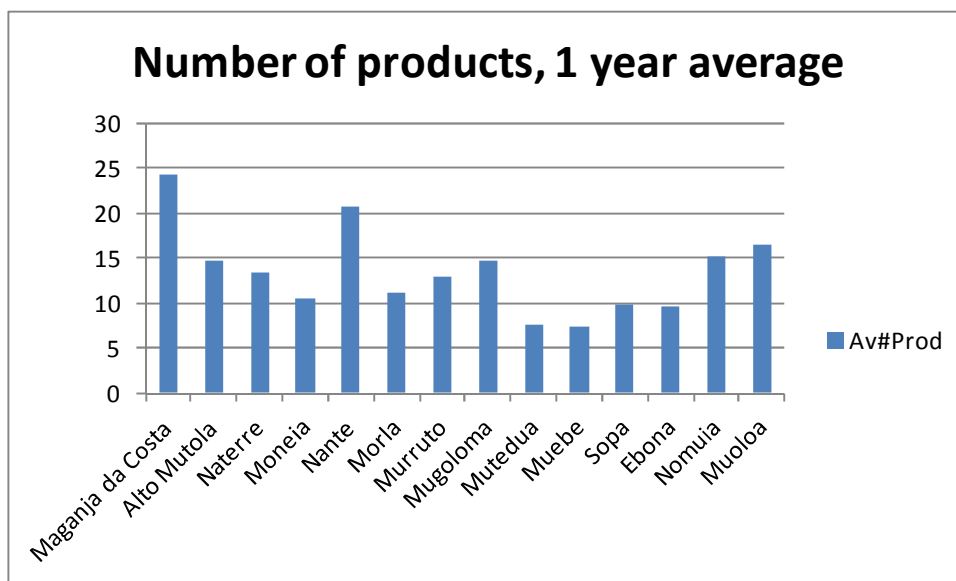


Figure 4, Number of products per market (source: field work)

Below, seven case studies of individuals engaged in trading activities in Nante are presented to show variety in and to describe different modes of trading in Nante:

- (1) a local farmer bringing their own product to Maganja da Costa,
- (2) the trader at the local market,
- (3) the small ambulant traders,
- (4) the larger external trader,
- (5) the Indian trader shops,
- (6) processing units in Nante and Maganja da Costa and
- (7) the cooperative setup.

2.3.1 The local farmer

One group are the individual farmers going to the market to sell some agricultural products, often out of an urgent necessity for cash. These individuals are occasional sellers that leave as soon as they sold the amount needed. They are found mainly in the mornings or late afternoons and are mostly woman and children. A local farmer bringing his or her own produce all the way to Maganja da Costa is not common practice. In this case she was a former employee of the NGO "ORAM" working in Maganja da Costa on land delimitation. She is native to Morla and is finishing high school in Maganja da Costa with the perspective to continue to learn. She produces inside the irrigation system through family or paid labour. She has connections in Maganja da Costa with the processing mill and a house for storage. The transport she arranges when the opportunity arises with local NGO's staff or through public transport to Maganja da Costa. In Maganja da Costa (in 2010) she can sell the rice to the mill for 8 mtc/kg of paddy or pay for the dehusking services, 2 mtc/input kg.

The farmer organising their own small trade is by far the smallest player. This type of opportunities forms a potential for many farmers in Nante, but is currently only utilized by the local elite. It is difficult to value the role of these persons in a development scenario, but their ability to travel might form a potential for improved communication on market possibilities. On a smaller scale local farmer go to the market when in need of cash and sell small quantities of rice, this in terms of a number of cups, the market is then often the closest available, while in the demonstrated case a local elite in need of cash chooses to go the regional market to sell a few bags of 50kg.

