

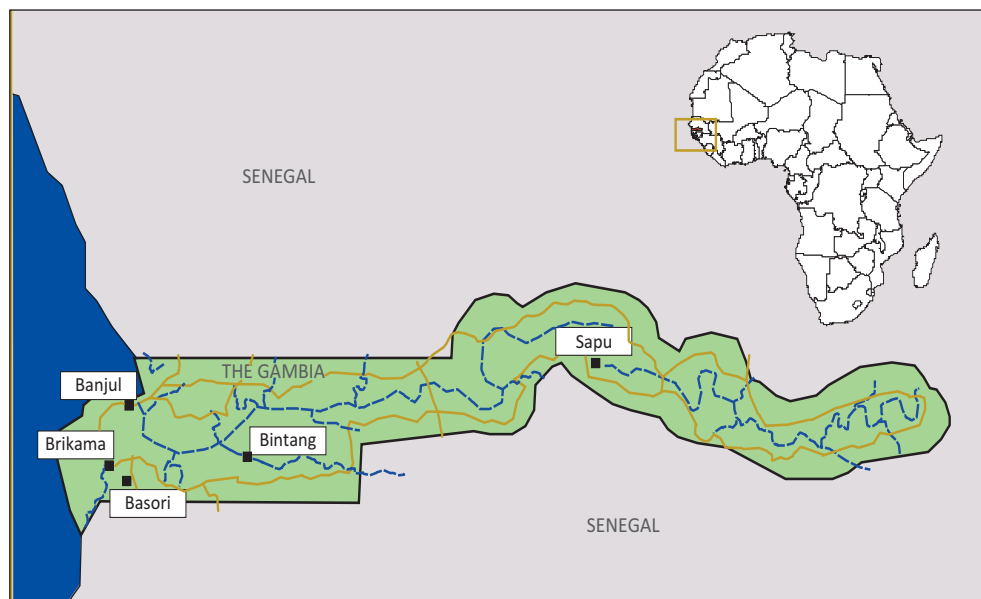
7 The Gambia: Capturing the Media

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7.1 Introduction

7.1.1 Agriculture

West Africa's smallest country, The Gambia, is a 338 km long and narrow strip of land along both banks of the Gambia River. Except at the coast, it is entirely surrounded by Senegal. With a population of just 1.7 million people, agriculture drives its economic growth, but crop yields are low. With at least 90% of poor people working in agriculture, gains in productivity are vital for reducing poverty.



Gambian agriculture is vulnerable since the rainy season lasts for just 3 to 5 months and is unpredictable. About 52% of the land area of The Gambia (1 million hectares) is arable, but only about 60% of the arable land is farmed. Most cropland is owned by communities; individuals hold use rights but cannot sell the land. Family farms are often smaller than 1 hectare, and may be made up of several plots scattered about the uplands and lowlands of the village, so that each family has shares of the community's different types of land, allowing them to spread risk and grow more kinds of produce (Bentley, 1987).

Groundnut is the major cash crop, followed by sesame. Rice, millet, maize and sorghum are grown for home consumption. Rice is grown as household food but with increased production it is becoming a cash crop. Early millet was formerly grown to eat at home, but farmers are now also growing it as a cash crop, because of wild price fluctuations for groundnut.

The Gambia probably produces enough coarse grains to be self-sufficient in food, but much is exported since Gambians prefer eating rice, which is easier to prepare. Until recently, 80% of the rice eaten in The Gambia was imported, while coarse grains are exported, mainly to Senegal. Home-grown rice has a special flavour and is preferred for some local recipes, so it fetches a higher price than imported rice, but farm-gate prices are low at harvest time. Farmers generally do not have storage facilities or access to credit and so must accept postharvest prices.



After drying the rice and millet, women pound it with a mortar and pestle. Mills are still scarce in The Gambia.

7.1.2 History

Colonial policy during the mid 19th century encouraged men to concentrate on groundnut as a cash crop, leaving women responsible for growing rice for food in the lowlands (Nuijten, 2005).

Growth in agricultural production was made possible by industrial development in Senegal, which began to produce and export animal-drawn ploughs, seeders and weeders. The Senegalese bred superb draught animals (horses and donkeys) and traded them across the border. At the same time, the authorities in The Gambia helped to make these implements available to farmers, providing training and loaning the equipment through agricultural cooperatives. Most upland producers of groundnuts and cereals mechanized most of their operations, except for harvesting. Animal traction also allowed mechanized seeding and weeding for rice (Remington and Posner, 2000). As more land was put to the plough, agricultural output rose. Fertilizer was subsidized and easily available, so that yields remained reasonably high. In the mid-1980s, however, structural adjustment killed this policy and made way for private investment, which failed to move into the vacuum, leaving the farmers dangling.

From the 1970s through the 1990s the government invested in irrigated rice, to promote food security. Irrigation meant that smallholders could grow rice in the dry season, so men began pushing women out of the rice fields, taking over the land, the work and the increased profits (Carney, 1998). However, because irrigation relied on pumps and farmers were unwilling to pay for the fuel, the projects were soon abandoned. In 2006 the government resumed irrigation projects, managed with more local participation and using tidal irrigation instead of pumps.

7.1.3 Policy

Gambian public policy aims to modernize agriculture, even though the government has no overarching policy document. The creation of NARI in 1995 constituted a major policy intervention, representing the government's commitment to agricultural development. This was followed by the formation of a national extension authority, which gave the extension function enhanced importance and visibility, while additional resources were provided for agriculture-related training. Each major crop is served by at least one project, with others for food-processing and postharvest activities. Such projects provide funds for transport, making it possible for extension agents to work with farmers, despite the broader funding problems affecting this service. In practice, advisory services are available only to those producers who have personal contacts with them. Some producers also benefit from additional support services, such as the use of expensive equipment or assistance with tasks that require high levels of technical skill, and need to pay for such additional support.

Agricultural implements may be imported duty free, while the government tries to make fertilizer available at a reasonable cost, through projects. The recent increase in the price of fertilizer means that smallholders cannot afford it, unless it is provided through a project.

Just like Guinea (Chapter 6), The Gambia lacks formal rural financial institutions. This is in sharp contrast with Mali (Chapter 5) and Uganda (Chapter 10), which have both witnessed an evolution in financial products and services for agriculture.

Staff of NARI (National Agricultural Research Institute) saw poor access to quality seed as a nagging problem, particularly for groundnut and rice. Hence the government of The Gambia wrote a seed policy document in 2008 which has now been approved by the cabinet and will soon be implemented.

Although efforts are being made to harmonize seed laws across West Africa, at present there are no seed laws in force in The Gambia, and no system of seed certification. While NARI has the expertise to verify the quality of seed, this assistance is provided on request (and in some cases on payment of a fee) and so constitutes support to a seed producer's own efforts to provide quality assurance.

7.1.4 Rice seed sector

NARI. The only institute that produces and supplies foundation seed is the Seed Technology Unit at NARI. Under some circumstances it places contracts with farmers or farmer groups to produce foundation seed, under its supervision. It responds to demand, multiplying seed when there is a request from NGOs or from other government institutions. NGOs are the main distributors of new varieties.

