



CIMMYT

International Maize and Wheat Improvement Center

**Strengthening Seed Marketing Incentives in Southern Africa to
Increase the Impact of Maize Breeding Research Project**

Factors limiting profitability of the seed sector in southern Africa: A sector survey report

By

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Section 0: Introduction

An informal survey of key participants of the seed sector was conducted in Malawi, Mozambique, Zambia and Zimbabwe between October and December 2003. The main purpose of the survey was to derive qualitative insights into the factors that condition the profitability of commercial seed production and distribution in southern Africa and to identify important supply-side constraints that will need to be overcome in order to get commercial seed to smallholders. Representative staff members of seed companies, NGOs, farmers' associations, seed certification units, National Agricultural Research and Extension Systems (NARES), and the SADC Seed Security Network were interviewed using a checklist (Appendix 1) where appropriate. The list of representatives of the various institutions visited is presented in Appendix 2.

The summary report presented below is by country. For each country, the roles of seed companies, nongovernmental organizations and seed certification units in the maize seed sector are presented followed by challenges to the profitability of seed production in the country. The final section summarizes the major supply-side constraints limiting seed production and profitability across the four countries surveyed.

Section I: Malawi

1.1 Organization of seed production by seed companies in Malawi

Monsanto, Pannar and SeedCo are the main competitors in the thin Malawian maize seed market. In 1978 the government of Malawi established the National Seed Company of Malawi (NSCM) to answer the seed needs of farmers. During the first 10 years, NSCM was managed completely by the government which provided all the breeding materials (e.g., germplasm). NSCM was privatised and taken over by Cargill in 1988. Under its new management, Cargill received varieties from Cargill Zimbabwe and Cargill South Africa. Motivated by the high demand for seeds by farmers, Pannar entered the seed production and marketing business in 1996. Two years later Cargill was taken over by Monsanto. SeedCo was registered as a seed production and distribution company in Malawi in 1999 (but became fully operational in 2000). Each company has its own breeding program (although Monsanto still relies heavily on its subsidiary office in South Africa for some breeding materials) and seed processing plant but all rely on contract farmers for their seed supply. Whereas Pannar and SeedCo produce and market seeds of open pollinated varieties (OPV) and hybrids of maize as well as of other grains and vegetables, Monsanto concentrates on only hybrid maize. In the development of OPV maize, both Pannar and SeedCo incorporate CIMMYT derived lines.

Annually, seed companies contract between 15 and 50 farmers to produce and deliver seeds to them because they (companies) lack adequate land and related resources to produce enough seed to meet set targets. In the choice of farmer to produce OPV or hybrid maize, the farmer's production resources are taken into account because of the relative demands on production resources by the two types of seeds. For instance, production of hybrid maize seeds requires (a) cash to hire additional labor for de-tussling, (b) irrigation facilities for a good crop, and (c) relatively better managerial skills. Consequently, large scale commercial farmers who usually are more resource endowed compared with small scale farmers are contracted to produce hybrid

seeds while small scale counterparts produce OPVs. In some cases, however, large scale commercial farmers contracted also sub-contract tenant farmers to produce and deliver the hybrid seeds to them. In such a case, the commercial farmer makes sure he/she supplies all the necessary inputs to the tenant farmer under various conditions to ensure a good crop.

When a farmer expresses interest in becoming a contract farmer of a given company, a company staff member visits the farmer to make sure that:

- a) the land identified and ploughed for seed production is accessible (to facilitate supervision), of suitable isolation distance from other maize fields and within 100 km radius to the company's processing plant, and
- b) the farmer has adequate financial resources to pay for the production inputs.

If the company staff member is convinced that the farmer could be a satisfactory contract farmer, a contract is signed between the farmer and the seed company. At that time, both agree on the producer price of seed maize. Foundation seed (of the choice of the company) are then supplied to the farmer. Where necessary, training on seed maize crop management is given. Field supervision starts at the time of planting. During tussling, additional supervisory visits (at least every three days) are made to farmers growing hybrid maize. Seed companies believe that though costly, frequent and close supervision enhances seed maize recovery rates. A farmer may have adequate resources at the time of registration but may suddenly run out of cash making it difficult for him/her to carry out various field operations to the detriment of a good seed crop. Therefore providing close supervision affords the company the opportunity to identify any such problems and possibly intervene to prevent seed crop failure. For instance, Monsanto has on average 99% (100% last season) recovery rate as a result of close supervision.

In the 2002/2003 season a total of 5,600 MT of seed maize was produced by Monsanto, Pannar and SeedCo on an estimated land area of 1,400 ha (Table 1.1). This represents 19% increase over the previous season's supply and 20% of the estimated national demand of about 28,000 MT. The types of maize seed produced (hybrids or OPV) are influenced by demand. In Malawi, agriculture is dominated by small scale farmers who constitute about 90% of all farmers. These farmers rely on local maize varieties which they can recycle instead of going to the market regularly to buy seed. The reason being that they often lack the needed financial resources or are not sure they would get the seeds they want. In the past, subsidies on seed promoted seed sales but the removal of input subsidies has made seeds relatively very expensive for the ordinary farmer. Furthermore the very elaborate distribution networks of Agricultural Development and Marketing Board (ADMAB) have all collapsed exacerbating the problem of input distribution in the country. The collapse of ADMAB also created problems for the marketing of grains as well.

Based on this demand structure, Malawian farmers prefer OPV to hybrids. It was therefore not surprising to note that an estimated 75% of all improved maize seeds marketed is OPV. ZM421, ZM521 and ZM621 constitute a large proportion of the OPVs on the market. Before the advent of hybrids in 1983/84 (introduced from Zimbabwe), composites used to dominate the seed market. NGOs involved in seed relief also prefer to supply or assist farmers to produce and market OPV maize seed. Where they supply seed in their programs, NGOs float tenders and seed companies bid for them. The government also prefers to supply OPV maize seed to farmers under its sponsored programs e.g., the government's targeted food programme for the disadvantaged farmers funded by DFID.

Table 1.1: Seed supply by seed companies in Malawi

Seed Company	2001/2002 crop season		2002/2003 crop season	
	Area (ha)	Production (MT)	Area (ha)	Production (MT)
Monsanto	852	3650	952	3808
Pannar	149	596	323	1292
SeedCo	110	483	137	548
Total	1111	4729	1412	5648

Source: Seed services, Malawi.

In addition to distributing seed through NGOs and government agents, the following retailers are also used based on their close relationship with farmers as well as their involvement in the distribution of agro-chemicals a) McCounell Co/Ptc, b) Rab Processors Ltd, c) NASFAM, - Farmers Association, d) Farmers World, and e) Agricultural Trade Company. Most seed companies distribute seed to retailers for sale as consignment stock at wholesale prices. Given that transportation appears to be the main constraint to seed distribution (it costs MK8-11/t/km), retailers are expected to add 15% margin if the seed is delivered to them or 20% if they pick up the seed from the company's warehouse. Payments are then made after seeds have been sold. Any unsold seeds are retrieved by the seed company concerned. Occasionally some retailers default in paying for seed received compelling seed companies to make extra efforts to get their monies.

