

'Going Local'

The case of Minimex

A report on how Minimex can source from small scale farmers in Rwanda



AGRI-PROFOCUS

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Frontpage picture: A women from Nyamig winnowing maize to be sold to WFP.

1. Introduction

Global demand for food on the rise

Developments into the new millennium call for a need to invest in small scale agriculture and for companies to source locally. By 2050, 9 billion mouths need to be fed. This will require an increase in agricultural productivity by an estimated 70 percent (FAO, 2009).¹ In order to meet this challenge, the estimated 500 million smallholders² present an interesting opportunity to diversify the supply base of companies and increase corporate value. Due to the growing demand for sustainability and consumer's interest in the products' origin, companies are required to adopt socially responsible procurement policies. The private sector now explores opportunities to tap into this new pool of potential suppliers accounting for 80% of a typical developing country's population. 'Companies that incorporate smallholder equitably into their supply chains – and communicate their actions through their brands – can capture new customers and build loyalty from existing ones (Oxfam, 2010)'. Up to date, companies sourcing pro-poor have concentrated on medium-scale, highly organised farmers to include in their supply chains. This top layer of farmers is no longer sufficient to ensure future supply and at odds with companies' ambition to source 'pro-poor'. Innovative ways need to be found to include the other 500 million fragmented, poorly organised farmers. The case of local sourcing of maize in Rwanda presents an interesting case on how small scale farmers can be linked to the market and how a company can ensure reliable local supply.

Going local: the case of Minimex

In line with Rwandan Government policies and Heineken's Corporate Social Responsibility (CSR) strategy to procure 60% locally, Rwanda's largest company Bralirwa³ is looking for ways to include small scale farmers in their supply chain. Bralirwa takes an interest in a constant, high quality supply of maize grit. Minimex milling company is the preferred supplier of maize grit to Bralirwa breweries in Giyensi. Minimex' processing plant runs at low capacity and has a keen interest in getting volume in. Minimex prefers to buy locally because of both cost (transportation) and quality concerns (imported maize from Uganda and Tanzania is perceived as low quality⁴ maize). However, Minimex struggles to get volumes of Rwandan maize from the local market. Minimex tried to source directly from small scale holders in the past but this effort failed as smallholders defaulted on their agreement. To overcome supply constraint of good quality maize Minimex has invested in two ventures. Firstly, Minimex invested in ProDev to install a professional drying facility, strategically located in Rwamagana, 45 minutes east of Kigali. Secondly, Minimex and Bralirwa, supported by a € 500,000 (60%) loan from PSOM/PSI, started a jointed venture BraMin to run a

Facts and figures

- ❖ Last season the government promised to buy 7,000 tonnes at Rwf150/kg (30Rwf above then prevailing market price in June)
- ❖ The prisons service has a 5,000 tonnes demand
- ❖ Minimex has an estimated 5,000Mt demand for 2011
- ❖ Minimex can grinds 144 tonnes/day, its capacity to mill 75% of the country's produce is being underutilized (+/- 14%)
- ❖ Under P4P, WFP plans to procure 38,000 tonnes of maize and beans locally over 5 years. In 2011, WFP plans to buy 8.000Mt locally.

¹ The economic meltdown, climate change and the food crises revealed the vital role of the food producing sector in developing countries and added to the sense of urgency to invest in this sector.

² Defined as farmers operating on less than 2 hectares of cropland (World Bank, 2003).

³ Heineken holds 70% of Bralirwa's shares.

⁴ A major concern with small scale holder procurement is quality, notably moisture content. Not only does undried maize loose 17% of its weight it is costly for Minimex to dry it themselves leading them to pay a price differential of 80Rwf per kg for dried maize. To improve post-harvest handling the government plans to extend electricity to the newly built drying stations with the capacity for 90,000 tons.

commercial farm. BraMin aspires to develop an outgrowers' scheme in the future. The commercial farm provides Minimex with a steady supply, but this is not enough to meet demand. Minimex may be willing to adopt new procurement options with cooperatives if this provides reliable and high-quality supply. See Annex 1 for a picture of the supply chain of maize grit to Bralirwa.

Study objective and outline

The study objective is to see if Minimex sourcing locally from agri-business clusters holds a business case or not. This study is performed by Agri-ProFocus in an effort to facilitate market linkages for farmer cooperatives and support the private sector in ensuring supply. The core business of Agri-ProFocus is to stimulate cooperation and exchange between actors in the agricultural sector in a joint effort to promote farmer entrepreneurship. This report tells the story of how a processing company supplying Bralirwa can possibly include Rwandan maize producers in its supply chain. Chapter 2 gives an overview of the maize sector in Rwanda. Chapter 3 explains the dynamics of a warehouse receipt system, offering a way for companies to source from cooperatives directly in a secured and formalised manner. Chapter 4 goes on to provide an overview of the demand for maize in the country, by highlighting the main buyers. Chapter 5 elaborates on the supply side, identifying organised farmer groups that could potentially supply to Minimex. Chapter 6 shows relevant supporters of the maize value chain. Chapter 7 concludes whether there is a business case.

2. The maize sector in Rwanda⁵

Unravelling the Rwandan Maize sector

Agriculture accounts for 40 percent of the total gross domestic product (GDP), with 90% of the population living in rural areas (MINECOFIN 2002 in Resakss, 2010).⁶ The government of Rwanda committed itself to invest in agriculture as part of the Economic Development and Poverty Reduction Strategy (EDPRS), its CAADP compact agreement⁷ and its Strategic Plan for Agricultural



Figure 1: Maize production in Muhange district

Transformation (currently in phase II of its implementation).⁸ The government has been strongly promoting the sector's productivity by land consolidation policies and prioritizing certain high potential crops. Agricultural growth will need to come from a staples and livestock-led strategy, as these have the greatest growth and poverty reducing effects. 'Cereals, especially rice and maize, are among the high priorities for the government; accordingly, they have very high growth

⁵ The following three chapters by no means aim to provide an exhaustive overview of the maize sector in Rwanda, but solely address the players that are of interest for this study.

⁶ 71% of Rwanda's households (of which 1/3 are female-headed) own even less than 1 hectare (EICV 2001 in ReSAKSS, 2008). Together they produce 47% of the country's maize produce (idem).

⁷ The Comprehensive African Agricultural Development Programme (CAADP) is an African Union-led effort to boost agriculture in African countries (Agri-ProFocus, 2010). The CAADP process Rwanda, as the first signatory, is taking the lead. For more information click [here](#) for a desk review by Agri-ProFocus.

⁸ Under CAADP the government committed itself to raise agricultural productivity by at least 6% per year and increase public investment in agriculture to 10% of its national budget. A recent [study](#) performed by Resakss shows that Rwanda has the potential of reaching its 6 percent agricultural growth target, but more is needed. To maintain the current growth rate, the country will need to increase the budget share (currently below target) allocated to agriculture to 17.6% per year.

targets. If such growth targets were reached, cereals would become the most important source of income growth for many rural households, especially for those with the smallest landholding. Growth in cereals would also help the country to reduce its dependence on imports (Resakss, 2010).⁹ Notably maize-led growth has great poverty reduction potential.⁹ Planned growth of the maize sector between 2005-2015 is 8%. At the moment, 30% of the country's national consumption of maize is still being imported, mainly from Uganda.

Quantity

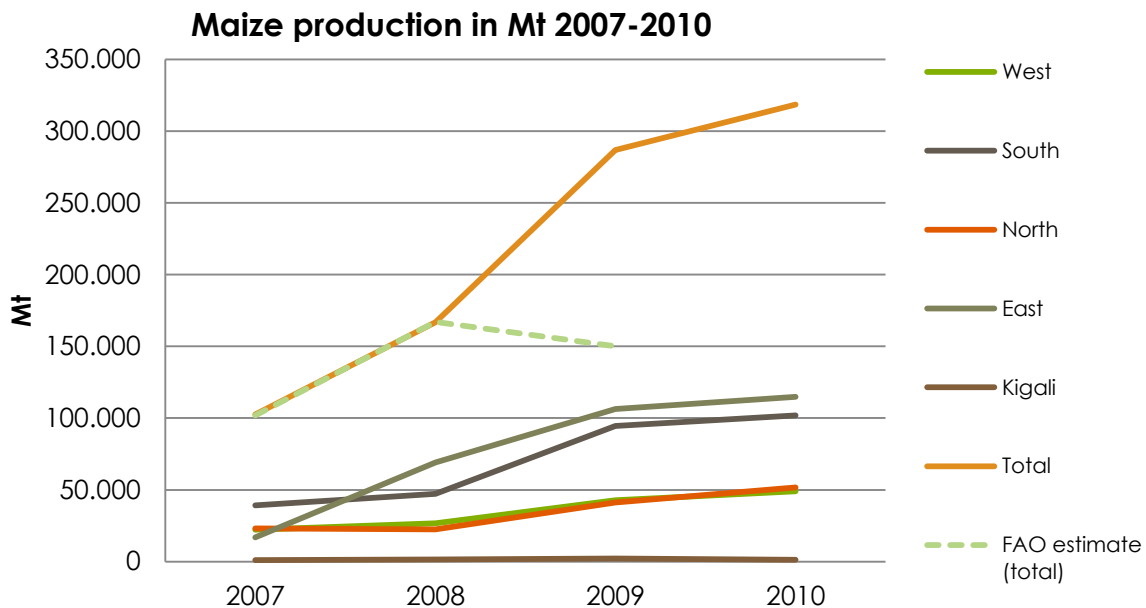


Figure 2: stack of stored maize bags

The National Institute of Statistics reports that with last year's bumper harvest the country produced 318,000Mt of maize, although this figure might be a bit inflated.¹⁰ By any means, the last three years the agriculture sector has shown remarkable growth. According to figure 3 maize production has tripled since 2007. Notably, Eastern Province has shown remarkable increase