2.3.2 A local trader from Mugoloma

A second group of traders has a more permanent place in the market. They are owners of local markets stands, which is a very diverse group. They differentiate between regulars selling their products on a cloth or a small bench to shop owners in old Portuguese buildings working with staff. The first are not fixed construction and the products are stored elsewhere each day. In general they sell products that are bought on a daily bases and finished by the end of the day or can be stored easily like bread, sweets, unions, garlic, chillies, salt, packaged oil, etc. This group gradually goes over into a group with more fixed constructions made of mud and wood (and sometime baked stone) that are often used to store products. In some places electricity is available (like in Nante through the electricity network, but also solar energy is often used at other locations) allowing for cool storage of beverages, cell phone charging and local television/movie centre/disco's. These shops basically sell imported goods, like alcohol, canned food, cookies, sugar, tea, oil, vinegar, etc. The shops housed in old concrete buildings are often from local elite working through staff in the shops, selling mostly the same imported goods as in the mud shacks. Through observation over the last 6 years at different times (2004, 2008, 2009 and regularly in 2010) a slow decline in shops is noted. While there was a clear increase in the use of the concrete buildings and well stocked shops from 2004 onwards, by the 2008 the number of shops and the consistency of supply started to drop. This runs parallel with the initial success of the cooperative that started operating in 2003 but ran into financial problems from 2006 onwards. Whether there is a direct relation is of course not proven by these observation but they do make a strong insinuation to the importance of a well-functioning rice market.

This trader had a fixed shop in Mugoloma that buys processed rice, year round, per tin cup for 5 mtc (in 2010, 3 tin cups/kg, 15 mtc/kg) although the price differs throughout the year. He buys most rice from farmers that bring small quantities to the market, but also takes large quantities, but all volumes are measured per tin cup. He buys rice until he has about 4 to 6 bags and then

transports them via Namacura (route e) to Quelimane, where he sells the rice at 7,5 mtc/tin can (in 2010, 3,5 tin cans/kg a tin can is a bit smaller than a tin cup, 26,25 mtc/kg). Transport is about 100 mtc/bag of 50 kg, or 2 mtc/kg and 145 mtc/person per trip. A quick calculation makes for a profit of about 320 mtc per bag (in 2010 equal to about €10). He would spend about a week in Mugoloma to collect the 6 bags (at the time of the research it was the harvest period) and lose another week selling his products in Quelimane. The income of €60/2weeks is not huge but it is considered a very good local income. An average income locally is €62/month.

The fixed shops at the markets seem to play an important role in the decimation of information on available produce and buyers. It is through these fixed shops that the group of ambulant traders function. The ambulant trader is a diverse group of individuals from the local traders buying in Nante and exporting the products outside, to the outside trader coming to Nante to buy produce. The main cash crop is rice and traders come from all over the province (Gurue, Mocuba, Gilé) to buy rice in Nante. But also coconuts, beans and cashew nuts find a national market through traders. A more regional market exists for beans, chillies and sweet potato. Beans and chillies are sometimes exported and then later imported, depending on whether there were buyers during harvest times and how good the harvest was. In general the regional markets are of smaller quantities.

The small local traders are emerging with the distinctive advantages that the shop from which they operate are known locations where farmers go to sell and the price is known in advance. A down side is that the volumes are low. However, the trader makes a very acceptable local salary that might be emulated by others. These local traders can be distinguished as entrepreneurs and are therefore an interesting group to include in sourcing strategies.

2.3.3 Small ambulant traders

This case study is based on an interview with a farmer in Nante and an interview held with a market seller in Quelimane. The farmer in Nante sold 2 bags of paddy to an ambulant trader. It was unclear how the trader was related to the farmer and how they came in to contact, upon asking, the response was that the trader "appears" in Nante. The farmer entered in a negotiation with the trader about prices. The farmer sold at a lower price (then the seed company SEMOC who paid 9mtc/kg) because he knows that transportation and processing costs money. He received 8 Mts/kg for Chupa and 7 for ITA, these are two different rice varieties of which the first (Chupa) is a local aromatic variety while the second (ITA) is short cycle variety. The difference in price is because ITA does not become really clean after processing manually, so it gets a lower price at the market.

At the market in Quelimane, the people selling rice had different varieties, often distinguishing between imported and local rice. Local rice was cheaper because it was browner, the effect of bran staying on the grain when processed manually. In a factory rice is polished, which takes away the bran and makes the grain white. When asked where they got their rice, each individual explained that they often go to the location where he or she has family and buys rice at those locations. Locations as far as Namacura were mentioned at that time. They mentioned that they bought 1 to 2 back each time.

Similar to the local trader there are the small ambulant traders that "appear" at a location to buy. The main characteristic is that it is unknown when or where they will buy. It appears that a close link to family relation exists is important for these types of traders. Each farmer enters in

individual price negotiation with the trader and that these traders act on an individual and small scale.

2.3.4 Larger external traders

A difference is made between the larger external trader (with the emphasis on larger not large) and small ambulant trader because of the way they seem to be organised. Although it is possible that these larger traders buy only 1 to 2 bags per individual farmer, they usually come to buy a minimum of 10 bags. It is therefore possible that trader who "appeared" in the example above might be one of the larger traders.