1.2 NGOs and Farmer Organizations involvement in seed production in Malawi

As noted above, the existing seed companies are unable to meet the seed demand of Malawian farmers. This has been recognized by both government and the general public. Consequently every effort is made to complement the efforts of the seed companies to answer the seed needs of the farmers. An important non-governmental organization involved in seed production and distribution in Malawi is the Association of Smallholder Seed Multiplication Action Group (ASSMAG), founded in 2001 to replace the National Smallholder Seed Producers Association (NASSPA) which was started in 1999. ASSMAG is owned and managed by smallholder farmers but the day to day activities are managed by a board (which includes three ex-officio members from the Ministry of Agriculture, Financial/Management Institute and a Legal practitioner). ASSMAG has 2450 members across the country and the office in Lilongwe is the apex of its activities. There are eight affiliate associations in each of the eight Agricultural Development Divisions (ADDs) in Malawi. Under each affiliate association, there are five smaller groups known as Seed Marketing Action Groups (SMAG). Recruitment of new members is done by the SMAG based on the following criteria:

- a) Application to SMAG,
- b) Suitable garden for seed production which must be inspected by SMAG,
- c) Payment of a one time membership fee of US\$10, and
- d) Agreement to abide by the constitution of ASSMAG.

ASSMAG is involved in community seed production of OPV maize, groundnuts, beans, soybeans, pigeon peas, millet, sorghum, rice, cassava, and sweet potatoes. Farmers are organized to produce the seeds individually and the association identifies markets for the seed. Any one member can produce any number of crops he or she so decides. In general, the main clientele are

NGOs and government sponsored programs such as the Targeted Input Program, and the Agricultural Productivity Investment Program as well as surrounding farming communities. Marketing of maize seed has never been a problem due to the expansion of maize seed market but a big challenge to sell groundnuts seeds due to over production. It is customary to issue quotas to various members to control the quantity of seed produced but groundnuts usually end up exceeding set targets. Whenever a maize market is identified for a given type of seed, quotas are given to the various producers so that at least each producer can have some seed sold. The preference of the association is to have sufficient capital to procure all the seeds produced by members and then organize the marketing. A levy of K1/kg of seed sold is deducted at sales to contribute to the running of the association. In the 2001/2002 crop season, ASSMAG members produced a total of 1978 MT of seed on a total area of 432 ha and in 2002/2003, a total of 2181 MT of seed was produced on 623 ha of land which is about 39% of the seed companies' volume.

The Sasakawa Global 2000 (SG2000) is another NGO that intervenes in the production and distribution of seed through its technology transfer mechanisms. SG2000 recognizes that agriculture is not performing well in Malawi due to a number of reasons including late delivery of fertilizer and carrying out of various field operations. Most farmers rely on local varieties either because they lack sufficient financial resources to purchase seed annually or can't get the seeds they want at a given time. Furthermore, the relatively poor producer price of maize (K3/kg in 2003/2004 season) does not provide an incentive for farmers to adopt technologies in general.

To help move agriculture forward, SG2000 is supporting a number of farmers (912 in 2003/2004 season) selected among the poorest of the poor with an estimated 17 million Kwachas annually. Beneficiary farmers are trained (usually in September before the season begins) and encouraged to use improved varieties, especially hybrids which can give relatively higher grain yields compared with other types of seed but farmers are allowed to choose the varieties they want. Maize seeds are procured from Monsanto, Pannar, and Seed-Co but when the requisite varieties are not available, farmers are organized to produce such seeds for sale to fellow beneficiary farmers. For example, 9 MT of QPM seeds were produced and distributed last season. In addition to seed, related inputs are procured from relevant companies and distributed to farmers at low interest rates. Each farmer is given 2.5 kg maize seed and 25 kg fertilizer (10 kg NPK and 15 kg Urea). After the harvest, field days are held for the contact farmers to evaluate their activities.

1.3 The role of seed certification in facilitating seed production in Malawi

The main objective of the Seed Services Unit (SSU) is to make sure that good quality seed is produced and made available to the farming community. In this regard, SSU undertakes a) field inspection, b) seed testing, c) post control, d) research, e) training, and f) seed quality monitoring. SSU has 5 seed inspectors with three satellite sites (Lunyagwa Research Station in the north, Lifuwu Research Station in the center and Bvumbwe Research Station in the south). The Chitedzi Research Station SSU coordinates the activities of the satellite sites. There are two analysts at Chitedzi, 2 at Lunyagwa, 1 at Lifuwu and 3 at Bvumbwe.

Fields that need to be inspected are registered at a fee of K300/crop irrespective of the size of the plot. Inspection is, however, charged per ha. Land verification is important to ensure that land

was not used for maize production the previous season to eliminate any volunteer crops. After land verification, the seed source is verified to ensure that it is indeed pure seed to be used. After these two processes, land preparation can proceed. Inspection to ensure proper isolation distances is done continuously during the growing season. Close monitoring of the field is done to make sure that off-type seeds are removed. Unlike OPVs where inspections may be done only 4 times, with hybrids, up to 10 inspections are possible. Before shelling, each lot is inspected and issued with a certificate. This thus increases the inspection cost of hybrids in general compared with OPVs. Packing is allowed in only new bags. If old bags are to be used, they must be washed thoroughly and disinfected.

During inspection of maize seed, it is expected that the germination percentage is at least 90% and purity, 99% (compared with 75% for groundnuts). The corresponding percentages are less for moisture content. Any samples requiring testing must be registered and 2kg per sample sent to SSU. For purity, no broken, shriveled, weeviled, or rotten grains are allowed.

1.4 Challenges to the profitability of seed production in Malawi

A number of problems beset the maize seed sector in Malawi with direct or indirect implications for profitability. In general, seed production is expensive in Malawi due to low yields (about 6t/ha compared to 13t/ha in South Africa making the South African companies more competitive than those in Malawi) and limited knowledge of small scale farmers in seed production. Some farmers fail to understand the need to create adequate isolation distances, carry out proper detussling in the case of hybrids (it is not clear if farmers know the differences between hybrids and OPVs), and efficient transportation to processing sites.

The SSU is overstretched due to the expanded seeds sector but limited manpower and material resources (such as reliable transport) to carry out seed inspections. The recent change in government policies such as removal of barriers and restrictions in production has resulted in increased seed crop area as well as crop diversification. Currently seeds are produced on small fields of about 0.4 ha each scattered over large areas increasing inspection costs. Frequently farmers ignore the accepted isolation distances, and land history rules leading to rejection of such fields on inspection with implications on the target company's profitability. It is not possible to protect genuine seed producers without proper seed legislation (as is currently the case in Malawi). As a result substandard seeds flood the market depressing seed prices.

The "dollarization" of inputs prices is a major constraint to seed profitability. Input sellers tend to adjust input prices in response to changes in exchange rates resulting in relatively high and variable input prices. If seeds are priced at the costs, they would be substantially higher than the "threshold" of ordinary small scale farmers. As a compromise companies cut back on their profit margins but prices are still too high for majority of farmers.