in maize productivity. Where only three years ago it had the lowest maize production rates, it now comes out on top. The average yields in the country are 4 Mt/Ha, which still leaves room for further improvement (USAID, 2009).¹¹

Figure 3: Maize production (Mt) in Rwanda 2007-2010



Source : National Institute of Statistics Rwanda (NISR)¹² and FAO (2010)

⁹ Only bean-led and pyrethrum-led growth have higher poverty reduction potential (-2.37%) within the growth model simulations.

¹⁰ WFP, Minimex and MinAgri purchases combined totals only 17,600Mt. However, FAO Stats are generally in tandem with National Institute of Statistics figures albeit slightly lower.

¹¹ According to FAO data the yields have remained stagnant at 0.8Mt/Ha over the past ten years.

¹² The figure for 2010 only includes the season A harvest.

Quality

While generally of better quality than cheaper Ugandan imports, the quality of Rwandan small scale maize still lacks the quality required by the processing industry. Two major concerns are moisture content and foreign matter. For processing purposes the moisture content of maize needs to be below 13.5%. Because of its humid climate Rwandan maize is characterized by high moisture content. For processing purposes the maize should also contain no more than 1.5%¹³ of foreign matter. Foreign matter constitutes any animal, mineral or plant



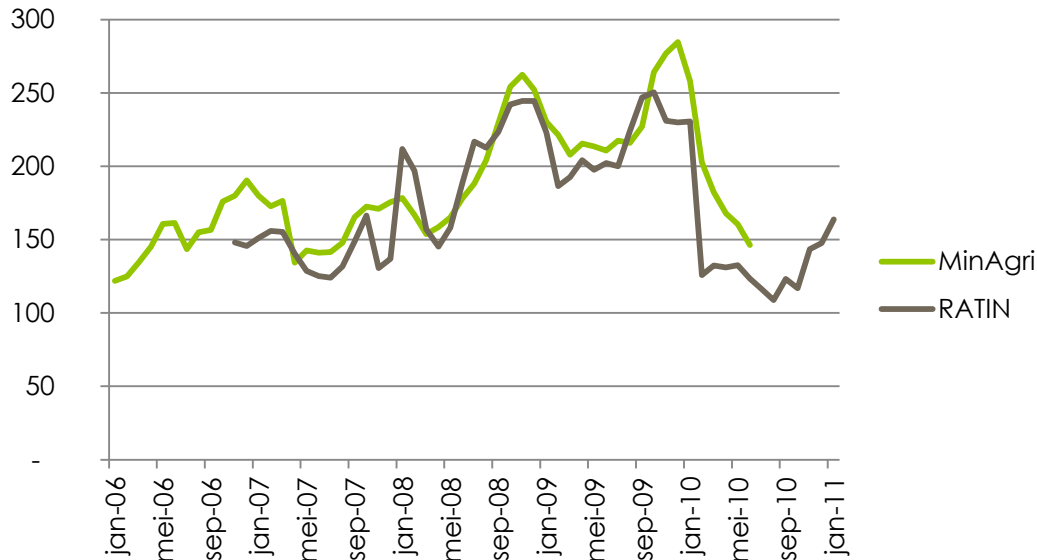
Figure 4: sorting maize grains

matter or grain other than maize, which will not pass through a 4.5 mm sieve. Foreign matter like small stones can be destructive for the machines millers use. A World Food Programme quality expert observed that this parameter was the single biggest concern with Rwandan small scale maize. Another factor crippling the sector is post-harvest losses, accounting for up to 40% of production (personal communication USAID, 2010). For this reason USAID set up a Post-Harvest Handling and Storage Project (PHHS).

Price

Figure 5 shows the trend in market prices. Since 2006, prices have gradually increased in spite of the overall increase in production, except for the price drop in the beginning of 2010. In general, there is a growing and sustained demand for maize. As the maize market is in development and dynamic, prices fluctuate according to time and locality.¹⁴ The general trend is that prices tend to hike between November and December and hit the bottom of the market between April and June, whereafter the price starts to gradually increase until harvest in January. To control for price fluctuations the government fixed the floor price at 120Rwf last year.

Figure 5: Maize market prices 2006-2011 (Rwf/kg), data provided by MinAgri and RATIN



Source : MinAgri, 2010 and RATIN, 2011¹⁵

¹³ The East African Community standards even only allows for 0.5% of foreign matter for Grade 1 maize. For more information on the other EAC specifications click [here](#) for the Kenya Maize Handbook 2010.

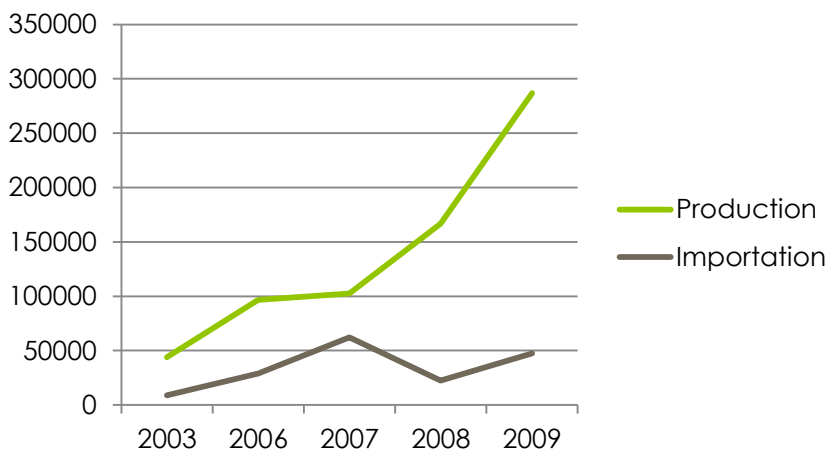
¹⁴ The main market for maize in Kigali is Nyabugogo. There is a surprisingly big price differential (115 Rwf/kg on 14 December 2010) between different markets in Kigali. This indicates market inefficiencies.

¹⁵ RATIN (Regional) prices are based on Kigali and Ruhengeri market prices.

Regional competition

The biggest challenge for the Rwandan maize sector is its regional competitiveness. More so now the East African Community decided to establish a common market. Currently, Rwandan farmers cannot compete with their Ugandan counterparts as production costs are high, albeit relatively decreasing.¹⁶ As Rwandan and Ugandan harvesting seasons only partly overlap there is a period in which Rwandan maize is competitive with its Ugandan neighbour (May-Jul and Jan/Febr).¹⁷ Tanzania is another competitor in the regional market, which Rwandan farmers are competing against. Last year the government of Tanzania decided to put an export ban in place as there was not enough food circulating in the national market. Yet a bumper harvest next season would directly affect the Rwandan maize market. The Burundi maize market seems to be on the fringe of net-exporter and neither a threat nor an opportunity to Rwandan maize producers. Congo is a good market for them, as Rwandan maize is competitive in the markets of Goma and Bukavu and prices offered to Rwandan traders are generally high. In sum, the maize sector will mostly be confined to the borders and serve the national and Congo market. Figure 6 below shows the imports' shares of national consumption. In recent years import has grown as a result of the rapid growth in the livestock and poultry sector¹⁸. However, the growth of imports is off-set by an even bigger growth of national production suggesting increased competitiveness of Rwandan maize. Overall, the maize sector is a growing market offering ample potential for local sourcing from Rwandan companies.

Figure 6: National production vs. importation of maize (Mt)



Source : National Institute of Statistics Rwanda ([NISR](#)) and the National Bank of Rwanda in USAID, 2009 and Resakss, 2010.