These larger traders often appear in groups of 2 or 3 at the central markets, for example in Nante, that jointly organise transportation to reduce the costs. At the market they arrange accommodation and often take about a week to conclude their business. They ask around at the markets stands if there are farmers who have rice to sell. This is known by the farmers who leave a message behind at the markets when they have rice to sell. The interest is communicated to the farmer who then goes to the market to meet the trader and they return to his house together to show his available rice. Each trader attempts to buy about 7 to 10 bags, and together they transport somewhere between 1 to 2 tons of rice per time. The markets where they source in the administrative area of Nante are, Naterre, Nante, Mugoloma, Nomiua and Muoloa. These are the same markets identified (not surprisingly) through the field work as the largest. They transport their rice via Manganja da Costa and come from a provincial level, Gurue, Mocuba, Quelimane were mentioned.

When the link between farmer and trader is made, the price is negotiated. In November 2010, the trader paid 8 mtc/kg paddy. Although in some cases, payment is not done per kg but per bag. There are two methods, in a bag of 50 kg it is possible to fill it up and still be able to close and stitch it with thread. This is presumably when the bag weighs around 50 kg, payment is then 400 mtc/bag, and with the assumption of 50 kg /bag this becomes equal to 8 mtc/kg. However, the farmer may choose to fill up the bag till the brim and it overflows. Making it only possible to close it by putting another cloth as a cap on top and then stitch it. Payment is then 500 mtc/bag, but it becomes unclear how many kg are in the bag. (If the trader would be expecting to receive more than when bought per kg, then the bag would contain at least 62,5 kg with this method). Probably this is done because for farmers bags are a scarcity and costs money. Therefore, they prefer to sell with a capped bag, needing fewer bags in total. If the trader is charged by bag for transportation (as some times is the case) it would become a preferred choice by both.

The trader transports the rice from the farmer to the main collection point at the local market and then mostly processes the rice locally. In Nante this is possible mechanically or manually. Dehusking machines exist at 2 locations, one is in private hands (formerly of the state business of CAIMOC) near the main market of Nante and the other is from the cooperative Muhde Mohne. Both ask 2 mtc/kg of paddy (100 mtc/bag of 50 kg). Also, one dehusking machine exists in Maganja da Costa, see the case study below. If the work is done manually the trader organises two people per bag, they are paid 75 mtc and are expected to finish the work in 1 day (150mtc/bag).

The number of traders that come to Nante to buy are unknown beforehand but depend on what kind of production year it is. In good rainy years there is ample production in the lower areas of the Zambezi province, but during bad years (like '09/'10 season when this research took place) the irrigated production areas have a considerable advantage, and in Nante there are about 600

ha of irrigated rice production. A farmer mentioned that this year he will not be afraid to sell the rice when he feels like it because there are many traders appearing at the market.

An important characteristic of these larger ambulant traders is that they often operate in groups. This group makes a clear example of how the communication networks of local markets are used to quickly divulgate the availability of both buyers as sellers. The fixed market stands, otherwise not active in rice trade, play a crucial role in disseminating and posting of information. It demonstrates that the traders organize themselves in small groups to reduce costs of transportation, but still act individually when dealing with the farmers. It also indicates that in general there is no abundance of these small traders, but in bad production years Nante has a considerable advantage through irrigation in attracting traders. It is likely that Nante has relative fewer advantages during good production years as it is more isolated than rain-fed production areas of Nicuadale and Namacura.

2.3.5 The "Indian" trader shop

This shop is a particular case in Nante that might be typical for the "Indian" trade networks in Mozambique. The owner is Bangladeshi, but people in Nante use the names of Indian, Bangladeshi or Pakistani interchangeably. This shop sells mainly imported products similar to any other shop, but sometimes also sells agricultural inputs like seeds, machetes and hews. This shop has been in Nante before 2004 and is still a well-stocked shop. The shop is owned by a (family) group operating also in Maganja da Costa and Namacura. The shop functions as a local sourcing station within a larger network of (family) traders. This shop receives credit from big wholesalers in Quelimane or Nampula on a 30 to 45 days repayment basis. The shop buys agricultural products like copra, beans, cashew and rice, and within the 30 days they try to have as much turnover as possible. However, rice is a bulky product and the Indian shop does not specialise in rice trading. The rice at the shop is bought only to sell again locally to the elite (teachers, medical staff, and administration) when rice becomes scares (December – April). It is an opportunistic trader that will buy and sell anything that has a market; this means that they source for big wholesaler who have a ready (inter)national market for the products.