Many small scale farmers currently being contracted are scattered over a large area to ensure adequate isolation distances. Correspondingly, supervision costs are increased. Additionally, most of the small scale farmers lack adequate capital to invest in seed production which is a source of concern for seed companies. Their reliability to surrender all seeds produced is also of concern to seed companies. Some, especially those producing OPVs divert the seed for

alternative uses (or simply sell them as grains) with adverse implications on profits.

Currently, seed is demanded by mainly NGOs and donors implying that the actual free market demand is not known at all. In general, NGOs/donors prefer OPVs which in the view of seed companies is not a satisfactory approach to stimulate the seed market. NGOs/donors acquire seed through tenders. However, the process makes it very difficult for companies to plan their production since orders are dependent on external funding which is sometimes received late. Forward contracting can be the best option to ensure proper planning. Currently, it is estimated that adoption rates of improved varieties is about 30%. Companies are hoping to push this up to 80% to guarantee a reasonable seed market for seed producers. But of course, the companies recognize that as an uphill task because farmers can't buy improved seeds. The inability of farmers to purchase seed has implications for profits as companies are compelled to sell at below cost of production to clear their stocks.

There is also abuse of brand loyalty by unscrupulous companies who sometimes use the advertising packages of others to sell their seeds (to the predominantly illiterate farmers). With open borders to seed trade, competition is fierce. There are chances that when a company is promoting its products, it does so for others as well, especially when packaging are similar. Under such circumstances, however, farmers may become dissatisfied with the performance of the given variety that aren't true to type thereby negatively affecting their future decisions.

NGOs¹ involved in seed production rely on secondary sources for their foundation seed which is a source of constraint to their activities. Furthermore, they often lack processing facilities for seed produced by members of the group. NGOs also consider the certification process too rigid and therefore prefer to be considered for the option of quality declared seeds instead of certified seed. But that may potentially limit their penetration into the seed market.

¹ World Vision Malawi is another important NGO involved in the production and distribution of seed in Malawi but it was not possible to grant an interview with its staff during the period of the survey. Efforts are made to obtain the relevant information on their seed production operations.

Section II: Mozambique

2.1 Organization of seed production by seed companies in Mozambique

The major seed companies in Mozambique are Semantes de Moçambique (SEMOC), Pannar, V&M, Agro Alfa, AgroFocus, Agrotech, and TECAP. SEMOC, Pannar and V&M are directly involved in the production and distribution of maize, beans, sesame, soybean, groundnuts, sugar beans, cowpea, pigeon peas, sunflower and sorghum seeds while the rest only distribute². The establishment of SEMOC in 1980 as a parastatal company owned 70% privately and 30% by government (and presently taken over by SeedCo) was motivated partly by the lack of any seed company in Mozambique and partly by political problems in the country making it difficult for any seeds to be imported. The activities of SEMOC which used to be nationwide have been restricted to Chimoio area to consolidate its work and re-launch activities in all other parts of the country. The numerous branches have been closed down due to inefficiency and poor performance. All such distribution outlets are now agents of the company. The main strategy of the company is to get NGOs to put in tenders for seed. Sometimes it is difficult to operate due to government interventions. Agro Alfa is traditionally an input delivery agency but has also been involved in the distribution of seeds of major food crops in Mozambique. The company inherited the seed distribution infrastructure and contact farmers from Care International. Recently, Agro Alfa signed a memorandum of understanding with INIA and Care International for the production of basic and pre-basic seeds. About 60 ha of basic and pre-basic seeds were cultivated in the past season. Average sale of seed is about 300 – 350 MT/year. Matuba and Kalahari pearl are the preferred varieties from Zambezie up to the north while Matuba and “Manica” are preferred in the south. TECAP distributes mainly vegetable seeds and some grains from SEMOC and Pannar Seed companies through its distribution networks in Gaza, Inhambane, Sofala, Nampula and Zambezie. TECAP hopes to start distributing maize seed in the very near future because of the very high demand for seed maize.

SEMOC contracts an average of 13 commercial farmers (in Maputo) to produce hybrid seeds and between 40 to 50 small scale farmers (in Manica, Sussudenga, and Katangila) for the production of OPV seed. The preference for commercial farmers to handle hybrid seed is because they have the requisite resources (e.g., sufficient funds to hire a tractor or bullocks and additional labor for various field operations), irrigation facilities, and managerial expertise to manage a good hybrid seed farm. A company staff member visits interested farmers to ascertain their eligibility as before they are contracted. Foundation seeds are distributed to them for planting.

During the growing period, 2 seed inspections are made; the first at flowering and the second on the invitation of the farmers. When farmers deliver seeds, samples are tested and if at least 80% germination is obtained, the government seed certification unit is invited to perform their own germination test and if over 90% is obtained permission is given for the seed to be processed and packaged for sale. About 5100 MT (of which 2000 MT hybrids) maize seed were produced in 2002/2003 season compared with 2500 MT the previous season. SEMOC exports seed to Botswana, Zimbabwe and Malawi although the country depends on between 50-60% of imports

² The discussions in the rest of this section relate to SEMOC as it was not possible to interview the management of Pannar and V&M during the survey.

from neighboring South Africa. In general OPVs are easier to sell in Mozambique than hybrids. To promote hybrids sales, one has to add small quantities of the hybrids in the packages of OPVs. In this way when farmers see the improved performance of hybrids they would subsequently buy some. Current seed prices in Chimoio are 16000 *maidicais*/kg for OPVs and 20000 *maidicais*/kg for hybrids.

2.2 NGOs and Farmer Organizations involvement in seed production in Mozambique

The NGOs involved in seed production and distribution in Mozambique are World Vision International (WVI), Agaka, Oxfam, Care International, Save the Children, Promec, ICDC-Voca, ADPR, Lutheran Food for the Hungry, IFH (Food Fund for Hungry), GTZ, and SG2000. At the time of the survey, only WVI was interviewed therefore the discussion in this section relates to only WVI activities. WVI has 2 projects in Gaza, 2 in Zambezie, 2 in Nampula and 1 in Tete which are involved in demonstrations for 15 and 25 farmers and their mobilization for seed production and distribution. In the current year about 886 MT of maize seed mainly Matuba and Sussuma (which is about half that of the previous season) has been distributed.

WVI assists farmers with foundation seed (obtained from SEMOC and Pannar) to produce their own certified seed under the guidance of project extension officers and government seed certification agencies. Seeds so produced are for their own use and sale to other farmers in the localities and beyond. Farmers are expected to pay back the seeds collected from WVI in kind (seeds) which are in turn distributed to other groups. For instance, if farmers receive 2 kg of foundation seed, they are required to pay back 2.25 kg of certified seed. This is then given out to another group of farmers to produce seed and payback in seeds. WVI, however, makes an effort to watch out for the performance of the varieties they hand over to farmers to determine when recycling should stop.