¹⁶ The production costs are estimated to be around 97 RwF (personal communication MinAgri, USAID).

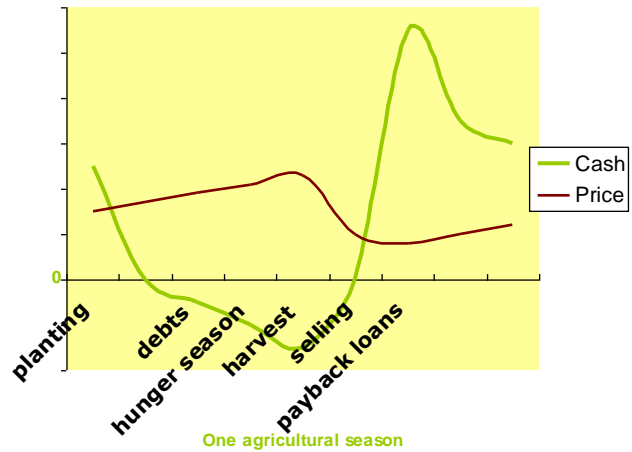
¹⁷ [Annex 2](#) shows the seasonal crop calendars of Uganda and Tanzania.

¹⁸ This is an interesting market trend as Minimex plans to fortify its by-product to be sold as animal feed.

3. Introducing a Warehouse Receipt System in Rwanda

A potential solution to some of the woes in the maize sector in Rwanda is a warehouse receipt system, enhancing quality and market efficiency. At the heart of the warehouse receipt system is the need for cash right after harvest which characterizes a small-scale farmer situation. This immediate cash need pushes farmers to sell at rock-bottom prices and buy back maize later during the season when prices hike as the market turns from a saturated into a scarce one (see figure 7). The warehouse receipt system bridges this finance gap by paying the farmer (a percentage) right after harvest but selling at a later point in time. Coulter and Onumah (2003 in Bayer, 2009) define warehouse receipts as 'documents issued by warehouse operators as evidence that specified commodities of stated quantity and quality, have been deposited at particular locations by named depositors'. The farmer deposits his maize in a certified shed and after it is being checked for quality he receives a receipt stating quantity and quality. With this receipt he goes to the local bank or a Microfinance institution and receives a loan (usually 60% of the prevailing market value, against a 2-12% monthly interest rate) using his produce as collateral. While the financial institution now has a claim over it, the depositor remains owner of the produce.¹⁹ When the price rises during the season and the depositor decides to sell his produce to an interested buyer, the receipt is returned to the warehouse manager and the commodity is released. After the financial institution deducts its interest rate and the warehouse operator his storage fee, the remaining sum of money can be collected by the farmer at the financial institution.²⁰ All financial flows are channelled through the financial institution as to prevent the risk of theft or disputes between depositor and warehouse operator. Figure 8 shows the operation of a warehouse receipt system

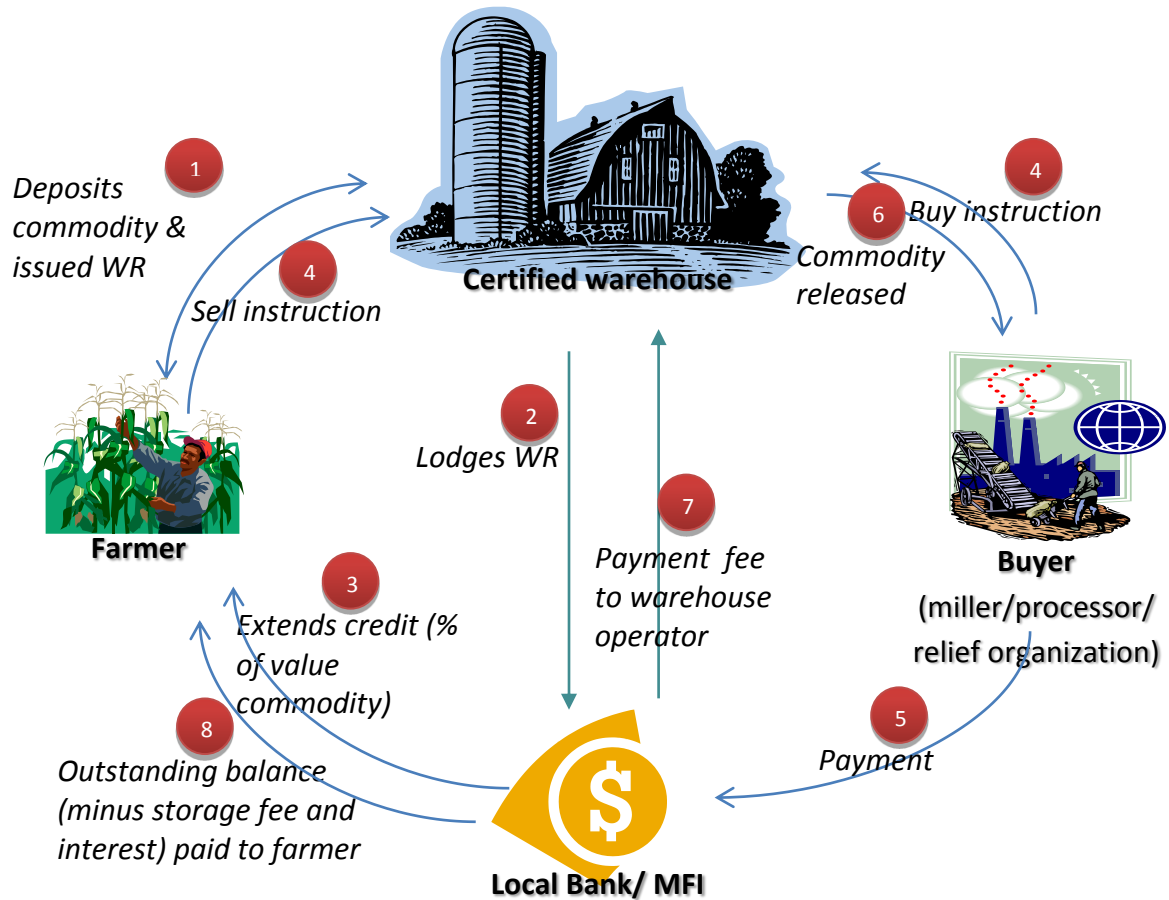
Figure 7: Typical cash flow of small-scale farmer



¹⁹ There are negotiable and non-negotiable warehouse receipts. Negotiable receipts can be transferred to a different owner (usually linked to national or international market exchange), but in the African context non-negotiable receipts are more common. Hence, the depositor always remains the owner of the stored commodity.

²⁰ In the future mobile banking can make this transaction easier and more secure.

Figure 8: A warehouse receipt system²¹



The Nyamig experience

In Nyagatere, the northern tip of Eastern province, a warrantage system has been developed. Warrantage is a simple form of WRS, but essentially the same. This warrantage system is run by the farmer's organisation 'Nyagatere maize investment group' (Nyamig) Ltd. (a commercial offshoot from the Maize Innovation Platform). This group build a simple shed for maize storage.

Since April farmers have deposited their maize



Figure 9: The community shed is double lock. On the left the MFI representative and on the right the farmer representative

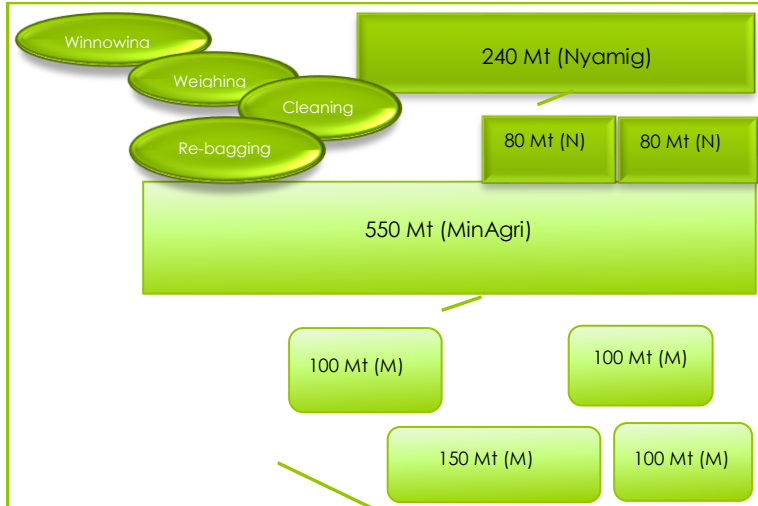
It's a better deal because those merchants came before because they know people here are needing money, and buy at a lower price because we don't have any other means of getting money. That's why this activity of warrantage is good for us as farmers.