The "Indian" trader shop is an example of a trading mode that has a high level of regional to national organisation, often receiving a capital loan from large national traders, which they are free to use in a restricted period of time. They operate similar to the larger ambulant traders but are not concentrated on rice. Probably because they service the big retailers and buyers, but there are no big processing facilities in Zambezia. They do buy rice but only on a small scale to sell for high profits on local markets when rice gets scares. These traders do demonstrate that there is a capacity to buy products in bulk, like they do with beans and cashew.

2.3.6 The processing unit

There are regionally three processing units in nante. One is of the 1st tier cooperative Muhde Mohne (MM) localised in Moneia, linked to the 2nd tier cooperative EOZ. Muhde Muhne retains one small diesel processing unit in Moneia, where the service of dehusking is given to individual farmers for 2 mtc/kg.

The second processing unit in Nante is now property of an individual that formerly ran the processing unit and transport to Quelimane for CAIMOC, a state organisation competing with the cooperative for the rice market but currently disassociated from the state and not functioning. He is now owner of both the mill as the truck. Like MM, he provides the services of milling rice for 2

mtc/kg, but is situated near the main market of Nante. He also runs transport of agricultural and passenger cargo between Nante, Maganja da Costa and Quelimane.

The last processing unit is in Maganja da Costa, run by a person from Mouloa now living in Maganja da Costa, who also owns a fixed shop in Nomuia. This mill was bought and constructed around 2008, at a period when the Muhde Mohne had problems with her manager and was not running well. At the same location of the mill, a bar and restaurant is run by the first manager of the Cooperative in Nante, expelled in 2006. Next to offering the service of dehusking for 2mtc/kg, also paddy is bought at the factory gate for 8 mtc/kg and rice is sourced at his shop in Nomuia. Apart from rice bought at his shop he does not actively source rice. One example was given that he does try to speculate with rice, buying when prices are low and hoping to sell (to Muhde Mohne) for a higher price, but not aiming at processing himself. The processing in Maganja da Costa is the main business with a capacity is around 1 ton/day. If he sells it is for the local market in Maganja da Costa.

The local dehusking facilities are small enterprises. Farmers only use them to dehusk 1 bag for their own consumption. At time traders come by to dehusk to a maximum of 2 tons. But it is peculiar that no price differentiation exist between the 3 local rice mills and that all three do not actively source for rice (although in the case of Muhde Mohne the large processing is done at EOZ).

2.3.7 The cooperative enterprise

The 2nd tier cooperative sourced for rice in Nante in 2009, but in 2010 no sourcing was done due to problems at the factory. Although a conflict arose between the 1st tier and the 2nd tier over who would manage the local sourcing operations, both institutions practice the same methods.

In 2009 EOZ placed different buying posts within the municipality of Nante, replacing the old buying posts of the 1st tier Muhde Mohne with their own staff and on new locations. The argumentation was that the all old buying posts were in on the corruption problems with the old 1st tier managers, and by replacing them more control could be enforced by the 2nd tier.

In 2009 they used 5 different posts placed in the house of a local farmer, often local elite that was chosen because they had some calculating capacity and a house that allowed for storing small quantities of rice. Prices paid at the buying posts were communicated via leaflets posted on several locations and the general communication through communities; in 2009 EOZ paid 6.5 mtc/kg. At these locations farmers could come and deliver any quantity they wanted, this ranged from several bags to 50 bags of 50kg each. Farmers organised the transportation to the buying posts themselves using local bicycle taxi service. In this year EOZ bought about 300 ton of rice of which a considerable part came from Nante.

2.4 What are the differences in prices at Municipality level per location and in time?

The data presented below result from bi-weekly measurements of prices at local markets. The data show price fluctuations over time and per location.

For imported products the two products presented here are cooking oil and sugar, as they are considered typical household products. The market sequence is ordered with the two big markets first (Maganja da Costa and Nante) followed by the more internal markets going from the north west of Nante to the south east (see Figure 2 for clear geographical location of these markets). Figure 5 demonstrates that for cooking oil the big markets of Maganja da Costa and Nante have in general lower prices than the more local markets. There is a slow increase in price over time but no big fluctuation or seasonal patterns can be seen.