Notwithstanding their vigilance, this process of pay back in kind (seed) and recycling can create some technical problems. For instance, if the first group of farmers receive foundation seed, they produce certified seed and pay back in certified seed. The certified seed obtained as payment is then given out to another group of farmers (as if foundation seed). This group of farmers essentially produce grain but think it is certified seed which they use to payback and the cycle continues. The second and subsequent generation of farmer groups given seed produce grain and sell as certified seed just as the first generation. This undoubtedly creates a problem of seed purity and the unfairness in seed pricing.

2.3 The role of seed certification in facilitating seed production in Mozambique

The Mozambican Seed Services Unit just as in all other countries is responsible for the certification of seeds in the country. The unit has 4 laboratories in Maputo, Gaza, Manica, and Nampula, each with an inspector. Transportation is a problem due to weak vehicles requiring replacement. To register certified seed, one is expected to pay US\$1.2/ha for field inspection, and US\$1/seed lot of 40 MT. A proposal has been made to increase the DUS (distinctiveness, Uniformity and Stability) test and VCU (Value for Cultivation and Use) tests to US\$500/variety.

2.4 Challenges to the profitability of seed production in Mozambique

The major problem faced by seed companies in Mozambique is the underdeveloped seed market. Farmers, on one hand, have a mind set of dependency on the government for free seed distribution on the other hand they do not have competitive markets to sell their produce. Just as seed markets, grain markets are not well developed. This, therefore, does not give farmers the incentive to purchase high yielding varieties which may increase their frustration at the time of sale when they don't get good prices. Seed companies therefore have no opportunity to make sales and margins.

Seed companies sometimes face problems of seed recovery. Some contract farmers sell seed off to other companies other than the ones that contracted them for the slightest delay in recovery which has serious implications for profitability.

In Mozambique seed laws appear very strict making the process of acquiring an import license very long, cumbersome and almost impossible. For instance, it takes a minimum of 130 days to obtain an import clearance. Direct costs related to seed importation include: (i) Phytosanitary certificate (R65), (ii) Orange Certificate (R500/lot), (iii) Permission to import (R250), and (iv) Testing costs (R943.8/lot).

Presently seed fairs are introduced whereby seed vendors are organized to sell seed and farmers allowed to use vouchers issued to them by NGOs to purchase seed of their choice. The vendors then redeem the vouchers for cash at the end of the fair. At these fairs, however, all types of seeds ranging from certified seed to pure grains are displayed for sale and since farmers do not discriminate by company but price, certified seed are less competitive at the fairs.

Section III: Zambia

3.1 Organization of seed production by seed companies in Zambia

Two regional seed companies, SeedCo and Pannar, compete with the national seed companies of Zamseed and the Maize Research Institute (MRI) for the limited seed market shares in Zambia. Monsanto, a multinational seed company also operates in the country from its base in Malawi. Besides Monsanto, all the seed companies have elaborate research infrastructure (i.e., breeding programs, seed processing facilities, germplasm, company profiles among target farmers, etc) in the country. Zamseed is a semi-private seed company set up 22 years ago to serve the seed needs of the country. In 1998, MRI was established as the first private research institute in Zambia by then Pannar and Monsanto were already operating in the country. The companies maintain good germplasm collected over the years and have a great potential to develop different maize varieties. MRI, the youngest seed company for example has developed and released 15 different hybrid maize varieties (both yellow and white) for cultivation throughout Zambia.

The specific roles of hybrids and OPVs in the Zambian agricultural system have been recognized by Seed-Co Zambia and Zamseeds. They believe that hybrids are suitable for areas with good market access while OPVs are most suitable for areas with relatively poor market access and poor communities and therefore produce and distribute these seeds as such. MRI and Pannar, on the other hand, are of the conviction that promoting OPVs is equivalent to “recycling poverty” except if the OPVs can match at least the least performing hybrids. As a result they do not handle OPVs at all currently. They however recognize the relatively high cost of hybrid seed compared with OPVs and are making available four-way crosses for the resource poor farmers.

All the seed companies seem interested in handling CIMMYT derived materials but are worried about the lack of security for such materials in terms of exclusivity so that they can brand the varieties developed. They believe that to guarantee customer loyalty, varieties must be branded which isn't possible with CIMMYT materials. Branding is a very expensive exercise demanding exclusivity. For instance, development of a new variety takes between 6-7 years at an annual cost of about US\$10,000 and a further US\$2800 is required to release the variety.

As in all countries surveyed, seed companies contract out seed production to farmers as a way of reducing their work load and spreading risks. Annually, between 20 and 60 small and large scale farmers are contracted in a manner similar to the observations in Malawi and elsewhere). Zamseed, however, produces about 20% of its seed in-house. For similar reasons as observed in Malawi, and Mozambique, large scale farmers produce hybrids while the small scale counterparts concentrate on OPVs. On average, Zamseeds produces 3000 MT of maize hybrid seed and 300 MT OPV annually on an estimated 1000 ha through contract farming (and 200 ha in-house). SEEDCO produces between 60 000 - 70,000 MT of maize seed each year, about 30% is meant as carry-over stock from one season to the next although the company recognizes the risk of carrying-over stocks especially that annual average storage cost is US\$100/sq m. MRI has 3000 ha of land for its research and development purposes but only 500 ha are cultivated (80% to maize). Annual hybrid maize seed production averages 2000 - 3000 MT.

Compared with the current improved seed demand of about 10,000 MT, a three-fold increase

over the immediate past demand quantity, seed companies are producing over and above domestic demand making it possible for them to export to neighboring countries. At the time of the survey, Seed-Co had exported 1000 MT of seed to Zimbabwe and was expected to export over 2000 MT more.

Seeds delivered to the companies by farmers are processed and stored in 50 kg bags and are re-packaged into 2, 5, 10 and 25 kg for sale. The 10 kg packs are the preferred package, accounting for 70% of sales followed by 5 kg packs (20%) and 25 kg pack the remaining percentage. The 2 kg packs are mainly for backyard farming and re-filling only. Zamseeds sells 30% of its seeds through NGOs (mainly PAM), 20% through the government, 30% to commercial farmers and the remaining 20% through farmers' representatives/agents in the various provinces (50 agents in North, 100 in South and 56 in Central region). Most of the sales are made in November and December. All OPVs, are distributed mainly through NGOs and not through the usual retail outlets. The main reason why companies prefer to distribute OPVs through NGO is the guaranteed good price NGOs are prepared to pay when tenders are made. OPVs can be produced by non-specialised agents who may not follow very strict production procedure. In contrast seed companies still follow strict production procedures resulting in relatively higher cost of production compared with non-specialised agents. Unfortunately OPVs seed from the seed companies can't be sold at a premium on the open market. Therefore producing and marketing through tenders is a better option than using the open market although it appears that NGOs request for seed without proper regard for varietal suitability for specific locations they deliver the seed to the detriment of beneficiary farmers. The current NGOs OPV price of US\$300 -1000/MT is satisfactory. On the hind side, it must be acknowledged that it is difficult to deal with NGOs regarding seed procurement. From the outset, NGOs cannot be regarded as a guaranteed market outlet because they (NGOs) rely on donor support to pick up seeds. In one season they could request for substantial quantities of seeds and in the next they may not at all due to inadequate funding or delayed budgetary release from donors. If it were possible for NGOs to forward contract, then it would have been the ideal situation for seed companies.