- Djamile, member of Nyamig -

²¹ The warehouse receipt system can be directly linked to a national market exchange on which the commodities stored in the warehouses are exposed to all buyers in the market. Examples of warehouse receipt systems linked to the national market exchange are Ethiopia, Zambia, Malawi, Zimbabwe?, Uganda?, Kenia?

commodity can be released. Apart from the community shed they use [GrainPro](#) vacuum cocoons. Figure 10 shows a plan of Nyamig’s main site share with the Food Reserve set-up by the Ministry of Agriculture (MinAgri). Together with RDO the farmers calculated all their production costs to see what price they needed to sell at to recover costs and make a small profit. The anticipated market price was set at 120 Rwf/kg, the same as the bottom price set by

Figure 10: Nyamig main storage site (together with MinAgri Food Reserve)



government. Using the stored maize as collateral MFI Duterimbere (financially backed by Banque populaire) extended a loan to the farmers, totalling 60% of expected selling price of their stored commodity (=72Rwf/kg) against a 2% monthly interest rate. WFP showed interested to buy the stored commodity and included Nyamig in a soft tender (a tender amongst a selected group of preferred suppliers).

Figure 11: Warrantage costs

Costs	Rwf/kg
Preperation	4
Interest ²²	8.64
Storekeeper	0.75
Security	0.5
Insurance	1
re-bagging	2
loading	1
other (internal transport)	0.5
	18.39

Now the farmers had to decide at which price they were willing to sell at. Their bid of 139 Rwf/kg proved to be competitive

Figure 12: Price paid to farmer

Price sold	139
Warrantage costs	18.39
Price paid to farmer	120.61
Anticipated price	120
extra profit	0.61

over other cooperatives included in the tender (142 Rwf/kg and 146Rwf/kg). In December 2010 WFP bought 1000 Mt of maize from the Nyagatere maize group. The group still has maize left in store and need to sell it before the newly harvested maize enters the market.

Click here for a [video](#) on the warrantage system by Research Into Use, a supporter of the warrantage system in Nyagatere.

²² Interest for six months storage=120*0.6*0.02*6

4. Buyers

World Food Programme (WFP)

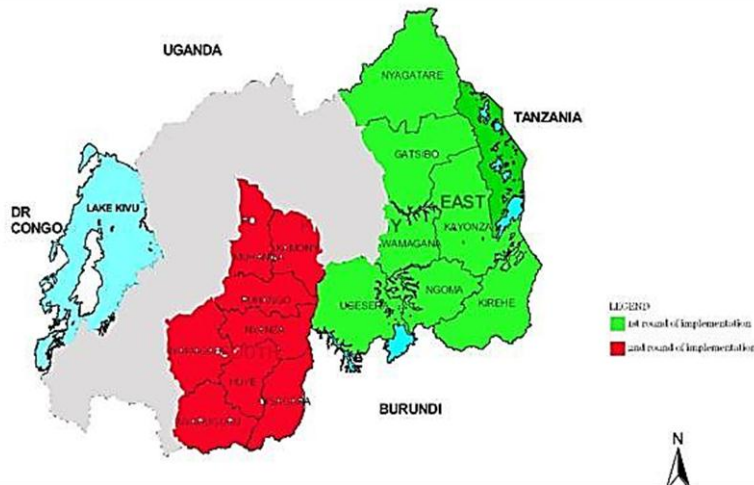
In 2009, WFP started their 'Purchase for Progress' programme in Rwanda. The aim of the programme is to develop modalities for WFP to source locally and link small scale farmers to the market. By utilizing its large food purchasing footprint WFP wants to catalyse development in the maize- and bean market in Rwanda. Because WFP is an atypical market player, they decided to buy only 50% of the maize of cooperatives, to ensure sustainable market linkages and avoid dependency. P4P consists of three purchasing modalities: Direct purchasing from



Figure 13: WFP P4P purchases in Nyagatare

cooperatives²³, soft tendering²⁴ between traders, and forward contracts with national farmers union. Over a five-year period, WFP plans to buy 38,000 Mt under P4P. In 2010, they bought 5,000Mt of maize grains²⁵ and plan to buy 8,000Mt the coming year. WFP also has a keen interest in buying bean locally. P4P is initially enrolled in Eastern Province and will be extended to Southern Province in the second phase (see figure below). For more information read the [fact sheet](#) or contact the [P4P coordinator](#).

Figure 14: P4P Implementation areas



Minimex

Minimex is the largest modern mill factory in Rwanda, stationed just outside Kigali. Minimex currently processes maize grains into maize grit, but plans to mill more refined maize meal in 2011 to serve a larger market (possibly WFP). Minimex is the sole supplier²⁶ to Bralirwa, the large beverage company. In addition,



Figure 15: the Minimex milling factory

²³ Cooperatives are selected based on formal registration, % of women participating, bank account, and registration year (minimal of one year ago). 36 cooperatives have been identified.

²⁴ WFP adds approximately a quality premium of 10-15Rwf on top of the prevailing market price. To discover the prevailing market price WFP contacts info-persons, sends someone to check current prices at the market, and consults the regional procurement office in Kampala, and EAGC's [RATIN](#) (Regional Agricultural Trade Intelligence Network) for regional prices.

²⁵ At the moment WFP Rwanda only buys maize grains. Possibly WFP could also start buying maize meal in the future depending on the preferences of the beneficiaries at the refugee camps.

²⁶ Minimex sells the end product (maize grit) for +/- 270 Rwf depending on grain prices.

Minimex sells its by-product (30% of production²⁷) as animal feed. The milling plant has the capacity to process 144Mt/day and 45,000Mt/ year. Due to input constraints the mill only ran at 14% of its capacity last year. Minimex decided to offer 10Rwf above spot market price if supplied directly to the factory just outside Kigali. As traders and other sellers are either not aware or interested in this arrangement Minimex still encounters supply constraints and looks for a more structured way in which it can ensure quality supply. Apart from insufficient volume going into the mill the quality remains a challenge, namely high moisture content. The maize that Minimex has been receiving has been characterized by high moisture content (>20%) unfit for processing. The high moisture content not only leads to extra work and costs to dry it, 10% of the maize paid for 'evaporates'. Another concern for the company are price fluctuations and an unpredictable maize market. While the mill's demand is constant year-round, the supply of maize heavily fluctuates according to the maize harvests and other external factors. This makes price prediction and costs prognoses unreliable. Two possible solutions to cope with market fluctuations are a warehouse receipt system as the [previous chapter](#) explained, or forward contracting (a contract between buyer and seller to sell/buy at a specified future time at a price agreed today). Warehousing could ensure a constant supply year-round, and forward contracting with a predetermined price band could make prices more predictable for both seller and buyer. Meanwhile Minimex decided, together with Bralirwa, to start a commercial farm (BraMin) to ensure supply and build a professional drying facility (ProDev) to decrease the moisture content.

BRAMIN COMMERCIAL FARM



Figure 16: the cleared ground

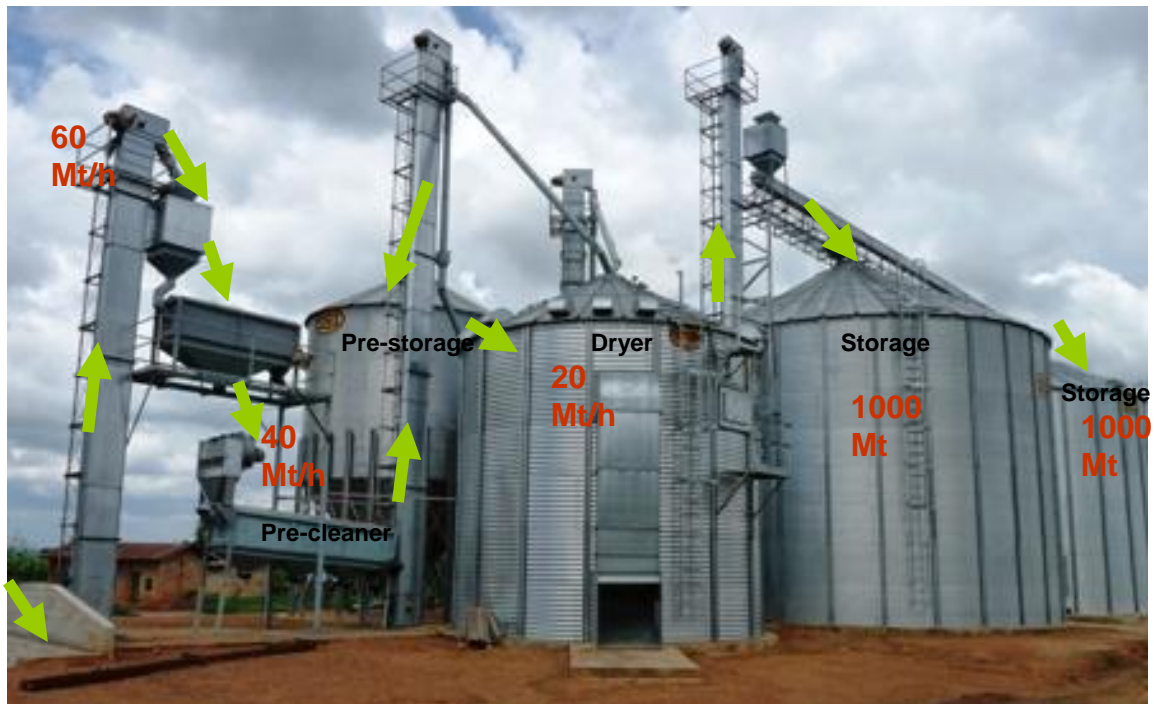
The government allocated 600 hectares of idle land (dry grazing area at lake Rwegi Kigeri) in Eastern Rwanda to BraMin to start a commercial maize/soya farm (200 ha cultivated initially). BraMin is a joint venture between Bralirwa and Minimex, in practice the farm is being managed by Felicien Mutalikanwa (Director Minimex). He is looking for a farm manager who can train a local agronomist in running a commercial farm. The farm is to supply to the Minimex mill in Kigali (via the ProDev drying facility). BraMin also has the ambition to start an outgrowers scheme and lease machines to communities surrounding the farm. BraMin wants to promote irrigation, hybrid maize, crop rotation, post-harvest handling and mechanization for surrounding small and medium scale farmers in Kayanza district. The farm will also provide market for them for onward supply to Minimex.