With sugar, the same characteristics apply of cheaper prices in Nante and Maganja da Costa than elsewhere. But the steady increase in market price of sugar can be observed on the markets of Nante but not at the district capital of Maganja da Costa where prices dropped (see Figure 6).

In contrast, local agricultural products do not seem to follow the same trend. But, not surprisingly, rather respond to local abundance and scarcity situation. The prices demonstrated in Figure 7 are for (often manually) processed rice at the local markets of Nante in mtc/kg.

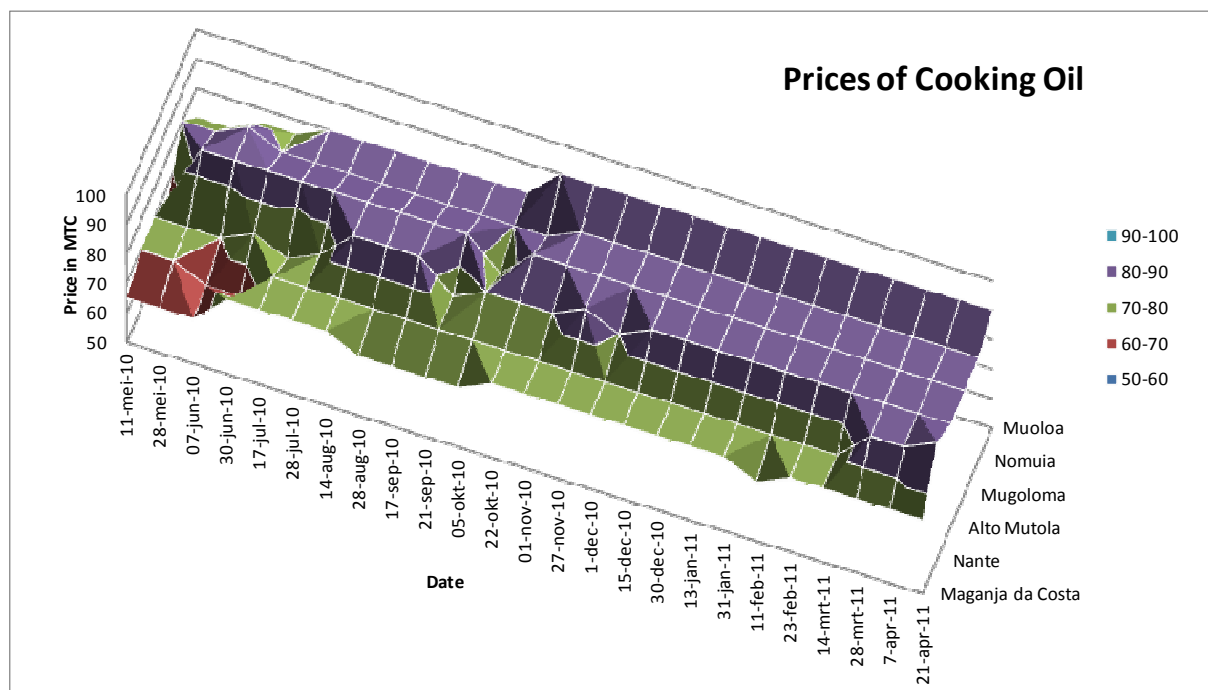


Figure 5, Prices of cooking oil in location and time

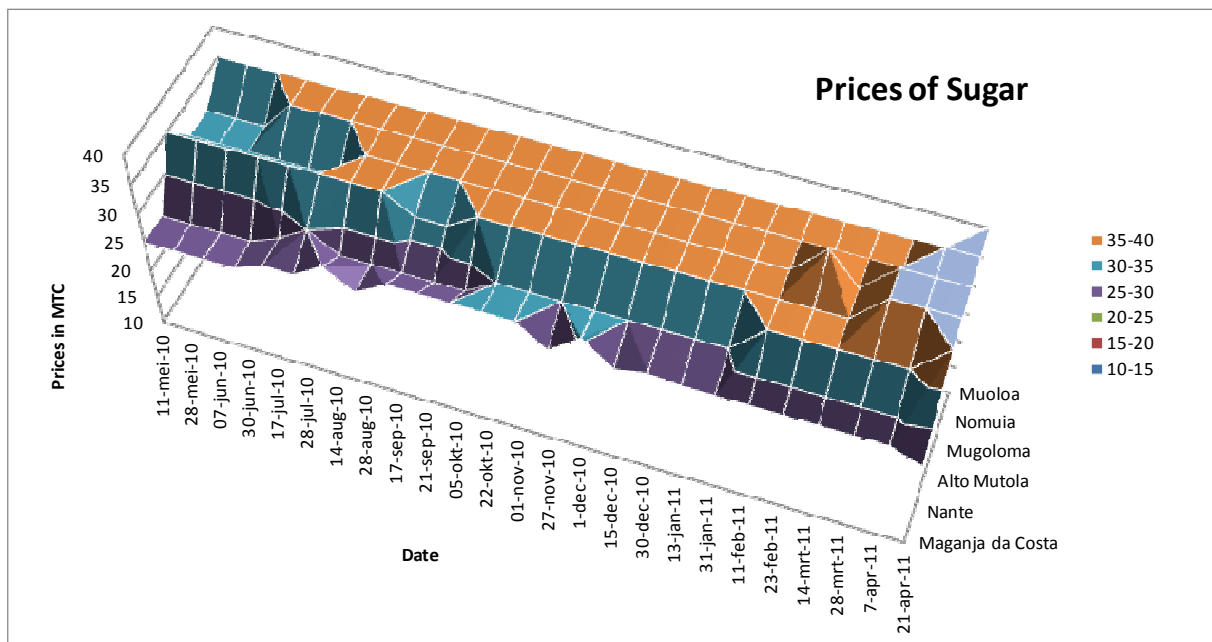


Figure 6, Prices of sugar per location and time

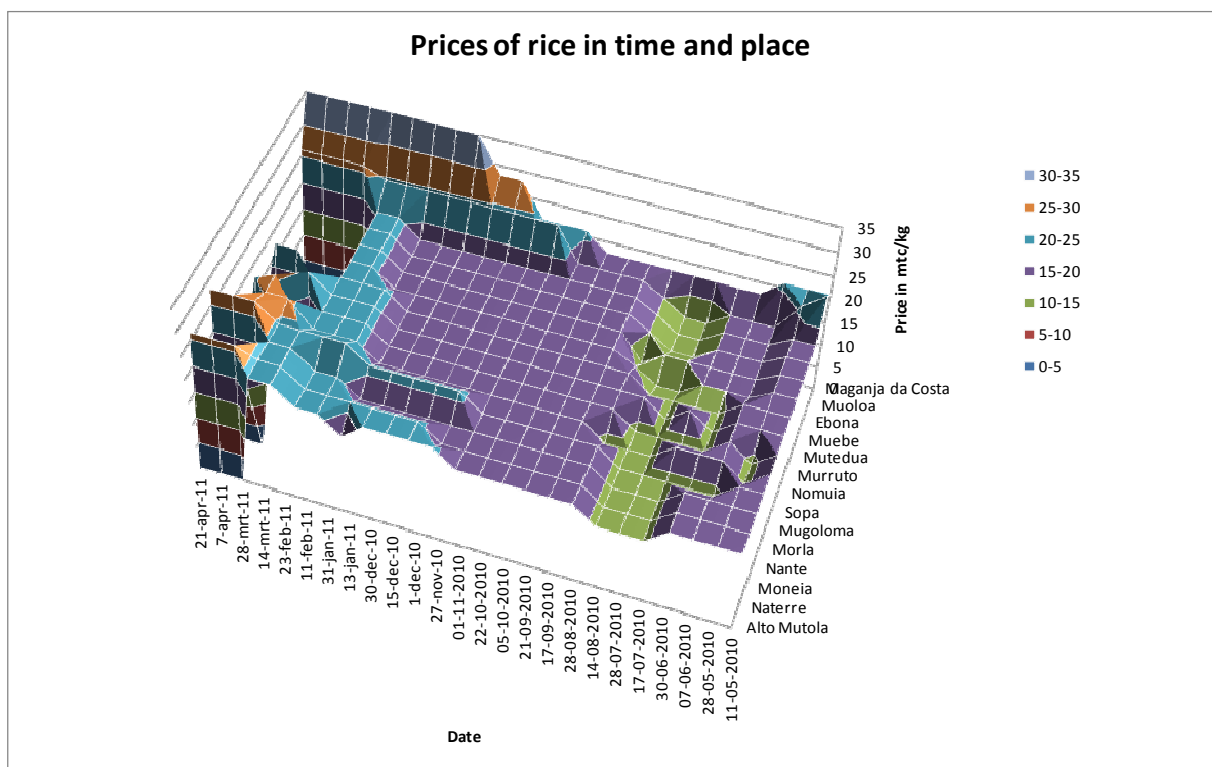


Figure 7, Prices of rice per location and time for the season of 2010/2011.