NARI hosts the Gambian component of the African Rice Initiative, which distributes Nerica seed in eight African countries. In The Gambia, this is usually called 'the Nerica project', which provides farmers with seed, technical assistance and fertilizer when it is needed, but at market prices (high). While it began by using foundation seed from Guinea, it relies on farmers to multiply seed, which it then

buys to distribute to other farmers. Table 7.1 shows the quantities of Nerica seed that have been produced in The Gambia since 2006.

Farmer seed producers. Up to the introduction of Nerica, few farmers specialized in seed. Farmers occasionally obtained seed of modern varieties and used it to grow grain, but, until Nerica was introduced, few produced seed for sale.

Table 7.1. Nerica foundation seed production (tonnes), The Gambia, 2006–2009. Source: NARI.

	2006	2007	2008	2009
<i>Nerica 1</i>	2.3	3.5	4.7	5.1
<i>Nerica 2</i>	0.1	0.9	1.9	2.6
<i>Nerica 3</i>	0.5	1.4	2.5	3.1
<i>Nerica 4</i>	1.4	2.6	3.8	9.2
<i>Nerica 6</i>	2.8	2.4	4.7	7.2
<i>Nerica P105</i>	2.3	5.5	10.0	25.5
<i>Nerica P163</i>	4.6	7.8	9.4	33.2
<i>Total</i>	14.0	24.0	36.9	85.8

7.1.5 Seed use and demand

Variety names. Farmers often use the same name for different varieties, or different names for apparently identical varieties (Nuijten, 2005). Likewise, the name Nerica is used to cover various improved varieties, with farmers seeming not to differentiate between them. NARI staff fear that farmers buying seed are unaware that there are different kinds of Nerica and other improved varieties for different contexts, and so may not look for varieties that match their needs and goals.

While farmers may be confused about modern varieties, female rice farmers are aware of the differences between different traditional varieties (Nuijten, 2005). The farmers Nuijten interviewed grew an average of three varieties to match different ecological niches, although some people had as many as 11 varieties. Women constantly look for new and better varieties, even when they already have varieties that meet their needs and preferences.

Reasons to buy seed. In some cases farmers need to eat their entire harvest and cannot save any seed. Sometimes they find that the seed they are using has become so mixed that they would prefer to start again using cleaner seed. Another reason for buying seed is to obtain a promising new variety.

Grain market. Demand for rice seed is tied to demand for grain, which is high, since rice is the staple food of The Gambia. Gambians eat 107kg of rice per capita each year,



Farmers in The Gambia offer visitors from NARI some cool water and take the opportunity to ask what new varieties the scientists are developing.

the third highest in West Africa (ADF, 2005). Rice is quick and easy to prepare, endearing it to busy urban consumers. Home-grown rice generally retails for more than imported rice. Rice is often eaten as porridge, and so the consumers don't care if it is milled mechanically or pounded with a mortar and pestle. Rather, they pay a premium price for the preferred flavour of local rice, while differences in milling quality are less important to them.

But it is not easy for farmers to get the high prices that they could get from local rice. Processing capacity is limited, and home-grown rice has little access to a market where the main distributors are still dominated by importers. Shops in Banjul offer a wide selection of imported rice but no home-grown rice at all. Farm households eat much of their own rice rather than selling it.

Nerica was introduced in the early 2000s with much publicity, while the initiative to distribute *Nerica* seed to farmers across the country benefited from high-level political support. The goal was clear: to enable The Gambia to grow more rice and cut its high bill for imports. NARI estimates that, considering the number of seed producers in the country, it will take some time to saturate the market. Most seed buyers are grain farmers who barely meet their food requirement and so are unlikely to sell seed to others.

Changes in seed use and demand through media. Before the arrival of *Nerica*, people thought of rice as an aquatic plant, not realizing that it could also grow on soils other than swamps and inland valleys. Upland *Nerica* varieties that the *Nerica* project grew along the main roadsides exposed the Gambians to a new and radical innovation everybody was eager to experiment with. People could appreciate the behaviour and performance of the new early maturing, high yielding rice varieties which also had high market value.

At the same time as *Nerica* varieties first became available, TV and radio broadcasts began to promote the virtues of the new rice varieties and explain the importance of quality seed. Farmers flooded the radio with questions about these varieties, where to get seed and how to grow it. The media attention given to seed, along with the arrival of upland *Nerica*, which is a new crop in The Gambia just as it is in Uganda (Chapter 10), has motivated farmers both to use quality seed and to cultivate modern varieties.

7.1.6 Media and agriculture

National radio and TV. Even prior to independence, rural radios in most African countries played a role in promoting agricultural innovation (Ilboudo, 2003). More recently, TV stations have also started to assume that role. From the moment of its commissioning in late 1995, Gambia Television has operated as a public service station in the tradition of the older Radio Gambia, which was established in 1962. Broadcasting in English and local languages, the Gambia Radio and Television Services (GRTS) continue to share information on agricultural innovations. In a country where 60% are illiterate (UNESCO estimate, data 2003), audio- and video-based communication is crucial.

When in 2000 GRTS radio staff read in a newspaper that researchers at AfricaRice (then called WARDA) had discovered new rice varieties that did wonders, they approached NARI for more information. NARI soon participated in live radio debates and started to invite GRTS staff to see and talk about what they were doing.

Also Gambia Television has been keen to keep abreast of agricultural developments. When NARI scientist Mustapha Ceesay approached GRTS with videos about rice seed health from Bangladesh, The Gambia became the first country to translate them into an African language, and regularly broadcast them (Box 7.1).

The media attention triggered a particularly high interest among farmers, so GRTS started to allocate more time to Nerica. The national radio partnered with NARI to cover major events associated with Nerica. It regularly visited demonstration plots and fields where seed of the new rice varieties was being produced. The broadcasts sensitized farmers about the advantages of upland rice and stimulated development workers to assist growers, as well as prompting the government to boost support.

Rural private radio. The Gambian media being tightly controlled by the government, there are only a handful of privately owned newspapers and radio stations. Yiriwa Development Radio started in 2005 and a year later it launched a programme called 'Back to the Land', presented by Mr Omar Fofana. The programme was launched in Kanilai, the village of the president of The Gambia, where many farmers and farmer associations gathered to help the president on his rice farm. The president wanted to be a living model for his people by going 'Back to the Land'. He used to say: 'If you want, come and see what I am doing.'

The radio programme focused on food and staple crops, among which Nerica held the first place thanks to farmers' high interest in upland rice. The programme, which is presented in Mandinka, explained to rural people the advantages of Nerica, where to acquire the seeds and how to use them. Later on, it also informed its audience about rice video CDs that present good practices in rice production and processing, developed by AfricaRice and partners (Van Mele *et al.*, 2010a). It also directed listeners towards NARI and the Jambur Kafo (Section 7.3).

During the 1 hour per week programme people could present their farming activities, ask any question or get any information related to agriculture. In case the presenter could not answer some questions, he invited, in the next programme, agricultural specialists and knowledgeable farmers to intervene.

Unfortunately, this programme stopped due to lack of financing. Mr Omar Fofana left the radio and went to the West Coast Radio, where he continued with the programme for just 2 months with funds provided by the radio and Gambia Telecommunications Cellular Company Ltd (Gamcell). The programme costs Dalasi 12,000 (\$480) per month. Mr Omar Fofana is still actively looking for sponsors to

Box 7.1 Bangladeshi seed videos on TV.