PRODEV

ProDev is a drying company set up by the director of Minimex. The drying and storage facility (see figure 17) is strategically located in Rwamagana, 45 minutes east of Kigali, along the main road and is planned to become operational in February 2011. The facility has a drying capacity of 20Mt/hr, and a storage capacity of 2000Mt (4 more 1000Mt silos are planned). ProDev also plans to build a warehouse to store maize bags. Logistically, it is preferred if the maize comes in bulk instead of bags. The costs of both drying and storage will approximately be 20 Rwf/kg. Sellers then bring their maize to this site and can decide to either sell it to Minimex or dry it at the drying fee (20 Rwf/kg) and sell it themselves.

²⁷ Minimex currently sells its protein-rich by-product at 60 Rwf/kg. The mill plans to mix the by-product with cotton-cake, premis and soya to sell it as fortified animal feed at 180 rwf/kg (Kigali market price=210 Rwf/kg).

Figure 17: ProDev drying and storage facility in Rwamagana



Maiserie Mukamira

Maiserie Mukimira is the second largest miller in Rwanda, with a capacity to mill 10.000 tonnes per year. The mill is stationed in the Northern Province, in Nyabihu district. The end product is both maize meal and maize oil. Last season Mukamira bought 1,500 Tonnes of maize at 150Rwf. They source their maize from all over the country and also import maize from Uganda. Mukamira participates in the Agri-ProFocus network.

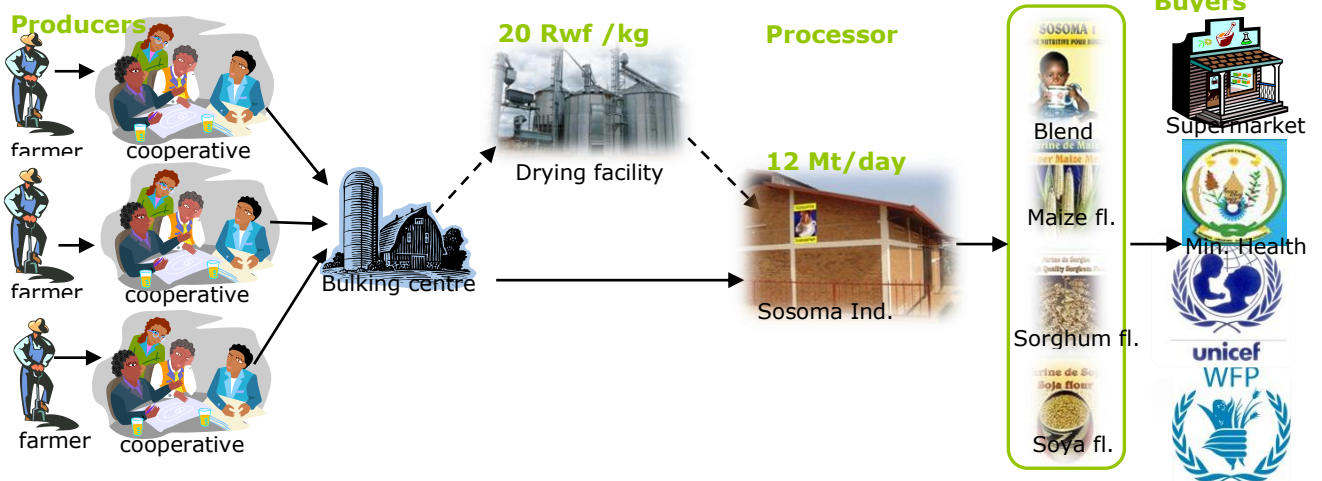
Sosoma Industries

Sosoma Industries buys maize grains from different part of the country and processes it into maize-, sorghum- and soya flour and Sosoma (Soya Sorghum Maize) blend. Sosoma secured a good market and their products can be found in local supermarkets all over Kigali. Sosoma has a processing capacity of 12Mt/day and a storage capacity of 500Mt. The problem they face is high moisture content. USAID intends to provide drying machines, but drying at the ProDev milling facility should also be looked into (see figure below).



Figure 18: Sosoma industries Kigali

Figure 19: value chain Sosoma



RADA

The Rwanda Agricultural Development Agency (RADA) buys maize seed from cooperatives which operate as 'multiplicateurs' on the basis of a one-year contract. RADA provides both seeds and inputs. Last year RADA paid 400 Rwf/kg for the seeds. RADA is a non-commercial market player as they buy on behalf of the government. While probably not sustainable in the long-term, RADA offers a good market for the cooperatives that they have contracted.

Ese Enas Nkubili Alfred

Enas is a trader, operating in Eastern Province. Together with USAID and WFP this trader set up the ENAS project. This project identified 37 aggregation centres, 4-8 of which USAID works with, each selling 200-500Mt of maize.

COAMV

This trader operates in Northern Province, Musanze district, and bought approximately 5,000 Mt of maize last year (USAID, 2010). The maize is sold to prisons, schools and other local buyers. COAMV partnered with [USAID](#)'s PHS project.

5. Sellers

The agri-business clusters involved in the APF network

Within Agri-ProFocus 15 agri-business clusters are active, of which 4 are maize clusters. The following table shows who is leading the business clusters, the number of farmers involved and their current markets. All agri-business clusters have secured a good market, although this may change in the future, and received a better price for their maize than the Kigali spot market price. For that reason, there seems to be no business case in any of the agri-business clusters supplying Minimex.

Figure 20: The four APF maize agri-business clusters

Location	Lead organisation	Facilitator	NGO support	Number of Producers	Current market
Rubavu- Nyabihu	Mukamira	BAIR	Oxfam- Novib	2,312 (5 coop)	Mukamira (70t), Fresh market
Kamonyi-Muhanga	SOSOMA industries / UMPUYABO	Duhamic ADRI /Ibakwe RIC	Oxfam- Novib	2,645 (7 coop.)	Seeds RADA, retail ²⁸
Rusizi	Coopetrag	ARDI	Oxfam- Novib	3,000 (7 coop.)	Congo market (Bukavu)
Gakenke-Musanze	URUGERO – Mukamira	Consultant / Mukamira		2,324 (6 coop.)	Mukamira
Ugkama Muhanga	Imparbaruga	IFDC	ICCO		Seeds RADA, schools and prisons ²⁹

²⁸ Want to also process their maize in the future

²⁹ Want to also process their maize in the future

Figure 21: Identified cooperatives by USAID and WFP

Cooperative	No. farm ers	% fem ale	Location	Market 2010	t/h a	Sold last yr	financier	P	h	Contact
Cojyamugi ³⁰	2270	28%	Mamba sector, Gisagara district, Southern province	Mukamira ³¹ , RADA (80Ha)	6	1500		150	400	+250785260698; cojyamugi@yahoo.fr
CCM Muganza ³²	1342	31%	Muganza ³³ and Gishubi ³⁴ sector, Gisagara district, Southern province	Ndayafite (trader from HUYE), other local buyers	2- 6.5	450	Banque Populaire Migina branch ³⁵	150,160,18 0	238	+25078804551; 0785045513 ccmmuganza@yaho o.fr
Coamanya ³⁶	2219	50%	Busoro ³⁷ , Kibirizi ³⁸ and Ntyazo sector, Nyanza district, Southern province	Trader Nyanza (maize flour), RADA	6	800 ³⁹	CAF SONGA (2,75% ⁴⁰)	176-200	530	+250783183955; coamanya@yahoo.fr
Nyamig			Nyगतारे	WFP		1500	Duterimber e (2%)	139		+250788355563
Maprocuga Union			Eastern province							
Kirehe Maize Coop.			Gatsibo	Mukamira						
Jyambere	2370	58%	Mamba sector ⁴¹ , Gisagara district, Southern province	Mukamira (111Mt), Jean Busco Uwizigiyimana (111Mt)	3	430 ⁴²		180(Muka), 120(Uwi)	500	+250788571654
Indakuki			Bugasera district	Minimex				180 ?		