Seed supply in 2003/04 season

Company	Production (mt)	
	Hybrid	OPV
Seed-Co	14000	
Zamseed	3000	200
MRI	3000	

3.2 NGOs and Farmer Organizations involvement in seed production in Zambia

In Zambia NGOs involved in the production and distribution of seed are Program Against Malnutrition (PAM) and World Vision International. Farmers Warehouse is involved in only the distribution of seed. PAM was founded in 1992 and registered as an NGO in 1993. A Zambian-based non-profit and non-partisan NGO, PAM seeks “to facilitate and provide the attainment of prosperous livelihoods for vulnerable groups through improved food security, nutrition and incomes”. Among the five specific objectives of PAM, the following two are related to seed issues:

- 1) To offer services for promotion of food security through sustainable agriculture production systems in vulnerable areas in particular crop diversification and seed systems, and
- 2) To facilitate and build capacity of NGOs, community Based Organizations and farmers in food processing and storage, seed multiplication, resources management and HIV/AIDS.

The remaining four objectives are:

- 3) To offer services for rural safety net in Zambia, in particular to households directly or indirectly affected by
 - a. Food production failure due to natural and man-made calamities (drought, flood, pest attack, etc), and
 - b. Food deficits in the vulnerable areas.
- 4) To offer services in entrepreneurship development, and
- 5) To network and advocate on behalf of the rural poor, generally, and on behalf of the vulnerable groups, partner NGOs, PPM Communities and Community Based Communities.

PAM works collaboratively with about 100 partner NGOs in various projects. Seed provision has been a very strong component of PAM's activities especially following disasters.

When government declares an emergency, donors come in from international sources. A pre-evaluation is undertaken to identify previous crops of the area, their performance and farmers' preferences. This is then followed by the opening of tenders to the public to supply seed. Main criteria used in evaluation of tenders are a) maturity group of seed to be produced, b) volume of seed expected, c) packaging sizes, d) seed type (hybrid, class A or OPV), and e) freshness of the crop. Tenders then undergo i) preliminary evaluation to remove outliers, ii) technical evaluation to ensure suitability of mentioned seed varieties and types, and iii) economic evaluation of most competitive bidders. Despite this apparent rigorous procedure, seeds finally delivered sometimes do not satisfy the farmers.

To ensure sustainability of farmers' operations, PAM implements its seed relief programs in the seed sector three phases: 1) emergency, 2) mitigation, and 3) recovery. The emergency stage is aimed at replacing lost seed for immediate use. The second phase tries to ensure re-stocking while the third and fourth phases are meant to ensure sustainability by allowing affected farmers to build up their lost stocks. PAM also tries to help farmers to build rural seed entrepreneurship by organizing farmers into groups and giving them the initial inputs and backing up with markets identification. To facilitate the promotion of improved varieties of maize, PAM organizes its farmers to participate in mother-baby trials implemented by CIMMYT in 6 locations in Zambia. On average, PAM distributes between 1000 to 1500 MT of maize seed, 500 MT beans and 200 MT of cowpea each year.

The Farmers Warehouse (TFW), a small scale seed distribution company was motivated by the lack of service to the small scale farmers in Zambia. The directorate observed that all the existing seed houses were serving only large scale farmers and neglected the small scale farmers. To better address their needs, TFW sources seeds from Pannar, Seed-Co, Zamseed, and MRI and fertilizers and other agro-chemicals from South Africa and repackages them into convenient sizes for sale. Seeds are delivered to TFW at the wholesale prices and are sold at the company's recommended retail prices. The package of highest demand is 10 kg followed by 5 kg. Few buy

25 kg. The 2kg packs are for patching up (re-filling). Types of seeds stocked are based on farmers' needs assessment. The closeness of TFW to the main grain market in Lusaka is its main attraction to farmers. TFW usually markets about 300 MT of seed from the four companies combined. It does not discriminate against any company's seed but has personal preference for seeds from MRI. Most sales are made between October and December but about half is made in November.

3.3 The role of seed certification in facilitating seed production in Zambia

The Seed Control and Certification Institute (SCCI) of Zambia is one of five institutes within the Zambian Ministry of Agriculture and Cooperatives with a mandate to certify seed and coordinate activities in the seed industry. For the regulation of seed production, SCCI has the following four technical units:

- 1) Variety testing and registration: This unit carries out post control analysis of varieties to be released by conducting the Distinctiveness, Uniformity and Stability (DUS) test.
- 2) Seed inspection: The seed inspection unit is responsible for rural seed coordination in the country to ensure that seeds produced are of good quality.
- 3) Seed testing: The seed testing unit undertakes testing of seed lots in the laboratory before a certificate is issued permitting the seeds to be sold.
- 4) Capacity building: The capacity building unit conducts training courses for stakeholders in the seed industry on seed production and in some cases seed inspection.

Any variety to be released is brought in for certification. There are 2 seed certification units in each agro-ecology:

Region	Sites for seed inspection units
Region 1	Chiyawa (near Chirundu) and Masumba
Region 2	Golden Valley and Musakra
Region 3	Kasama and Sowezi

In addition, the main head office of SCCI in Mount Makulu is used for describing varieties based on the Union for the Protection of Plant Varieties (UPPV) system. A variety can only be certified after two years of testing. However, exceptions are possible if a tangible reason is given for an early release. The varietal testing process is designed to examine the variety for Value for Cultivation and Use (VCU). Although the company may identify a given niche for which the variety was developed either than yield, a maize variety still undergoes yield test just as soybean and groundnuts undergo oil content test irrespective of what aspect has been improved upon. It costs US\$20 to register a variety and US\$125 to test the variety before release.

When testing is complete, the company is notified and an application made for the release. A meeting is then convened (usually around October) for the company to answer any queries SCCI may have before permission is given for the release of the variety. There are discussions to bring the meeting date forward (i.e. earlier than October) to give companies more time to market their seeds before the farming season.

Registered seed growers pay the following charges related to the type of seed they grow (which

is a factor of the intensity of inspection needed): hybrid varieties, K20000/ha and OPVs or Quality Declared Seed K5,100/ha. Typically, five field inspections are necessary, namely pre-planting, planting (or soon after), vegetative stage, tussling and finally at harvest time. Currently, however, because of decentralization of activities, field inspections are reduced to critical periods of plant growth, for example, vegetative stage to ensure rouging is done properly and during tussling. In times of transport difficulties at the S CCI, companies provide transport. To ensure maintenance of seed standards, licenses are required for seed processing, wholesaling or retailing. Processing, wholesaling or retailing facilities are regularly inspected to ensure quality standards are met all the time.

3.4 Challenges to the profitability of seed production in Zambia

An important factor limiting the profitability of seed production in the country is the apparent linkage of input prices to the US dollar. This results in high and variable input prices but to make sure that farmers can afford seed, prices are reduced below marginal cost.