On 30 April 2005, the National Agricultural Research Institute (NARI) invited three women from Pirang village to watch videos on rice seed health, produced with rural women in Bangladesh. Also the President of the National Farmers' Platform and representatives of the research and extension community attended. Based on the powerful feedback of the women, the people in the room immediately decided that these videos had to be translated into Mandinka, one of the main national languages.

Translating them took some time, but 2 years later, under the impulse of Mustapha Ceesay, a dynamic scientist at NARI, Gambian TV started to broadcast the Mandinka version of the rice seed videos.

Source: Van Mele *et al.*, 2010b.

continue with this programme, which, he thinks, has helped many farmers and other workers concerned with agricultural development in the country.

Case studies. In what follows, we present three case studies. All three enterprises are located close to the NARI office, which is on the outskirts of Brikama, just south of the Banjul international airport. The first one describes the Gambia Horticultural Enterprises, a private company that trades rice, maize and groundnut seed, among other products and services. The second case is a community association, Jambur Kafo, which participated in varietal trials with researchers and later began producing Nerica rice seed and dry season vegetables. The third case describes the Jafaye Farm, a family business growing Nerica seed, among other farm enterprises. All have experimented with media to advance their business.

7.2 Gambia Horticultural Enterprises

7.2.1 History

The Gambia Horticultural Enterprises (GHE) was established in 1990, by Mr Momodou Ceesay, as a sole proprietorship registered company to sell agricultural inputs. Gradually it also started to deal in equipment and tools, and expanded its services. GHE is located a few kilometres from the capital city of Banjul and has become the country's largest input enterprise.

In his early years, Mr Ceesay was an agronomist within the Department of Agriculture. Later he became the general manager of Citroproducts Gambia Ltd, a quasi-parastatal agribusiness focusing on lime production and processing. In this position he learned about market demands for various horticultural products, agricultural inputs, equipment and other tools.

In almost 20 years GHE has grown from a small office in the owner's home to much larger premises (a large building housing a shop selling agricultural supplies, another shop selling produce for consumption, warehouses for each shop as well as offices for three managers and their support staff), which the company bought after a period of renting. Initially, GHE sold only vegetable seeds, which it imported from the Netherlands (Table 7.2). Higher yields after using quality seed increased demand for it so GHE imported more. From 1993, GHE also started to import agricultural equipment and agrochemicals. Farmers were also interested in seed of field crops such as maize, groundnuts, rice, sorghum and millet. To respond to these requests, GHE buys from local producers, including the Jambur Kafo discussed later in this chapter.

GHE's growth, then, has been driven by market demand, with neighbouring countries (Senegal, Guinea Bissau and Sierra Leone) mainly requiring vegetable seed while most sales of seed for field crops have been in the home market. While the high interest in Nerica varieties explains the importance of rice seed, maize seed demand is increasing from farmers growing maize to supply the peri-urban poultry industry. Although seed sales have increased over the years, they now provide only 30% of the company's revenue. Other cash earning activities include the growing and marketing of fresh fruits and vegetables for local and European markets, which it started in 1995.

Table 7.2. Seed sales, Gambia Horticultural Enterprises. Source: GHE.

	1990	1993	1997	2000	2005	2009
	Importance (%) of seed sales in total company's turnover					
<i>Seed sales</i>	100	80	70	50	40	30
	Seed quantities sold (tonnes)					
<i>Vegetables</i>	0.5	1.0	2.0	2.0	3.0	5.0
<i>Field crops</i>	–	1.0	2.0	3.0	20.0	50.0
	Share (%) of individual field crops in the total sales of field crops					
<i>Rice</i>	NA	NA	NA	NA	50	50
<i>Groundnut</i>	NA	NA	NA	NA	20	10
<i>Maize</i>	NA	NA	NA	NA	20	30
<i>Sorghum and millet</i>	NA	NA	NA	NA	10	10

7.2.2 Structure

Management. Mr Ceesay is the managing director. The enterprise has over 70 employees, including a secretary and personnel in charge of production and marketing. Mr Ceesay's goal is to provide a one-stop shop for farmers. To achieve this, the company has established a garden centre, a food centre, an equipment centre and pest control services. The garden centre sells seed of vegetables, groundnuts, rice and maize, along with mango and papaya seedlings. It also deals in simple garden tools and agrochemicals.

Mr Ceesay believes that the introduction of Nerica varieties drastically boosted investment in agriculture, which was further stimulated by the president himself taking the lead in producing rice and encouraging others to invest in the sector. The recent introduction of milling equipment into the Gambian market has triggered further investment and development along the rice value chain. GHE has already sold 25 milling machines to NGOs, government agencies, individual farmers and projects.

Land and infrastructure. GHE headquarters are located along the Banjul–Serrekunda Highway within the Greater Banjul Area: a strategic location for marketing, much like Faso Kaba in Mali (Section 5.2). There is also a sales and production division. Until recently, the company owned only a few hectares that were mainly used to test batches of seed before marketing them. Lately, the company has acquired over 100 hectares of farmland, and plans to use this to produce some seed itself rather than relying entirely on external suppliers. It has also recently opened a food-processing centre, which will enable it to expand the range of processed foods that it sells.

Links. Mr Ceesay is president of the Gambia Agrochemicals and Seed Trade Association (GASTA), for which he provides secretarial facilities. Until 2009, he was also the chairman of the Board of Directors of NARI. If need be, GHE sponsors NARI to conduct advanced yield trials of promising new varieties, including those that it is considering importing from Europe but which are as yet untested in The Gambia.

All along, Mr Ceesay has maintained good links with research, other workers, the national farmers' platform and the media. GHE has also developed good relations with commercial banks and business partners abroad.

Quality control. GHE will only buy seed from producers whom NARI knows to be established producers of good quality seed. Before accepting a new supplier, GHE with the support of NARI researchers (paid by GHE) tests each variety from a new producer to ensure that its performance is satisfactory. Only after completing this will GHE retail seed from this supplier. These tests are generally undertaken once for each variety from each supplier: after this, GHE will normally trust its suppliers so that further quality control is not needed, although samples of packaged seed are tested for moisture content and germination rate at the beginning of each sowing season. Furthermore, all customer complaints are investigated: GHE first verifies that the customer followed the recommended cultural practices for the variety grown, and then again tests seed from the producer responsible to establish the reason for the problem. All these trials take place on GHE's own land.

7.2.3 Cash flow

While heading Citroproducts Gambia Ltd, Mr Ceesay felt that there was a dire need for a private agribusiness company; there was none in The Gambia at that time. He also thought that investing in such a business would be profitable. Mr Ceesay prepared a project document and took it to the bank for financing, using his home as collateral, and obtained a 3-year loan at a 26% interest rate, which he readily paid off. With his track record as a reliable customer, he has since been able to borrow at lower interest rates. In 2000 he had access to credit at 22% interest, and in 2010 he could borrow at 20%.

GHE relies primarily on its own funds but still needs to borrow sometimes, and is able to do so since it enjoys good relations with its bank. In general, GHE pays cash for seed and also sells it for cash. The enterprise buys seed at harvest, applies seed treatments to protect it from soil insects and stores it until it can be sold.