³⁰ USAID plans to build 6 aires de séchage at the 6 production sites and a 600Mt warehouse in Mamba. The transport costs from the drying station to the depot are estimated at 3 Rwf/kg.

³¹ Negotiations are on the way to seal a five-year contract between Mukamira and Cojyamugi

³² USAID plans to build 2 drying stations and a 450Mt warehouse in Muganza. The transport costs from the drying station to the depot are estimated at 3 Rwf/kg.

³³ Muganza sector includes 8 sites: Nyगतारे, Cyapfunda, Nyamagana, Akasingaye, Saga 1, Saga 2, Rwumubu, Cyacyigoro.

³⁴ Gishubi sector includes 2 sites: Nyakibingo, Nkunamo.

³⁵ A facility loan of 25.000.000 Rwf is currently negotiated.

³⁶ USAID plans to build 8 drying plants (with storage capacity of 50Mt) and a 450Mt warehouse in Busoro. Last year they used a plastic warehouse from the World Food Programme (110Mt) and a storage facility from the Catholic Church in Bosoro (350Mt).

³⁷ Busoro sector which houses a small maize mill includes 4 sites: Gitovu, Munyinya, Masangana, Kanyegera.

³⁸ Kibirizi sector includes 4 sites: Mbuye, Cyeru, Nyiranganyinda and Nyamugali.

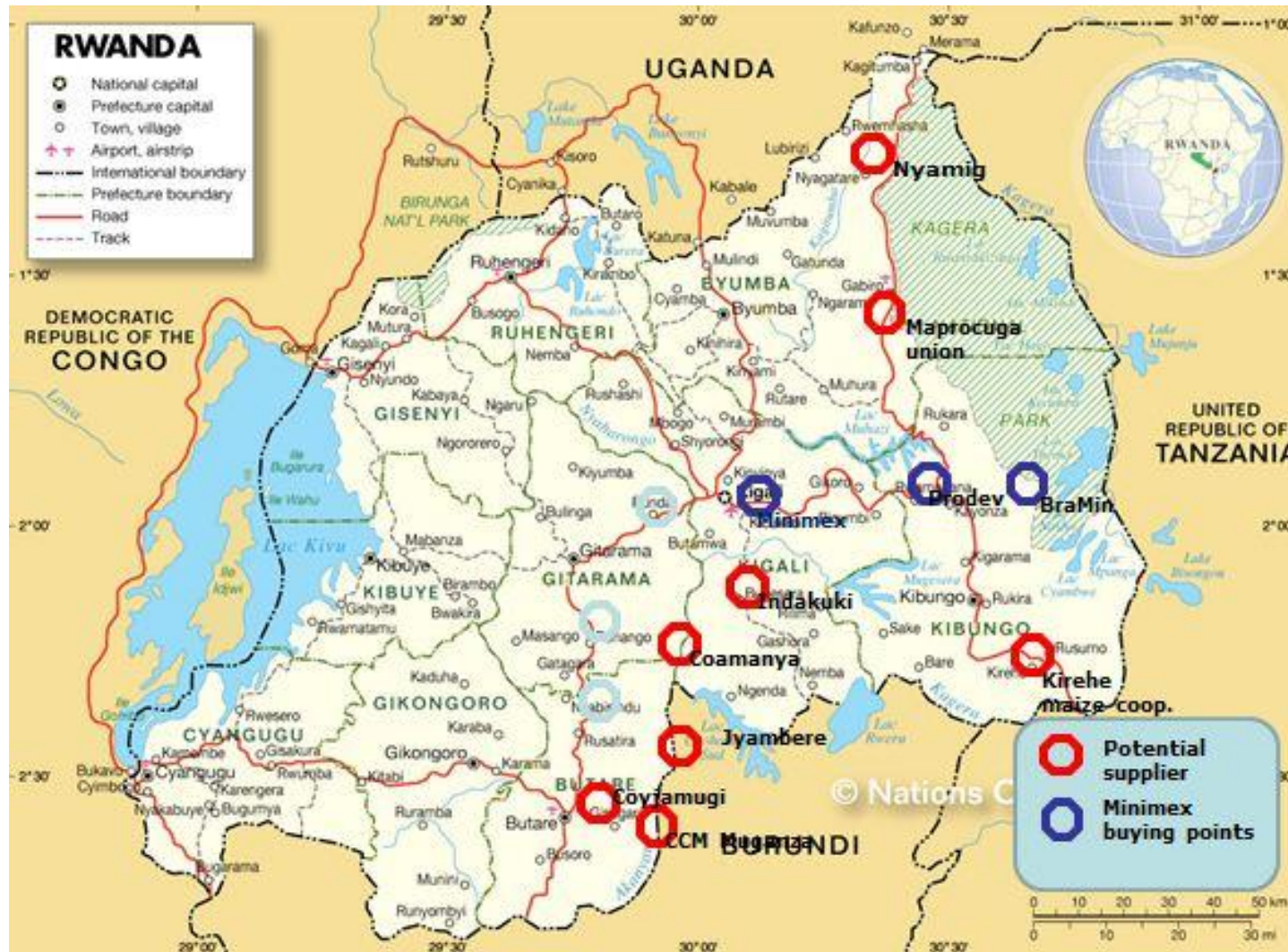
³⁹ 800Mt was stored, but production was much higher (estimated at 5000Mt). Some of stored maize (150Mt) was damaged during storage and had to be milled first to be sold afterwards for 176Rwf instead of the anticipated 200Rwf (grain price).

⁴⁰ Monthly interest rate.

⁴¹ The cooperative is organized in 4 sites: Gakoma, Kabumbwe, Ramba and Muyaga site.

⁴² Production: 1500 Mt, of which 430Mt sold on the official market.

Figure 22: Potential sourcing locations



6. Value Chain Supporters

Agri-ProFocus Rwanda

Agri-ProFocus is a network of Dutch organisations and their partners in Rwanda. In 2009 a platform of Producer Organisations, NGOs, knowledge institutes and companies promoting farmer entrepreneurship started in Rwanda, known as IPER ('Initiative pour la Promotion de l'Entrepreneuriat Rural'). The network aims to enhance coherent and demand-driven support to producer organisations and their business partners through cooperation, exchange and learning.

The network is built around fifteen 'virtual' agri-business clusters, based on existing initiatives of linking producers to markets. Agri-business clusters typically consist of producers, a company, a financial institution, producer organisations and a supporting NGO. Clusters function around various value chains (rice, maize, potatoes, wheat, cassava and honey), involving more than 200 cooperatives, and some 30,000 farmers (30 - 40% female). APF member organisations seek to improve the coherence and synergy of their activities around these clusters linking firm and farm⁴³. There are 4 agri-business clusters on maize (coordinated by Oxfam Novib), involving approximately 20 cooperatives each. For more information please visit our [online platform](#).



Figure 23: Members of the APF network in Rwanda

USAID

USAID has set up a Post-Harvest Handling and Storage Project in Rwanda to *facilitate market linkages, promote investment and strengthen post-harvest management in agriculture*. The project runs till March 2012 and the targeted value chains are maize, wheat, rice, beans and soya beans, cassava and Irish potato. USAID assists with developing bankable business proposals for the cooperatives they work with. They invest in storage, drying and cleaning equipment to reduce post-harvest losses. USAID gives a guarantee against which financial parties can loan post-harvest infrastructure to the farmer organisations and processors. They work with cooperatives in the South (COAMANYA, COJYAMUG, CCM Muhanze) and the East (Kirehe, Gatsibo & Nyagatare). All cooperatives are indicated on the Rwanda map in figure 22. There are approximately 1000-2000 farmers per cooperative selling 200-500Mt per cooperative. For a presentation of the PHHS project click [here](#).

IFDC (APF affiliate)

IFDC creates sustainable agricultural productivity, alleviating hunger and poverty and helping to ensure food security, environmental protection and economic growth. Their CATALIST (Catalyze Accelerated Agricultural Intensification for Social and Environmental Stability) programme runs from 2006-2011. IFDC provides agri-business support and trains local facilitators to support the agri-business clusters within the Agri-ProFocus network.