The period between May and August, coincides with the rice harvest period and the price clearly drop at that time. However, in an interview with a farmer the explanation was given that the initial drop in price was not because of to abundance of rice but initial scarcity of cash to pay labour for the harvest of the same rice. The first (and only) buyer in 2010 was SEMOC, the national seed

company, which started buying in October 2010 and only stayed for about one month. In the end it did not buy big quantities of rice. The rice price of rice had already stabilised, by the time that SEMOC started buying, and no clear effect was measured on the price asked at the local markets.

An interesting trend that can be seen is price fluctuation for the markets closest to the production centres. These markets are between Nante and Muoloa in Figure 7, and they hold a stable price for the longest period. These locations were also the first to stop selling rice at the local markets. By the end of the season only the big markets were still selling rice and at those locations there was a sharp increase in price. The most pronounced fluctuation can be seen in Maganja da Costa, but also the very isolated location of Muoloa demonstrates clear higher prices than the rest of the local markets.

A farmer explained that the normal price fluctuations in time as he had experienced it. The local rice would be at a price of 8,75 mtc/kg in May/June, going up in July/December to 10,5 mtc/kg and stabilising from January onwards on 17,5 mtc/kg before dropping again in the beginning of the harvest period. The farmer is from the area around Nante, but according to him, the fact that the price in November 2010 is already at 17,5 mtc/kg in Nante is a clear sign of the scarcity of rice that year due to the bad harvest, and he expected the prices to rise even more from January onwards up to 28 mtc/kg, pointing at Mouloa as a clear example where this is already happening. This prediction more or less came true, as price monitored until the end of April 2011 did go up to 26 mtc/kg by the end of April at the local markets.

3 Rice trade

3.1 What is the relation of the local markets to rice trade?

There seems to be a disconnection between local rice trade at markets in Nante and the rice trade in the province. Although links exist to outside markets, at a local level, prices fluctuate in accordance with local scarcity and abundance of rice and have a limited response to the buying procedures by outside traders. Even in a bad rice production year like 2010. This might be best explained by the small amount of rice that is being bought at the level of administrative area of Nante.

3.1.1 *Rice trade in Zambezia*

Mozambique has no export of rice, and the goal of the Mozambican government is to produce enough rice for import substitution. The target consumers of the rice trade are therefore Mozambicans. Local rice has to compete with imported rice for the market. In this sense trade is depended on how rice is appreciated by consumers in relation to quality and price.

There are four characteristics of quality for most local rice in the Zambezia that is mentioned by retailers and consumers. First, that it is mostly manually processed and therefore "brown" of colour because part of the bran still sticks to the grain, when used in a positive sense it is called "heavier" or better filling, and in a negative sense it is dirtier. Second, most rice in Zambezia is produced without any chemical inputs. Third, that the rice is not old, imported rice is claimed to take years before arriving at the Mozambican markets. And fourth, that the grain is often a broken grain and not a nice whole grain as with imported rice, which is a clear measure of quality for rice in all markets.

These four characteristics are interchangeably used and appreciated as positive or negative, according to the taste of the consumer. The different consumers interviewed during this period seemed to prefer Mozambican rice for its quality of not being old and that no chemicals are used in the production. But this might not have been a representative group as they were farmers and consumer met at the CAIMOC shop where only local rice is sold.

At the local market the traders mention that the local variety is preferred by their consumers (and themselves). It tastes better and is 'heavier' than imported rice. The traders at the market mention that it is mostly people from the city (rich) who buy imported rice, preferring the clean-looking white rice. The local rice is processed manually and looks darker than the imported rice. This is a contradiction as imported rice is cheaper than local rice at the markets in Quelimane but is preferred by the richer.

In one of the retail shops in Quelimane all rice is imported. Bigger bags are imported from Pakistan, Thailand and China. China sells the smaller grains. The smaller bags are often specialities like Basmati or Thai jasmine rice. The store refers to Basmati rice as the best quality. Normal rice is sold more. According to the manager local rice is not of good quality as it is not clean; not white but gummy. And if it had to compete with imported rice at least it should be cheaper to compensate for its lack in quality.