7.2.4 Marketing

Just a few weeks before sowing time, the seed is packaged in smaller bags of 0.5 kg, 1 kg, 2 kg, 5 kg, 10 kg, 25 kg and 50 kg to meet the varied demands of GHE's diverse clients. Up until 2009, the most

important of these clients was a combination of international organizations, projects and government agencies (Table 7.3). They bought seeds of all crops and supplied them to poor farmers in order to demonstrate the advantages of using improved crop varieties. However, GHE thinks that this

Table 7.3. Clients of Gambia Horticultural Enterprises.

	1990	2000	2009	2015 (predicted)
<i>Government agencies</i>	2	2	1	3
<i>Individual farmers</i>	4	4	2	2
<i>Companies/farmers' organizations</i>	3	3	3	1
<i>International organizations and projects</i>	1	1	4	4

Ranking assessment by senior management of seed enterprise, 1 being the most important.

kind of assistance will gradually come to an end. From 2015 and onward, individual farmers and their organizations (in diverse forms) are expected to be the main customers for the seed business, since by then they would have already experienced the benefits that result from the use of good quality seed. In particular, sales to individual farmers are expected to increase considerably, although their demand will still be less than that exerted by the emergent or growing agricultural business enterprises. However, GHE foresees that government efforts to improve agricultural production will continue, and that these will include the provision of seed supplies for farmers. Government agencies will thus be the third most important customers of the seed business, while international organizations and projects will fall into fourth place.

From the very beginning GHE invested in advertising its products and services, especially over the radio (in English, Wolof and Mandinka) and in the print media. Before the sowing season, Mr Ceesay negotiates with GTRS, which has a weekly educational radio programme on diverse themes including agriculture. As the first company of its kind, GHE obtained good deals to regularly advertise during and after this programme.

GHE has diversified its portfolio by adding seeds of new crops, as shown in Table 7.2. So, although the company is well known after 20 years of activity, it continues to advertise, partly in order to build markets for its newer products and partly to maintain its position in the face of competition from the other companies that have more recently entered the seed market. Advertising intensifies at the start of the cropping season. The enterprise also has its own website (www.gamhort.gm).

Mr Ceesay participates in national and international agricultural fairs to market the company's products and to keep abreast of potential new varieties for The Gambia and surrounding countries.

GHE acknowledges the existence of about 11 other companies of its kind but fears no competition. With its long experience, its diversified range of products and services, the quality and regular availability (avoiding stock shortages) of products and services, with appropriate advertisement, GHE has many advantages over its competitors.

While NARI provides support and assistance for all companies in the sector, Mr Ceesay has been the NARI chair for almost a decade, and has cultivated this relationship as part of his marketing and customer service strategy. Under negotiated conditions that include the payment of appropriate service charges, NARI provides specialized services for GHE and its clients when they face a particular challenge. For example, if the crops planted by one of his customers suffered attack by insects or diseases, GHE invites researchers from NARI to examine the case and search for appropriate solutions. Furthermore, if a customer complains that seed has not germinated properly, GHE invites NARI to investigate in order to find out whether the problem results from any deficiencies in the seed or from the customer sowing the seed incorrectly.

7.3 Jambur Kafo

7.3.1 History

Kafo means 'community association' in Mandinga. The Kafo in the village of Jambur, on the fringes of Banjul and near the NARI office, was founded in 1994. It owns 16 hectares that are farmed communally, while its members also have their

own individual landholdings. The Kafo uses the communal land to grow 50 kg of rice seed for each member, with any surplus sold to boost the Kafo's funds.

The Jambur Kafo has a long history of promoting modern rice varieties. Long before Nerica came, the Kafo took part in participatory varietal selection (PVS) trials of modern varieties and multiplied seed provided by NARI. The seed that they produced was given to individual members of the Kafo and to farmers in neighbouring villages, who grew their own seed the following season. Some of the harvest was used as grain and eaten at Kafo activities; the Kafo was learning to multiply seed, but not to sell it.

Before starting to grow Nerica, the Kafo (comprised mainly of women) had undertaken various commercial activities including soap making and tie-and-dye, although they later abandoned these activities to concentrate on producing rice seed in the rainy season. They still grow vegetables in the dry season.

They began producing Nerica seed in 2002, a year before the start of the Nerica project. The seeds were originally given to them as part of the PVS (with the Ministry of Agriculture and AfricaRice). This meant that, when the Nerica project began, they had plenty of seed and so the project asked them to sell

their seed to the project and to other farmers. This was probably the first time that anyone had sold upland rice seed in The Gambia.

The Kafo began seed production in 2002 with the line WAB 450-1-B-P-163-4-1, which the Kafo members named white Nerica or P163 (Table 7.4). The following year, they got another Nerica variety from the Nerica project at NARI. It was Nerica 3 but they called it Conakry because the Nerica project got it from Guinea. The Kafo first tested the white Nerica against other modern varieties that they had earlier helped to disseminate, as well as their own local variety. During a drought in 2003 only white Nerica thrived, while all the other varieties failed to mature or suffered reduced yield. After that most seed buyers asked for white Nerica and would only buy a different variety if all the white Nerica had been sold.

NARI later gave the Kafo more lines to evaluate, so from 2004 they added Nerica 4 and WAB 56-50. In 2006, the Kafo inserted another variety, Nerica 1, into its fields. While most customers demand white Nerica, the Kafo members observed that in more favourable years the other Nerica lines performed well, and so they decided to keep cultivating them.

As seed demand increased and members gained experience in seed production through training from NARI, from 2005 onward members began giving greater priority to producing seed on their own individual landholdings. Most of them only started working on the Kafo farm after finishing most of the work on their own farms. Crops on the communal land thus started suffering from poor care, mostly



After harvesting the rice seed crop, individual members grow vegetables in the dry season and pay part of their earnings from sales back to the cooperative.

Table 7.4. Rice seed produced (tonnes), Jambur Kafo.

	2002	2003	2004	2005	2006	2007	2008	2009
<i>Nerica 1</i>	–	–	–	–	0.8	1.3	0.9	0.9
<i>Nerica 3 (Conakry)</i>	–	2.1	3.2	1.8	1.0	1.5	1.5	–
<i>Nerica 4</i>	–	–	1.8	3.1	1.1	1.2	0.3	–
<i>P163 (white Nerica)</i>	0.9	21.2	36.6	22.0	4.3	2.8	1.9	1.2
<i>WAB 56-50</i>	–	–	1.4	3.5	2.1	1.3	1.2	–
<i>Total production</i>	0.9	23.3	43.0	30.4	9.3	8.1	5.8	2.1
<i>Total area cultivated (ha)</i>	0.5	6.5	13.5	16.0	16.0	10.0	10.0	5.0
<i>Changes (%) in total production from year to year</i>	–	2,589	85	–29	–69	–13	–28	–64
<i>Key reasons for change</i>	Start of Nerica project in 2003		All members of the cooperative were trained in seed production		Members increasingly focused on individual seed production (data not included in this table) rather than on cooperative fields to respond to increased demand for seed			

from delays in seed production activities. At their general meeting at the end of 2009, the Kafo members decided that, from 2010 onward, they would concentrate on producing just two varieties, Nerica 1 and white Nerica (P163), and would produce seed on only 5 hectares. The remaining 11 hectares of the Kafo's land was lent to individual members so that the Kafo does not lose control of it, and will be taken back whenever the Kafo needs it again.