⁴³ There are farmer-led (11/15) and firm-led (4/15) agribusiness development initiatives.

E-Soko

E-Soko is a digital market information system which can be accessed by everyone to receive the latest market information. E-Soko would be of great support to a warehouse receipt system, making independent price discovery possible. The government of Rwanda set up E-Soko and its development is also supported by FAO, WFP and UNESCO. The question is whether the information provided by E-Soko is accurate and up-to-date. For that reason the E-Soko prices can be guiding, but should be triangulated by existing price discovery mechanisms (physical check, info persons, regional market prices, other buyers).

PUM (APF member)

PUM sends out senior experts from the Netherlands to developing countries to transfer agricultural knowledge and expertise. PUM could possibly provide a farm manager/trainer to the BraMin farm.

RDO

The Rwanda Development Organisation supports Nyamig cooperative.

RFDT/IBAKWE

IBAKWE (Ruyumba Farm Demonstration and Training Centre) is a local NGO working with farmers growing maize, cassava and soya. IBAKWE works with farmers in 4 districts Kamanyi (1200Ha), Muhange (1200Ha), Ruhange (800Ha), Nyamza (800Ha). Currently these cooperatives sell ad-hoc to Muhange and Kigali markets, but they want to be linked to a more reliable market.

Financial sector

Finance is critical for farmers to catch higher market prices later down the marketing season and invest during planting season. In the warehouse receipt system finance is a critical ingredient to make it work. While recognizing the critical role, an analysis of the sector was outside the scope of this study. Players mentioned in the financial sector are:

- **Banque Populaire du Rwanda** (rural focus, over 100 outlets in the country)
- BRD
- **Urwego Opportunity Bank**
- AMIR (CAF ISONGA, CRECAMs, etc)
- RIF2 (75% guarantee fund)
- IFC

The local banks most eligible to finance warehouse receipt or warrantage systems are Banque Populaire and Urwego Opportunity Bank.

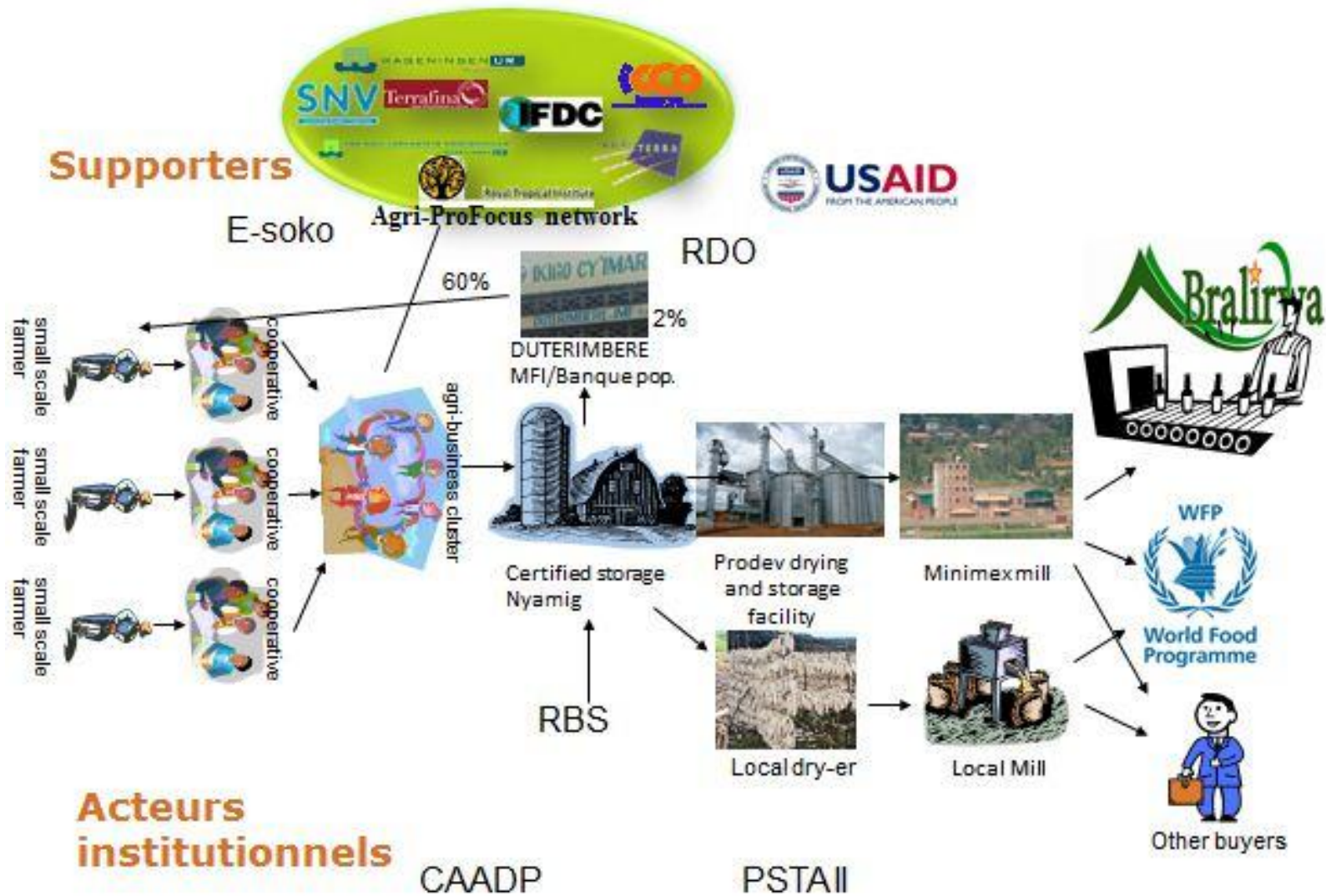
7. Conclusion

Rwanda is one of the fastest reforming countries in the world and now ranks 9th in starting a business in the latest [World Bank Doing Business 2010](#) ranking (The [Independent](#), 27 December 2010).⁴⁴ While only responsible for a third of its GDP, agriculture forms the cornerstone of Rwanda's economic transformation, employing 80 percent of the population. The government is actively supporting this sector and one of its priorities is maize production. The maize sector is still in its infancy years, but has shown remarkable growth, especially in Eastern Province. The market is largely informal and lacks marketing infrastructure. The market uncertainty is a disincentive to invest for both producers and buyers. Along the same lines, the largest milling company in the country encounters problem with local maize supply in Rwanda. Last year, Minimex only ran at 14% of its capacity due to lack of quality supply. Minimex is now looking into developing more structured and reliable procurement modalities. This study identified ample opportunities for that. Minimex does not have to re-invent the wheel and can easily tap into on-going activities.

The initial objective of this study was to find out if the four agri-business clusters within the APF network supplying Minimex hold a business case. The answer is no. These four clusters seem to be quite developed in securing a market more profitable than the Kigali local market. If the price cooperatives are getting is above the Kigali spot market price (Minimex' benchmark) there can be no business case. However, the study identified many other cooperatives with possibly clear business cases in supplying Minimex. Interestingly, WFP already identified organised farmer groups and small traders as potential suppliers. These cooperatives are being trained in storage and post-harvest handling. WFP will only buy a maximum of 50% from the cooperatives' marketable surplus in order to avoid dependency. Minimex could be linked to the same cooperatives and buy the other 50%. In this way Minimex could piggyback onto earlier efforts made by value chain supporters providing business development services, inputs, training and finance to farmers. This study suggests a warehouse receipt system (shown in the following model) as one of the possible procurement modalities. An important footnote regarding the development of a warehouse receipt is regional competition. The moment Ugandan maize is substantially cheaper than Rwandan maize, any business case of local sourcing is lost. This poses a risk for all involved in local sourcing and setting up marketing mechanisms like warehouse receipt systems. However, the World Food Programme has proven in the Nyamig case that maize locally produced can be competitive (the price set by Nyamig [139Rwf] was competitive with the import parity and Kigali local market prices). However, future market developments need to be closely analysed. While offering obvious benefits, procurement from small-scale farmers is not limited to having such a system in place. Overall, there is sufficient supply of maize in the country to meet Minimex' growing demand. Figure 23 suggests a supply chain model picturing how Bralirwa can locally source its maize grit via Minimex.

⁴⁴At the same time, Rwanda ranks 183th in the world for closing a business.