A big concern of seed houses in Zambia and the rest of the region is the relatively relaxed seed laws in South Africa which gives unfair competitive urge to the South African seed companies over all others in the very thin seed markets in Southern Africa. Given that seed prices in Zambia are about a third of those in Southern Africa, seed companies in Zambia are not profiting.

Some contract farmers are not reliable because they sometimes divert seeds for alternative uses thereby negatively influencing the profitability of the operations of companies since companies spend money in supervising the field operations. It was recognized, however, that with close supervision and prompt payments, diversions are minimal.

Distribution of seed to the farmers is hindered by poor road networks in the rural areas. Some roads are not motorable during the rainy season making seed delivery virtually impossible.

An approach to move the seed sector forward is to create cottage industries, identify and train village entrepreneurs to take up seed production and marketing in the rural areas. In the main, such entrepreneurs would act as nucleuses for others to emulate. This approach might be better than relying on small scale farmers with limited resources and managerial skills.

Section IV: Zimbabwe

4.1 Organization of seed production by seed companies in Zimbabwe

In Zimbabwe there are about 14 seed companies producing and marketing seeds of different crops but the four main competitors in the maize seed industry are SeedCo, Pannar, Pioneer and National Tested Seeds (NTS) (Table 4.1). Other smaller seed companies dealing in maize seeds are Agpy, Agricultural Seeds and Services and Nhimbe Seeds. Whereas SeedCo, Pannar and Pioneer are regional companies, NTS, Agpy, Nhimbe Seeds, and Agricultural Seeds and Services are nationally based companies. Some of the regionally based companies are expanding their activities in other neighbouring countries while contracting in Zimbabwe due to the political and economic instability in the country. Monsanto which used to be a key player in the Zimbabwean seed industry has just pulled out of the country.

Seed Co Ltd has been actively involved in the production of quality seeds for farmers in Zimbabwe and more recently in the Sub-Saharan region since the 40s. Research into the development of hybrid maize seed, however, started in 1932 when the first open pollinated variety, Salisbury White, was developed for commercial use. In 1940, members of the Seed Maize Association (SMA) pooled their resources and ideas together to establish a secure source of quality, certified seed maize. By 1946, the first maize hybrids were created for sale and in 1960, the world's first commercially produced single-cross white maize hybrid, SR52, was released. In 1983, SMA and the Crop Seeds Association (CSA) (formed in 1957 to produce sorghum, groundnuts, sunflowers, oats and wheat seeds) amalgamated into the Seed Co-operative Company of Zimbabwe (SeedCo). The Seed Co-op members agreed to a public floatation of the organization in May 1996 which led to the raising of Z\$45 million in new shares, and the quoting of Seed Co Ltd. shares on the Zimbabwe Stock Exchange in July of the same year. Regional expansion now extends to wholly-owned operations in Botswana and Malawi, with a majority shareholding in Zambia and SEMOC in Mozambique. The Syngenta Seed Co Pty. Ltd, South Africa - a Joint venture in which Seed Co Ltd. holds a 49% share was formed in 2001.

Pannar Seeds is about 45 years old, initially established in South Africa as a small seed testing unit. It is one of the largest seed companies in Africa, with autonomous subsidiaries in South Africa, Zimbabwe, Zambia, Malawi, Mozambique, and Kenya. There are agencies in Tanzania and Lesotho. Though autonomous, subsidiaries share company secrets, expertise and germplasm regularly. Pioneer on the other hand started operations in Zimbabwe in 1992 with plant capacity of 10,000 t. Pioneer's seed market share of about 20% places it second to Seedco which has between 55 – 60% share in the country. Pannar commands 18% and the rest controlled by the remaining maize seed companies. NTS, a family owned business with substantial assets including a Harare based-seed processing plant (like the regional companies) and retail outlets throughout the country except in Manicaland and Mashonaland East, used to control about 80% of the seed market share but now has less than 10%. Prime Seeds started in 1997 in Zimbabwe but has been working in the seed business for the last 25 years while Agpy was started about four years ago by Chemico.

Table 4.1: Seed companies operating in Zimbabwe

Company	Crops being handled			
	Maize	Other food grains	Vegetables	Cotton
1 SeedCo	x	x		
2 Pannar	x	x	x	
3 Pioneer	x	x		
4 National Tested Seeds	x	x	x	
6 Agricultural Seeds and Services	x	x	x	
7 Prime seeds	x	x	x	
8 Agpy	x			
9 Nhimbe Seeds	x	x	x	
5 Monsanto	x			
10 Paseco			x	
11 Hydrotech			x	
12 FSI Seeds		x	x	
13 Quton Seeds				x
14 Bateuleur Ventures			x	

Most of the seed companies producing and marketing maize seeds also handle other grains and vegetables (Table 4.1). Those producing maize seeds produce and market both hybrids and OPVs except Pioneer which produces exclusively hybrids (80% white maize and 20% yellow maize). Primes Seeds on the other hand produces mainly OPVs (but about 80% of seeds marketed is from South Africa). Agpy was initially involved in the multiplication of AC71 an AC31 but has diverted to OPV maize (ZM521 and ZM421 for natural regions 3, 4 and 5). For most seed companies, OPV maize are produced as commodities. That is, they are produced only on demand by mainly NGOs such as World Vision International and Care International. In terms of volume of seed produced and distributed, however, OPVs seem to constitute a large proportion contrasting sharply with observations in the past when OPVs were not allowed on the seed market. In the past, NTS did not produce any maize hybrids because the national demand was satisfied by the other existing seed companies. Presently, hybrids and OPVs are produced in equal proportions because of the inability of the existing companies to meet national demand weak grower bases.

In the development of new materials, Pannar, SeedCo and Pioneer all use germplasm from CIMMYT and other IARCs such as ICRISAT and IITA. The companies believe that the abolition of the US\$100 charge per assertion by CIMMYT can be a “motivation to promote CIMIMYT’s excellent germplasm”. NTS, Agpy, etc without their own breeding programs sometimes do not get enough breeder and/or foundation.

As in all other countries in the region, companies rely on contracted farmers for their seed supply. Large scale commercial farmers are contracted to produce hybrid seeds because of the relatively high level of input demands for hybrid production. For instance, cash is needed to hire additional labor for de-tussling, irrigation is required, and relatively high managerial skills are imperative, etc. For OPVs, small scale farmers are also contracted. In general, interested farmers must demonstrate that they have:

- a) accessible land (to facilitate supervision) with suitable isolation distance and within 100 km radius to the company's processing plant, and
- b) adequate finances to pay for all inputs and operations.

Companies distribute foundation seeds to farmers to cover the range of seeds required by farmers. Given that different types of seeds command different prices, the companies ensure that all contracted farmers are guaranteed similar returns on seed produced through a differential pricing system to encourage them (farmers) to grow assigned varieties. No one farmer is contracted by more than one company. In the past most of the seed used to be produced by large scale commercial farmers and the companies themselves. Due to the land redistribution program in Zimbabwe, most commercial farmers and companies lost their lands and therefore companies have to rely more on small scale farmers who are scattered over large areas for their seed supply.