Another reason for declining yields is that since 2002/2003 the Kafo has never renewed the foundation seed that it uses. It will, however, use fresh foundation seed for the two retained varieties in 2010. Observing the development of the seed crops on their own farms and feedback from clients 'that the seed no longer worked' also contributed to this decision.

7.3.2 Structure

The association. The Jambur Kafo is an association of villagers who all have their own land and so farm as individuals as well as collectively with the Kafo. Since 2000 the Kafo has had a steady membership of 200: 180 women and 20 men. The Kafo does not pay its members for their labour, although they enjoy a communal meal on workdays.

In the dry season, individual members grow vegetables on the Kafo's land and pay part of their earnings from sales to the Kafo. This income helps to maintain the garden, especially the wells and fences. Since there is no rice farming in the dry season, it was easy to diversify into vegetable gardening. In principle this could provide finance

for the rice-planting season, but the Kafo rarely transfers money between the vegetable and rice activities. The vegetables are also used to feed members when they are working on the communal lands or are shared with visitors during the field days.

Management skills (working in groups and through committees) learned in the rice field also work just as well in the vegetable garden. The two enterprises have the same type of committees and the same people work in different roles within the different enterprises. For example, there is a committee that is responsible for ploughing. They go and look for a tractor, hire it and supervise the ploughing. There are similar committees responsible for the other operations.

Land, infrastructure and equipment. When the Kafo began it did not have any land and so approached a landowning clan, and was given land, free and simple.

Fairly soon after starting to produce Nerica in Jambur, the Nerica project arranged for a visit from the president's wife. She was so impressed that she gave the Kafo 5000 Dalasi (\$200) and 25 bags (1.25 tonnes) of fertilizer. As a result of this visit the President himself later donated 1000 bags of cement and some corrugated sheet metal to help them build a seed storehouse. The Kafo members began building the storehouse in 2004, providing their own sand, gravel and labour. But they gradually saw that they couldn't finish the building on their own, and so the Nerica project eventually helped with sand and roofing materials, enabling the Kafo to complete the large storehouse in 2007; it includes a fenced area where they dry rice. They cover it with tarpaulin for drying since they do not have a cement drying floor.

In 2005 the Nerica project sold the Kafo a seeder and a donkey-drawn weeder on credit. This loan has now been repaid from sales of rice seed. In 2009 the project donated a power tiller, to expand production into nearby lowlands. Some members of the Kafo operate the power tiller and threshing machine, but do other farm chores when the machinery is not being used. Since these machines belong to the Kafo, they are used primarily for work on the Kafo's land. It is only when work on the collective land has been finished that the machines are hired out to work on the plots of individuals, with the machine operators receiving a share of the money raised in this way.

Evolution of technology. Since the Kafo first started growing Nerica its members have always planted in rows with a donkey-drawn seeder, rather than broadcasting seed. They also use donkeys to pull the weeder and then they hoe up the weeds within the row. And they have continued using mineral fertilizer.

Training. Training was provided by the Department of Agricultural Services, covering fertilizer and crop management. The Nerica project gave training in operating the power tiller and threshing machine. The Kafo thought the training was too short, so a technician came and worked with them for a week, and they learned how to use the



The Gambian President donated cement and corrugated sheet metal for the Jambur Kafo seed storehouse.

machines by working under supervision. They believe that they now need training on the rate and timing of herbicide application. They do not use herbicide, even though they know that it is available and works well for early weed control, because they don't know about safety measures, when to apply it or the dosage. They believe that knowing this would enhance their ability to control weeds and so increase production.

Quality control. The Kafo members do not test seed for moisture content and germination rate, but stress the purity of each of their varieties. They take care to plant one variety at a time, using only land that had previously been used for that same variety (to avoid volunteers creating impurity). At flowering and at harvest time the women remove off-types (rogue) to ensure purity. Few other seed producers are able to undertake these time-consuming, demanding practices.

After harvesting, each variety is dried and winnowed separately. Sometimes a variety will be assigned to one group of people to process at a time. Thus each variety will be threshed separately. When changing varieties the first two bags threshed after changing variety are used only as grain, to avoid mixing. The store is cleaned thoroughly before storing the seeds. And they generally dress the seed that they are going to plant, to help keep it disease-free.

Linkages. The Kafo has a close relationship with NARI, which has agreed to give them new varieties and technical assistance, and has ties with TV and radio stations. The Kafo also enjoys good working relations with other seed producers in the region, and so was able to agree to a seed price increase when the cost of fertilizer increased. They supplied seeds and technical assistance to Jafaye Farm (Section 7.4) and continue to cooperate with its owner.

Collaboration. For large orders, the Kafo collaborated with other kafos and large-scale seed producers to meet it. They are expecting another large order in 2010, but do not believe that any of the other kafos can produce to their own high standards of purity and so are unsure how to meet the order and keep their customers' trust. One option is to use seed produced by individual members, but that may not be enough.

Competition. The Kafo at Jambur competes for sales with other kafos and with large-scale farmers. However, they believe that they retain customers because of the purity of their seeds and because everyone knows that they are well-established and reliable seed producers.

7.3.3 Cash flow

Evolving input costs. Seed prices have changed in line with the Kafo's production costs, rather than responding to changes in market demand. When they started producing Nerica they charged 15–20 Dalasi (\$0.60–0.80) per kilo, but rising fertilizer prices forced them to charge more. In 2009 they charged 35–40 Dalasi per kilo (\$1.40–\$1.60). This price increase was agreed with other producers in the region to avoid undercutting each other. They actually did undercut each other a little, but less than if they had not agreed on the price increase.

Operating capital. The Kafo does not need external financing every year, partly because it does not pay for labour and it has limited costs (mainly for fertilizer and fuel for the machinery). The Kafo built up operating capital by growing and selling Nerica seed. They are unwilling to use credit, following one experience. They hated

paying interest at a high rate and have never borrowed since. Even so, they feel that they now need credit to buy a tractor. In 2009 they applied for a bank loan, which the bank approved, but it has still not released the funds.

Credit. The Kafo does not sell seeds on credit either, because of another bad experience: they gave seeds on credit to the Soil and Water Management Unit of the Department of Agricultural Services (DAS), which distributed them to groups of farmers who had built water retention dykes. These farmers agreed to repay the seed in kind after harvest, but the seed they gave back was so mixed it could not be sold. Those who had promised to repay in cash simply reneged. Since then, sales to outsiders have been for cash only. However, people they know and trust (Kafo members and farmers from neighbouring villages) are allowed to buy seed on credit and pay later in cash.

7.3.4 Marketing

Public profile. The Kafo’s seed business attracted huge interest thanks to its partnership with NARI and the mass media. Right from the start the Kafo enjoyed a high public profile because NARI arranged for important people to visit the rice fields at Jambur and ensured that these visits received national publicity. NARI used to invite media, and expected most of them to cover such an event. In addition, a throng of media always followed prominent visitors like government officials. Seed customers were attracted from far away.

Clients. The Kafo has many customers. So far, small individual farmers like themselves buy 75% of the seed that they sell (Table 7.5). However, this figure includes the seed sold to agro-dealers who present themselves as individual farmers when coming to buy. Kafo members speculated that they feared that the Kafo would increase its seed price if it knew that they were enterprises. Until we discussed this question with the Kafo members, they had no idea that they had sold seed to any enterprise or agro-dealer such as GHE.