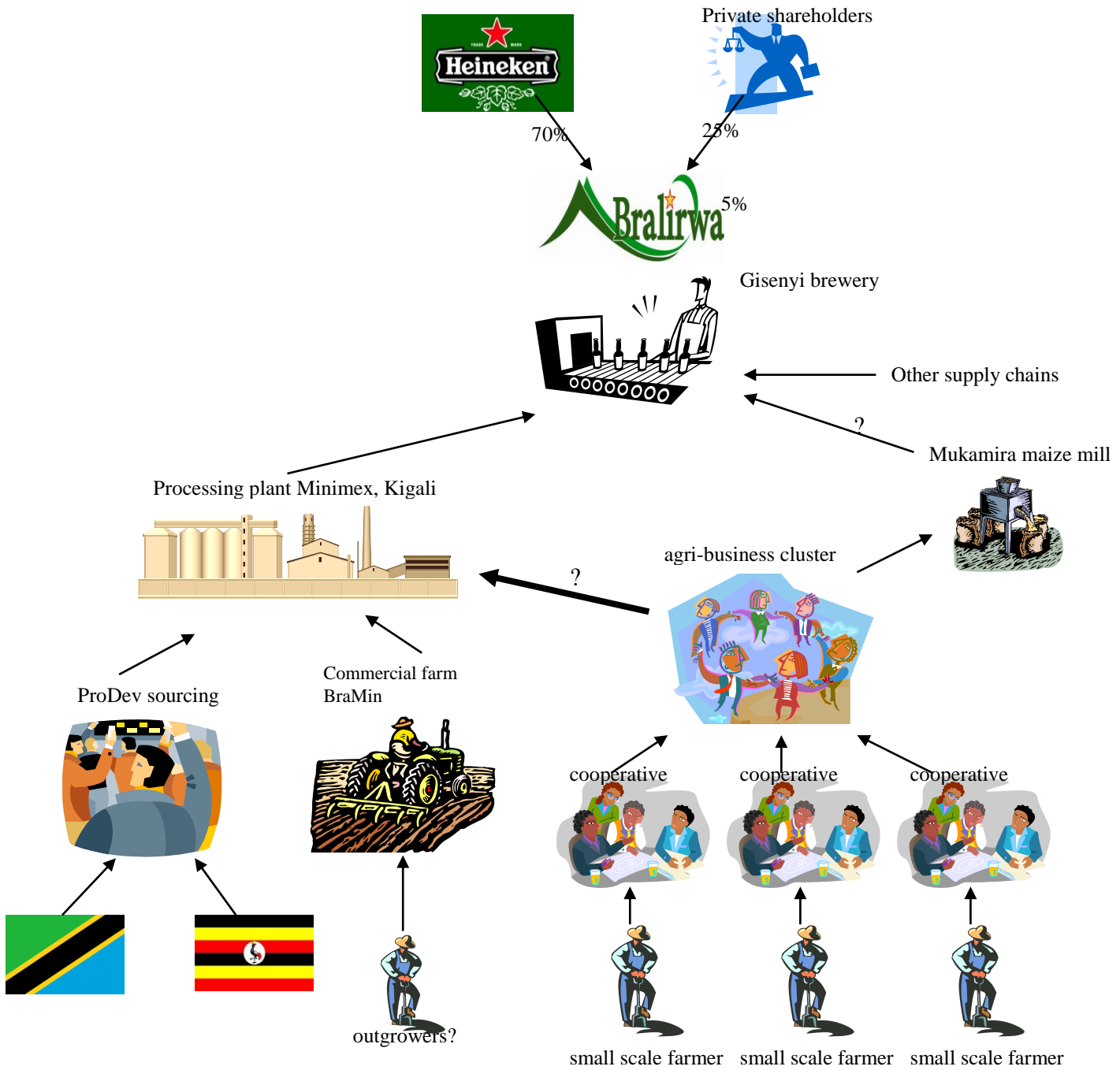
Figure 24: Suggested maize supply chain (Nyamig example)



Based on this study the following suggestions can be given:

- Minimex contacts WFP on their experience with the Nyamig purchase. If WFP is content with the delivered quality, Minimex can do a test-purchase itself.
- Minimex visits potential cooperatives or business clusters (supported by WFP and USAID) and selects 3 which to start sourcing from this year. This number can be expanded later, but first the system needs to be tested and trust build.
- Bralirwa and Minimex commit a certain % of total requirements to be bought locally each year. This figure needs to be announced publically at the beginning of the agricultural season. This increases transparency and predictability of the market, and allows suppliers to invest. The percentage needs to be calibrated with the developments in the regional market.
- Bralirwa or Minimex hire a procurement officer to ensure both quantity and quality supply to the Kigali mill and to support and check the local purchasing mechanism.
- WFP, USAID and APF discuss how the cooperatives in Eastern Province can form agri-business clusters linked to a broader network.
- Bralirwa, Minimex, WFP, USAID sign a MoU detailing the conditions of cooperation and each party's input.
- The ProDev drying facility becomes a site where cooperatives can either sell their produce or store it against a storage and drying fee (20Rwf/kg) and remain owner of the stock. They receive a receipt for the stored commodity which they can exchange for cash at the local bank. Depositors decide when to sell it.
- Minimex presents its procurement model to Banque Populaire and Urwego Opportunity Bank and tries to attract external finance for the warehouse receipt system.
- Sosoma and ProDev discuss whether Sosoma is interested in their drying services.
- The local APF coordinator finds out if there are any organisations working in Kayonza district.
- IFDC trains local facilitators to support the new agri-business clusters.
- The APF local coordinator discusses with Oxfam Novib how to support the agri-business clusters in Eastern Province.
- Minimex discusses with PUM how to attract a farm manager/trainer.
- Minimex attracts a community worker to set up an agricultural development programme in Kayonza district linked to the BraMin farm.

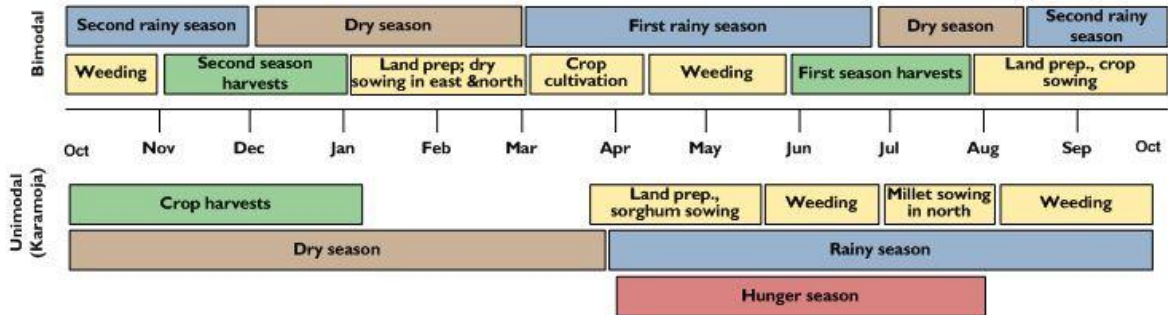
Annex 1: Maize supply chain for Bralirwa brewery⁴⁵



⁴⁵ The government of Rwanda recently sold (December 2010) its 30% share in Bralirwa (25% to the public via the bank of Kigali and 5% to Bralirwa). For a rough indication of the location of the breweries, mills and commercial farm click [here](#)

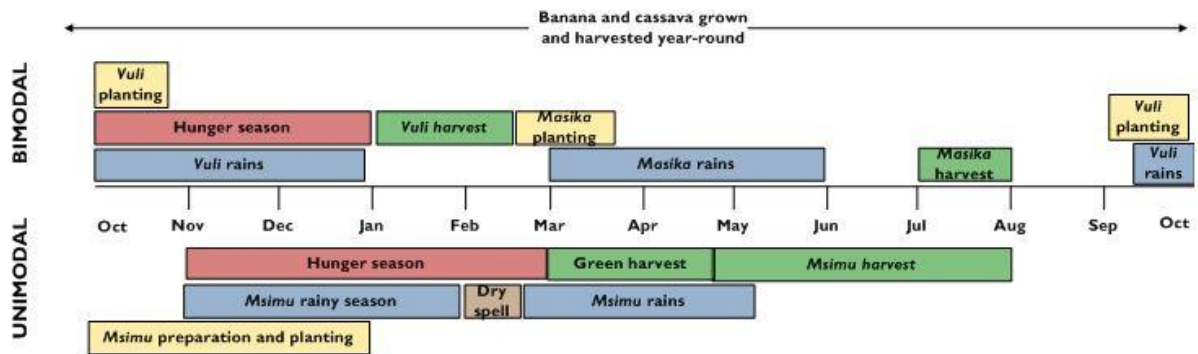
Annex 2 Crop calendars of Uganda and Tanzania

Crop calendar Uganda



Source: [FEWS NET and USAID, 2010](#)

Crop calendar Tanzania



Source: [FEWS NET and USAID, 2010](#)

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