The production of certified seed requires first registering the field, followed by regular inspection of the crops in the field. However, due to logistical reasons, inspections may be made three times only per season. The increased demand for OPVs by NGOs for their activities coupled with the increasing numbers of small scale farmers being contracted (who may be inexperienced in hybrid seed production) is leading to increased production of OPVs compared with hybrids. For instance, NTS which currently produces OPVs and hybrids in equal proportions plans to increase its OPV production to 80%.

Seed sales are made throughout the season but more are just before the planting season in October and November. Hybrid maize seeds produced are sold by a network of retailers in various parts of the country. OPVs are distributed through NGOs such as WVI, Care International, CRS, Lutheran Church, Oxfam, German Help, German Agro Action, and Veyco) and other donor organizations that place orders. The real problem of producing OPVs either than by orders is that the market for OPVs is so open that as a company cost of production may be disproportionately higher than other producers who may provide pure grain but also sell as seed (a practise not common with hybrids). The most patronized packages are the 5 and 10 kg packs although 25 kg or even 50 kg are sold. The 2 kg packs are mostly purchased for re-filling.

In the past five years, some companies used to export about 20% of their maize seed and crossed subsidized activities in Zimbabwe because of government's intervention in the input pricing policies which makes seed production and sale uncompetitive.

Table 4.2: Estimates of seed maize expected by companies in 2003/04 season

Company	Farmers contracted		Seed produced	
	Small scale	Large scale	Area (ha)	Volume (mt)
SeedCo				10,000
Pannar				40,000
Pioneer		35	950	
National Tested Seeds				
Agricultural Seeds and Services				
Prime seeds	25			
Agpy	60		1450	
Nhimbe Seeds				

Currently, government controlled seed price is US\$0.50/kg (or US\$9.0/25 kg pack) but open market price would be about 5 times higher. Presently there is a ban on seed exports creating cash flow problems making it impossible to cross-subsidize domestic production. Additionally, seeds produced on contract for companies outside of Zimbabwe can't be exported which can potentially raise legal problems because of failed execution of contracts.

4.2 NGOs and Farmer Organizations involvement in seed production in Zimbabwe

The Commercial Farmers Union (CFU), Zimbabwe Farmers Union (ZFU) and the Indigenous Farmers Union (IFU) are three farmers unions in Zimbabwe. Whereas the CFU is made up of only commercial farmers, ZFU and IFU comprise of all categories of farmers. ZFU, with a membership of 100,000 is the largest followed by IFU and then CFU with only 2000 (and expected to decline further to 1000 next year). In the past, CFU membership was around 4000 but declined due to the land reform policy which deprived most of its members of farm lands. Farmers who lose their lands flee Zimbabwe to Zambia, Mozambique, etc. Those opting to belong to CFU are required to pay a license fee and accept to pay a given percentage of the proceeds on the sale of their produce as levy to CFU. The levies and license fees are used in running the affairs of CFU.

CFU provides research, extension and market information support to its members. When registered seed companies release any crop variety, CFU contracts Agricultural Research Trust (ART) Farm to carry out adaptive, multi-locational trials on such a variety so that it (CFU) could use the results to advise its members. Based on the agro-ecologies, farmers could be advised on varieties to consider planting.

There has been a sharp decline in quantity of maize seed produced domestically and hence inadequate to meet domestic demand. This contrasts sharply with the past when between 20 to 25% reserves were available to meet any eventuality. In fact, Zimbabwe used to export seed but now will have to depend on imports from South Africa, Zambia and other parts of the SADC region. As a consequence of the acute seed shortage in the country, the government has banned the exportation of any maize seed. Even open pollinated varieties (OPV) which used to be produced mainly for export on contract has been retained for domestic use. The ban on exportation has, however, created problems for some seed companies that accepted contract production. But the retention of OPV in Zimbabwe signals their promotion which is of concern to the CFU. In the view of CFU, this is not a good policy because OPVs potentially yield less than hybrids and have poor resistance to diseases. The policy is therefore viewed as an attempt to retard the progress of maize production in the country.

The main reason for the dramatic reduction in the volume of maize seed produced has been attributed to the land redistribution policies which have affected maize seed production in the following ways:

1. Most of the commercial farmers who are the main producers of hybrid seed, a specialized production activity lost their lands. Those not affected, however, feel insecure to cultivate their lands for fear that they may not harvest the seed before the lands are re-possessed. Currently, only inexperienced seed producers are being engaged requiring years of

training. As a consequence, some companies are relocating most of their production basis to neighbouring countries.

2. The fragmented land holdings by small scale farmers make it difficult to achieve desirable isolation distances for good quality seed production. There did not seem to be any consideration for seed production in the redistribution of land. As long as there is lack of commitment to ensure suitable isolation distances, seed production will continue to suffer.
3. Limited foreign exchange has a significant effect on seed production because inputs are either unavailable and/or unaffordable by farmers due to the high premium on foreign exchange which companies depend on to import raw materials or inputs directly. It is for the same reason why local manufacturers are operating below capacity.
4. The seed regulatory mechanism is excellent but Seed Services is collapsing due to lack of experienced staff due to poor remuneration. In particular, the turnover of staff is very high and the department has to cope with new inexperienced graduates with little knowledge about seed production contrary to the past when there were highly trained professional staff.
5. The ridiculously low seed price discourages investment in the seed sector. The government justifies its pricing system on the basis of a pegged exchange rate of 1US\$ to 890 ZW\$ while in fact a somewhat active parallel market rate is about 1US\$ to 6,000 ZW\$. Though not recognized by the government, most economic activities are thriving on that rate. This apparently low producer price also contributes to farmers diverting seed into alternative uses including selling seed as grain.

4.3 The role of seed certification in facilitating seed production in Zimbabwe

The operations of the seed certification unit and problems related to their operations are similar to the observations in all other countries visited and will not be repeated here. What needs to be added are the registration procedure and cost implications as below.

The procedure required in applying for new varietal recognition is as follows:

1. Complete S.C.S 2 application forms in triplicate and attach any additional details required.
2. Submit the completed S.C.S 2 application forms; application fee and seed of the proposed variety. (Note that applications will not be processed until application fees have been paid.)
3. The variety can be planted by the Certifying Authority, the applicant or a selected competent institution. This will facilitate technical examination of the variety for distinctness -, uniformity and stability (DUS test).
4. The DUS examination can be conducted for one or two seasons. Please note that:
(a) if problems relating to distinctness, uniformity and stability are encountered, the variety will be entered for a second season of testing;

(b) if the variety shows a high level of off-types (greater than the maximum permitted tolerance level for a certified crop of the same species), the applicant will be asked to submit another sample for re-examination.

5. When the Certifying Authority is satisfied with the DUS results, the variety will, be recommended to the Variety Release Panel for approval. After a date is set for a meeting, the applicant is therefore required to present the new variety before the panel.

6. After the panel recommends the new variety, it will be gazetted and the Second Schedule of the Seeds Certification (Scheme Notice) 2000, will be updated accordingly.