The next most important clients were projects. Some projects have also bought seed to distribute to the farmers they serve, such as the Africa Emergency Locust Project (AELP) and the Special Programme for Food Security. In 2007, the Red Cross and Voluntary Services Overseas (VSO) bought seed, while the AELP came to buy in 2008. Since then, other projects and NGOs have bought seed. The Kafo thinks that in future such projects will become more important than NGOs and individual farmers.

Radio and TV. During the Nerica project the Kafo members noticed that, whenever ministers visited, they always came with a TV crew and that the publicity helped to attract customers from far away. So they took the initiative to build relationships with TV and radio stations, developing skills at working with the media. Once or twice they paid the cost for TV stations to come and visit their fields. They were

Table 7.5. Clients of Jambur Kafo.

	2005	2009	2015 (predicted)
<i>Kafo members</i>	–	–	–
<i>Individual farmers</i>	1	1	3
<i>Projects</i>	2	2	1
<i>NGOs</i>	3	3	2
<i>Agro-dealers</i>	–	–	4

Ranking assessment by senior management of seed enterprise, 1 being the most important.

providing programme content rather than paying for advertising but needed to meet the travel and accommodation expenses of all the people involved. Even though they paid expenses, getting a TV crew to come was easier said than done. Sometimes they arranged a date only to have big news events take place elsewhere, and the TV staff covered those instead. And once the TV crew came, but without a TV camera, so the Kafo hired one.

They also need to arrange events for the TV crews to film. To organize a field day, they write letters of invitation to many farmers, kafos, NGOs and others and pay to advertise the occasion on the radio. They have to cook for their visitors; for one field day they slaughtered a bull. After lunch, the Kafo members show their visitors around the fields. Despite the cost, they know that this kind of promotion pays. Broadcasting field days allows the Kafo to show the quality of their rice fields to potential customers and so sell seed to a far wider area than could normally be reached by a community-based seed enterprise. Some customers said that they were looking for Nerica seed and didn't know where to get it until they heard on the radio or TV about the seeds in Jambur. Others only decided to plant Nerica after admiring TV images of the fields at Jambur. There were instances when would-be customers were still telephoning or even travelling long distances to visit them, even after they had sold all their seed. So the Kafo members felt that media worked for them.

In 2005 and 2006, when they produced a lot of seed, they used Kafo funds to pay Radio Gambia to carry announcements that they had Nerica seed for sale. Mr Bakary Fatty, a well-known radio journalist, comes from Jambur. Knowing him helps the Kafo contact the national media. Sometimes they ask him to facilitate the event, and sometimes he joins the media crew. But even with his help they still have to pay costs.

As well as the government-owned station, two private radio stations serve the Jambur area, Yiriwa Station in Brikama and Hill Top Station in Tabokoto. Both stations carry agricultural programmes. Omar Bojang, the secretary of the Kafo, was often invited to speak on the programme 'Back to the Land' and each time he would tell the audience that Jambur had seeds for sale. It was free to appear on 'Back to the Land'. So Mr Bojang used both of these stations to publicize the seed from 2007 to 2009.

Although radio has been used by government and private seed enterprises in Nigeria (Sections 4.3.4 and 4.5.4), seed dealers, farmer associations and cooperatives in Mali (Sections 5.2.4, 5.3.4 and 5.5.1), the Jambur Kafo also mobilized the TV to show what difference quality seed could make, to expand its customer base.

But the Kafo understands that media alone are insufficient to keep its customers as long as it cannot continue providing top quality seed. The renewal of its foundation seed is long overdue.



Mr Bojang, secretary of the Jambur Kafo, scares birds with his slingshot. He is an experienced rice farmer who regularly features in radio talk shows.

7.4 Jafaye Farm

7.4.1 History

Jafaye Farm is in Busambala, on the outskirts of Banjul. It is owned by Mr Alagie Dembo, who runs it with his employees. The business was officially registered in 2006.

Mr Dembo began farming in 2004 with cashew, groundnuts and maize after returning from living in Europe. But then he saw the President on TV talking about Nerica, and this inspired him to plant rice. He saw on TV that Nerica seeds were available in Jambur, and so went to a field day to see the new rice. He was amazed by the fields and this motivated him to move into rice farming, so he bought seed and became a producer. Initially he wanted to grow grain and even bought a mill, but Dr Kunjo, then the coordinator of the Nerica project, advised him to concentrate on producing and selling seed. Dr Kunjo explained that Nerica seeds were scarce and in high demand, and so if a relatively large farmer like Mr Dembo were to become a seed producer then farmers throughout the country would benefit. By the time he began to produce rice seed in 2005, the Kafo at Jambur had already been producing for about 2 years and so was able to give him advice, and seeds.

By 2007, he was planting 30 hectares to rice seed, yielding 800 bags of seed (with each bag weighing 50 kg). In 2008 he planted 25 hectares to rice seed and used the other 5 hectares to grow maize. There are several large poultry ranches nearby, so he tried growing maize as chicken feed.

However, for reasons that are unclear, in 2008 he produced only about 15 tonnes of rice seed on the 25 hectares, less than half of his previous harvest (Table 7.6). He recognized that the quality of the ‘foundation’ seed he sowed partly accounted for the unsatisfactory yields in 2008. He has not renewed the foundation seed that he first got from Jambur Kafo in 2005. Jambur Kafo, which will renew its foundation seed in 2010, also reported a decline in quality of the foundation seed it has been recycling since 2002/2003.

By 2009, the land around Mr Dembo’s farm had become so urbanized it was no longer suitable for agriculture, so at the end of 2009 he sold his rice field but not his young cashew grove. Then he bought another field, in Basori, 5 km away. The new farm is larger, so the area under rice will increase by 2010. He continues to receive training and advice from NARI, mainly on farm management and crop production.

Table 7.6. Rice seed production, Jafaye Farm.

	2005	2006	2007	2008	2009
	Quantity of seed produced (tonnes)				
<i>P163</i>	3.5	6.0	25.0	10.0	–
<i>Nerica 4</i>	2.0	3.4	15.0	5.4	–
<i>Total</i>	5.5	9.4	40.0	15.4	–
	Cultivated area (hectares)				
<i>P163</i>	6	8	20	17	–
<i>Nerica 4</i>	3	4	10	8	–
<i>Total</i>	9	12	30	25	–
	Seed production per unit area (tonnes per hectare)				
<i>P163</i>	0.6	0.8	1.3	0.6	–
<i>Nerica 4</i>	0.7	0.9	1.5	0.7	–

7.4.2 Structure

Management. Mr Dembo is interested in getting good seed to farmers and in regenerating the land, rather than simply maximizing profits. He is keen to improve his farm and mechanize it, to reduce drudgery and to improve timeliness. He hopes to use more fertilizer to keep yields high.

He has ten permanent staff members who have worked for him since he first planted rice. Mr Dembo has an experienced farm manager with more than 10 years' experience working at a large Lebanese-owned farm producing vegetables and fruit trees. At periods of peak labour demand, up to 60 day labourers may be engaged. His tractor driver only works the days he is needed.

Land, infrastructure and equipment. Mr Dembo owns his own farmland. His old and new rice farms were both rain-fed. He has exclusive access to a seed store on the main road; it was hardly ever used, so now he borrows it. The only machines that he uses are the tractor, the rice mill and the animal-drawn seeder and weeder.