3.1.2 *Local markets in relation to trade characteristics*

For the local markets in Nante, individuals seem to source with farmers through communication methods at the local (larger) markets. In this sense there is a direct link although sporadic. These

traders however buy relative small quantities. The bigger organised buyers come for a week and together take about 1 to 2 tons. This will not cover the rice available in Nante, for example only within the irrigation systems of Nante, together 600 ha, 600 tons of rice a produced minimally, of which 300 tons will need a market. Although 2010/2011 was a low production year outside the irrigation system, the individuals within the irrigation system will probably sell part of their surplus to ambulant buyers.

There are no high capacity processing units in Zambezia to process the potential rice production. There are a few small processing units, like the one in Maganja da Costa, in Nante (ex-CAIMOC) and in Quelimane, but they do not seem to actively source for rice but rather offer the service of processing to smaller buyers. EOZ is one of the few bigger buyers but has no working factory in 2011. SEMOC is a seed company and the off take does not enter the local market or function as import substitution. The weak processing capacity is reflected in the few big buyers that do penetrate the area of Nante and is in contrast to big buying processes with similar characteristics that do take place around product like cashew and copra.

The role of a cooperative like EOZ as a big processor can have a large impact in the development of the rice market. EOZ is often mentioned by the farmers as the only buyer in the area, or at least the only buyer which buys large quantities without many quality demands. Below the table represents the different buyers over the period of 2009/2010 in relation to market prices.

Table 2, Prices in Quelimane in 2009/

Traders	Price		
	Paddy Farm gate (MZN /kg)	Local rice Retail (MZN /bag)	Import rice Retail (MZN /bag)
SEMOC	7.5-12	-	-
MADAL	8.5	-	-
CAIMOC	7	750	-
EOZ	6.5	650	-
Local market Nante*	8 (17,5)*	300 - 600	
Wholesale	-	-	460-520
Local market Que	-	450 - 650	450-525

2010 (source: field work)

* Between brackets is the price paid for processed rice by local buyers at local markets as compared to paddy bought by traders, and the local retail price is a calculated price per bag for comparison but rice is never sold per bag at local markets in Nante.

4 Conclusion

The myriad of ways in which farmers interact with the local and regional rice markets demonstrates that different modes of trading occur in the area of Nante. Table 3 compares the different actors engaged in trading activities presented in this report. There is a large variety of traders within an area of Nante and the most important focal points of this trade are around the communication network function of the local markets. Apart from this type of organisation, farmers did not organise their own selling of rice (e.g. options such as jointly hiring a truck and sell at regional markets) apart from trials in establishing a farmer cooperative.

Table 3, Comparison of different actors in the rice trade of Nante

	Local or external	Volume	Type of buying method	Price Setting	Continuity	Transport	Type of year	Scope of action
Local Farmer	Local	Cups	Sporadic	Fixed price	Always present	Bicycle	-	Local
Local small trader	Local	Up to 6 bags	Fixed shop	Fixed price	Always present	Bicycle and bus	-	Regional
Small ambulant trader	Regional	1-2 bags	Through local contacts	Negotiated	Ad hoc	Bicycle and bus	Appear more frequent in bad years	Regional
Large external trader	Province	1-2 tons	Through the local large markets	Negotiated	Ad hoc	Small truck	Appear more frequent in bad years	Province
Indian trader shop	Province	Several bags	Fixed shop	Fixed price	Always present	Small truck	-	Local
Processing units	Regional	-	Fixed locations	-	Always present	-	-	Local
EOZ/cooperatives	Province	300-2000 tons	Several fixed buying posts	Set by the cooperative members	Always present	Big truck	-	Province

The 2-tier cooperative model of EOZ works from the assumption of a market vacuum, which necessitates the rice cooperative. The examples discussed in this paper demonstrate that although the rice market does not provide large volumes it is far from a vacuum. Comparing the different modes of trading with the functioning of the cooperative suggests that the cooperative models uses methods for sourcing similar to those of other traders. No new institutions were created but an emulation of existing practices was used. What was new is the capacity to buy large quantities at a local level.

However, rice is one of the major production crops in the area of Nante and there is a big demand for buyers and for an active market for their products. Mozambican consumers seem to prefer the local rice over imported rice which points a comparative advantage that might compensate is large local sourcing costs. What an intervention like the farmer rice cooperative EOZ will mean for the local market is that they will be the first big buyers of rice in the Zambezia province with a large processing capacity. EOZ will have to make an extra effort to bring across the types of rules and commitments linked to a cooperative model as farmers still mainly treat them as just another buyer as their method of operation were not distinct from other actors engaged in trading.