How the whole enterprise fits together. The new plot, of 100 hectares, will be used to produce rice seed, timber from gmalina trees and mangoes. Mr Dembo has just planted the trees, and will grow rice around them. Weeding the rice will keep the land clear, so he will not have to weed the trees. The rice will earn money until the mango trees mature. Meanwhile the cashews are still providing cash to invest in rice.

Mangoes are in high demand and so are likely to be profitable. He is planting the gmalina trees to reverse deforestation. Once the trees are mature they will produce timber and will regenerate after the timber has been harvested.

Evolution of technology use. Mr Dembo began by using donkey- or horse-drawn implements for ploughing, weeding and seeding. In 2007 he bought a tractor for ploughing. Depending on what is most appropriate for each field, either men harvest with a sickle or women use a knife for panicle-picking. For threshing, he borrows a machine from the Department of Agricultural Services.

Mr Dembo owns a mill but has never used it (apart from testing it) since he produces seed: he had already bought it when he was advised to be a seed producer, and so has had no use for it and 'does not have time' to operate a milling business for other farmers. He may use it in the future to become a rice (grain) producer since he believes that the seed market is nearly saturated. But he said that seed sells for more than grain, so shifting from seed to grain production would cut his net income by perhaps 70%. He explained that, after selling a single bag of rice to be used as seed, he would have enough money to buy a bag or two of imported clean rice to feed his family, but he would have to mill three bags of paddy to get a single bag of clean rice.

Mr Dembo has applied fertilizer at the recommended levels since he began growing rice, and has enjoyed an assured supply of fertilizer (at market price) through the Nerica project. However, he has never used herbicide, since he is not sure how. And he pays attention to bird-scaring.

Quality control. Mr Dembo sows with seed that he has himself saved, which he ensures is pure and has a high germination rate. His knowledge of seed management is based on advice from the Jambur Kafo, as well as general training in farming from NARI. All his seed is descended from the first seed he bought from the Kafo at Jambur. He plants different varieties apart with a gap between them. He eliminates as much grass as possible, so that his harvest is not contaminated by grass seed.

Mr Dembo harvests at 80% maturity so that the crops do not get dry and shatter at harvest. Like the Jambur Kafo, he practises roguing. He then dries the harvested grain so that it does not get mouldy, and threshes it mechanically. He takes care to dry the different varieties separately, for 4 to 5 days. He winnows the rice and dries it again for a day or two before bagging it.

Before storing his seed, Mr Dembo sends a sample to NARI to test for germination and purity. NARI thus assists him to maintain high standards of seed quality, although it does not have any responsibility for regulating seed production or for maintaining quality. NARI also provides seed-dressing fungicide (free, given as part of the Nerica project), which he applies to the seed. He does not use any special kind of packaging.

Linkages. Mr Dembo's closest link is with NARI, whose Nerica project guarantees his timely access to fertilizer at market price, conducts germination tests and gives him seed-dressing chemicals. Another important link is with the Department of Agricultural Services, which provides technical advice and lends Mr Dembo the threshing machine.

Mr Dembo also enjoys strong relationships with the other rice seed producers in his region, Kombo. He is the president of a regional association of local rice production kafos, including the one at Jambur. The association's main achievement was to agree on new seed prices (Section 7.3.3) after fertilizer prices increased. He has a stronger partnership with the Jambur Kafo than with the others. When he began farming, Jambur sold him seeds and gave him the technical advice that he needed. He also discusses and agrees on prices with Jambur on a regular basis and so regards them as partners rather than competitors.

7.4.3 Cash flow

Jafaye Farm stores the rice seed it produces from harvest time (October) until farmers start buying immediately before the next sowing season (April). The delay in receiving money places a strain on Mr Dembo's cash flow. However, he has other activities that earn money and so he does not need loans. The main reason for official registration was to open a company bank account, but Mr Dembo has not used it as a source of credit. Nor does the business receive any supplies on credit. He pays cash for fertilizer, fuel and other inputs. He sells seed for cash.

7.4.4 Marketing

Evolution of sales. Unsatisfied demand is lower than in the early years, since now there are more seed producers. Mr Dembo may respond by using his mill to process some of his harvest as grain.

At the same time, other farmers are clamouring to use his mill, particularly since the price for local rice is higher than imported rice. Pounding of rice by hand is unpleasant and hard work, always done by women, who are eager to switch to machines. Since rice mills are scarce in this part of The Gambia, a rice mill could charge high fees.

Evolution of seed prices. Mr Dembo began by charging 25 Dalasi (\$1) per kilo, but fertilizer prices increased sharply. He and Jambur agreed to increase the price to 40 Dalasi (\$1.60). He charges NGOs an additional 5 Dalasi (\$0.20) per kilo because they can afford to pay more than farmers. Some people would pay much more. Once a businessman bought seed from him and some other producers at 25 Dalasi and then, once Dembo and Jambur had sold all their seeds, he resold them at 100 Dalasi (\$4) per kilo. He had repacked them in plastic bags and sold them through an agro-dealer, giving the impression of high quality. Mr Dembo, however, simply weighs the seed and sells it in large bags. He said that he was not interested in maximizing income, like the businessman, but wanted to get seed to the farmers. ‘Our objectives are different.’

Evolution of type and importance of clients for rice seed. Individual farmers and NGOs buy seed from Mr Dembo (Box 7.2). About 75% of his seed is sold to individuals, a proportion which has remained reasonably constant, while sales to NGOs fluctuate.

Box 7.2 God will reward him.

Alagie Mori Kebba Touray, from Faraba Banta village, farms just under 2 hectares of rice, as well as cashew, groundnut and millet. In 2006 he heard about a new and high yielding rice variety, Nerica, and decided to grow some himself. A friend told him that Mr Dembo was a large farmer who grew Nerica and sold seed. Mr Touray called him immediately and arranged to go to his house to ask him about Nerica. Mr Dembo recommended Nerica, but had no more seed available, and so advised him to try either Jambur or NARI.

Nerica seeds were scarce and demand was high, so suppliers were only selling small amounts to each customer. Mr Touray was keen to begin production, rather than spending a year or two multiplying seed, and so he bought Nerica from several suppliers: from the Kafo at Jambur; from NARI at the nearby village of Brikama; from Bintang and even from Sapu, a 4-hour drive away. He went wherever they had seed.

When asked what he thought of the quality of the seed that he had bought, he seemed puzzled. ‘It was all Nerica, so it was excellent.’ He clarified that when he bought the seed he wasn’t looking for quality – in fact one batch didn’t even germinate – he just wanted some kind of Nerica seed.

Although he calls all the seed he bought ‘Nerica’, he knows that there may be differences between the seed from each source. So he planted each batch in a different place and observed their performance. He is careful to produce pure and high quality seed: he checks his fields for off-types; examines the seed and sorts it, using only the best rice for sowing and for selling as seed, while the rest is eaten as grain. In this way he has produced his own seed and maintained each type separately ever since the one and only time that he bought seed. His methods of seed production are based partly on his own ideas, partly on advice from Mr Dembo.

He sells seed to farmers in the region. He sells all the seed he has available, and would be able to sell more if he could produce more. He tells his customers how he grows seeds, how he plants and how he applies fertilizer. In short, he passes on everything that he was told by Mr Dembo. He tells each customer they are welcome to come back for advice later.

Mr Touray produces more than enough rice to feed his family. He also sells Nerica seed for 25 Dalasi (\$1) per kg, and his earnings from selling seed may or may not cover his production costs. He believes that one day God will reward him for helping his neighbours to grow Nerica.

Farmers who buy from him are generally new faces who buy only once, although some return, usually because they have lost their seed or found that it has become highly mixed. He gives customers technical information by answering their questions. He encourages repeat business by offering a bonus (more seed at no extra cost) to farmers who buy more than once. He believes that he retains customers because of the quality of his seed and his accessible location. His farm is near the highway and so customers can reach him easily, while getting to Jambur is more difficult.

Filming field days. Mr Dembo holds field days: NARI brings important visitors to see his farm and these occasions are televised, so that interested farmers can see the quality of his rice fields. And he has paid the radio to announce that he has seed for sale. Some farmers approached NARI to ask for Nerica seed and were referred to him, while Jambur has also referred customers to him once its own stocks were sold.

7.5 Challenges and Strengths of the Seed Enterprises

All three of the enterprises discussed in this chapter are based near to the capital city and the NARI office, and enjoy a close working relationship with NARI. Support from NARI is an important factor in their success, but the benefits do not all flow in one direction. NARI conducts some experiments with the seed enterprises (particularly GHE and its customers) and relies on them for feedback about how the varieties that it promotes work in practice.

GHE benefits from the high level of technical knowledge that its founder contributes, supplemented by its excellent working relationship with NARI. It has diversified into a number of different activities and so enjoys the financial stability that is provided by several distinct revenue streams. Unlike the other two enterprises discussed in this chapter, it began with the aid of a bank loan and continues to use commercial credit when necessary, although most of its financial needs are met with its own funds. This contrasts with the experience of some other seed enterprises, which may thrive without credit but require capital for expansion (as with the Kafo at Jambur). Likewise, Gambian women entrepreneurs engaged in handicraft or horticulture did not need loans for operational capital, but faced problems in accessing capital for expansion (Della-Giusta and Phillips, 2006).

The Jambur Kafo is near the NARI office and has maintained good relations with NARI for a long time. As a result, its members enjoy access to technical advice and new varieties. It is puzzling that despite this link they were unable to renew their foundation seed for many years. The lack of a system to maintain varieties and renew the foundation seed used by seed producers is a systemic weakness across the whole country.

Nevertheless, they intend to use their link with research to enable themselves to respond to changing market conditions. They believe that demand for their main product (seed of 'white Nerica') is declining and so they have developed a realistic long-term business plan that will use the skills that they learned in the PVS, testing and observing different varieties. They are well-placed to obtain new lines from NARI, try them under typical smallholder conditions and sell the best ones. This would allow them to offer a constant stream of new varieties appropriate to farmers' needs. Such a strategy builds upon farmer interest in new varieties and farmer willingness to pay for a promising new variety. But to make the most of this strategy the

Kafo will once again have to use its media savvy to inform consumers about the new varieties it will offer.

One weakness is the Kafo's reliance on the unpaid labour of its membership. In the early years the required labour was forthcoming, since this meant that Nerica seed would become available to each member and so new livelihood opportunities would be opened up for each one. Once supplies of Nerica seed were assured, however, most members gave higher priority to working for themselves rather than for the Kafo, particularly since it is not clear how they benefit from the Kafo's income. Another concern is the Kafo's isolation from agro-dealers. Customers have to come to Jambur, and the Kafo has not created a network to supply larger areas. They thus depend upon motivated customers who are willing to travel long distances to buy seed, and may be missing many other sales opportunities. Nor has the Kafo paid much attention to packaging in order to cash in on their good reputation. If they were to begin to sell through intermediaries, sealed and labelled packets would be essential to protect their brand.

Similarly, Jafaye Farm has not attempted to use packaging to boost sales. Indeed, it chose to ignore the clear demonstration of the power of product differentiation that it was given when some of its seed was sold at a high price after being packaged as a quality product and placed with an agro-dealer. Rather than following this lead, Mr Dembo plans to respond to increased competition by reducing seed production, growing more rice as grain and making the most of his rice mill, which is a scarce and valuable resource.

The business has been successful for several reasons. It began producing Nerica seed early, when demand was high, and for several years could easily sell all that it produced. Its field days have been shown on television and admired by viewers for miles around, while it makes judicious use of radio advertising to bring in business. The prominent location of its main sales point, on a main road, is another advantage that the business enjoys. It operates on a reasonable scale and is adequately capitalized, with several business activities providing the cash flow needed to produce rice seed. The business survived a 50% fall in rice seed production followed by a year when the field was in fallow, demonstrating the resilience that is given by a firm financial base. Mr Dembo owns all the land he cultivates, with enough equipment and good working relations with the providers of technical assistance (NARI and the Department of Agricultural Services) and with supportive fellow seed producers (the Kafo at Jambur).

Both Jafaye Farm and the Jambur Kafo benefit from the activities of companies such as GHE, although they do not know that. GHE brings expertise in marketing and uses techniques such as packaging to present the seed that it resells as being of high quality, while its willingness to sell in small packets from convenient locations makes the seed accessible to a wide range of farmers. As a result, the market available to seed producers is extended, reducing the likelihood that market saturation will in fact become a serious problem for them in the near future.

7.6 Conclusions

The context for the events described in this chapter is the spectacular success of The Gambia in increasing domestic rice production. During 1999–2003, average annual paddy production was just 27,870 tonnes, and yet output reached 38,300 tonnes in

2008 and is projected to increase by 79% to 69,000 tonnes in 2010 (data from the FAO and *Rice Market Monitor*). The impulse that led to this achievement was provided by public policy in the form of a general initiative to make agricultural development a priority, including initiatives personally undertaken by the president, together with the opportunity provided when Nerica became available. The public-service media followed the lead given by the authorities, and the interest shown by their audience prompted them to increase their coverage and also encouraged privately owned mass media to launch related programmes. Their contribution was of immense importance, but it should not be imagined that the media acted autonomously, when they were following an agenda set by the country's political leadership.

The impact of media involvement was in many ways remarkable. The transmission of TV images of fields planted to Nerica made a great impression on several of the farmers interviewed, who were awed by the quality of the plants and immediately decided to grow Nerica themselves so that they too could have fields like the ones shown. The fact that they had seen the fields on TV gave them confidence in the quality of the seeds, and motivated them to travel considerable distances in order to buy seeds from the farms shown on TV. Because of public interest in finding Nerica seed and growing this new rice, it made sense to broadcast more information about why to use high-quality seed and the best ways to grow rice. The media responded, making use of educational materials that were newly available from AfricaRice, and as a result there was a general increase in skill levels and the quality of farming across the rice sector. The overall communication strategy thus evolved from an initial focus on a new variety to broader coverage of the benefits of healthy, high quality seed and good crop management. In Bangladesh, communicating seed health had an equally positive effect on the seed sector (Van Mele *et al.*, 2007).

The mass media fulfilled two important functions: providing information and building trust. This experience confirms the suggestion made by Fafchamps (2004) that strong social institutions can perform a function similar to that of social capital, and so may provide a substitute for it, one that he regards as being preferable on equity grounds.

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