7. The new variety will remain listed on the Second Schedule if: (a) properly maintained (b) it remains stable; (c) annual renewal fees for recognition of varieties are paid to the Certifying Authority.

8. The deadline for application of recognition of summer grown varieties is 31 October, while 30 April is for winter grown varieties. This will facilitate adequate planning and management of the DUS grow outs.

Although sufficient to assist applicants in application for recognition of new varieties, it is still necessary to consult Section 10 of the Seeds Certification (Scheme Notice) 2000 and Section 19 of the Seeds Act for more details.

The price list for various Seed Services activities is presented in Table 4.3 below.

Table 4.3 Seed services - price list 2003 with effect from 23 January, 2003

1. Seed testing (for <i>both local and export samples</i>)	Current price	
	Non treated seed (persample) Z\$	Chemically treated seed (persample) Z\$
Purity only		
big seeds	500-00	750-00
small seeds	1000-00	1500-00
grasses & Tobacco (<i>without weed check</i>)	2000-00	3000-00
- grasses & Tobacco (<i>with weed check</i>)	2500-00	3750-00
Germination only		
- Big seeds	1000-00	1500-00
- Small seeds (including grasses & tobacco)	2000-00	3000-00
Purity & Germination		
- big seeds	1000-00	2250-00
- cotton seeds	2000-00	3000-00
- small seeds	3000-00	4500-00
- grasses & Tobacco (<i>without weed check</i>)	4000-00	6000-00
- grasses & Tobacco (<i>with weed check</i>)	4500-00	6750-00
Moisture Test	2000-00	3000-00
Lost local certificate	1000-00	

Table 4.3 (cont.)

Item	Current Price (Z\$)
<i>Urgent Testing charge is double the price of the test required</i>	
2. ISTA Fees	
International Certificates:	1250-00
- Orange/Each	1250-00
- Blue/Each	1250-00
- Green/Each	3125-00
- Duplicate/Each	500-00/Hour
Lot Sampling	125-00/Seal
Sealing	
3. Seed Crop Inspection Fees	
Registration (All Crops Except Tobacco, Potatoes & Vegetables)	500-00/Ha
Minimum Registration Charge (All Crops Except Tobacco, Potatoes & Vegetables)	500-00
Registration - Tobacco	2500-00/Crop
Aa - Potatoes	1000-00/Ha
Minimum Registration Charge	
- Potatoes	1000-00
Registration -Vegetables	2500-00/Ha
Minimum Registration Charge	2500-00
- Vegetables	
Potato Tuber Inspections	2500-00/Visit
Additional Inspections	12500-00/Visit
<i>Late registration (except for potatoes, tobacco and vegetables) is double the normal fee.</i>	
4. Recognition Of Eligible Varieties Fees	
Application Fee	10000-00/Variety
Annual Renewal Fee	5000-00/Variety
Oecd Certification	25000-00/Variety
OECD Labels	125-00/Pair
5. Seed Sellers Registration	
Certifying Agency Registration	25000-00/Agent
Annual Renewal Fee	12500-00
Class "A" Licence Registration	50000-00/Lab
Annual Renewal Fee	25000-00/Lab
Class "B" Licence Registration	5000-00/Outlet
NX Annual Renewal Fee	2500-00/Outlet
Class "0" Licence Registration	2500-00/Outlet
Annual Renewal Fee	1250-00/Outlet
6. Plant Breeders Rights Fees	
Application Fee	5000-00/Variety
Inspection Of Register	5 00 -00/ Inspection
Certificate Copy Of An Entry In Register	500-00/Copy

4.4 Challenges to the profitability of seed production in Zimbabwe

The growing demand for seed outweighing supply presents an opportunity for companies to expand their operations. Unfortunately the current economic problems and political dispensation is unsuitable for seed production. In particular, the land reform policy in Zimbabwe in 2001/02 has greatly affected the grower base of all seed companies. Large scale commercial farmers who used to be contracted to produce (especially hybrid) seeds all lost their lands. Consequently seed companies have to rely solely on small scale (resettled) farmers most of whom have limited resources to ensure an effective seed production (especially hybrid seeds), lack experience and managerial skills, and have small scattered plots adversely affecting effective isolation distances for good quality seed and supervision. Currently seed production is mostly rain fed since the small scale farmers lack irrigation facilities but the rains are erratic adversely affecting the production process. It is the feeling of seed companies that some of the farmers do not deliver their seeds (but divert them for alternative uses) negatively affecting profitability of companies operations. Input dealers peg inputs prices to the US dollar leading to high and variable input prices. Moreover foreign exchange is scarce making even difficult to import inputs without having to pay large premiums of foreign exchange.

Seed companies without their own breeding programs do not have control over the types of varieties to grow and are unable to exploit economies of scale. Registration of varieties takes an estimated 3-year process in each country thereby prolonging varietal release and increasing costs. Therefore implementation of a regional varietal release program would shorten the time for varietal release since a variety released in one country with similar agro-ecological conditions can be marketed in another without having to incur additional cost of release.

Seed companies in the country face unfair competition with other seed producers in South Africa where the company's quality control and certification procedure is much less rigorous than in Zimbabwe.

Poor rural road networks significantly hamper seed delivery to communal and resettlement areas.

Section V: Summary

The summary below highlights key issues related to the survey objectives as they apply to the four target countries.

5.1 Factors that condition profitability of seed production and distribution across target countries

Important players in the seed industry in the countries surveyed identified a number of problems impacting negatively on the profitability of the seed sector as presented below.

Dollarization of input prices and high premium on foreign exchange: It was the consensus of people surveyed that input dealers peg input prices to the US dollar leading to high and variable input prices. Meanwhile, producer prices for seed are de-linked from the dollar and are ridiculously low. This makes it very difficult for companies and other seed producers to make any reasonable margin on seed sales because seeds are priced less than marginal cost to be affordable to small-scale resource-poor farmers. Avoiding the input providers and importing inputs does not necessarily solve the problem because of a very high premium placed on foreign exchange. Moreover, interest rates are so high that production becomes unprofitable under such circumstances. The situation is worsened by the fact that in some parts of the region, it was observed that seed yields are generally low due to poor soil conditions, thus making seed production uncompetitive.

Change in grower base: In recent years, seed producers have observed an increase in the recruitment of small-scale farmers (most of whom have limited production resources) as large-scale commercial farmers continue to pull out of seed production due to various reasons. For instance, many of these small-scale farmers lack the necessary financial resources to purchase needed production inputs and hence production is inefficiently done in most cases. Moreover, such farmers are unable to exploit economies of scale in their operations due to small holdings. As a result of the small holdings, companies are compelled to contract many farmers scattered over wide areas which increases supervision costs. As opposed to the experienced commercial farmers, most of the newly recruited farmers are inexperienced, further increasing supervision costs. In some cases, grain fields have to be cut down to create the necessary isolation distances and the farm owners compensated, adding to the cost of operations.

Abuse of brand loyalty: It has been observed that some unscrupulous traders simply paint grains in a color similar to existing seed colors adopted by some companies and undercut prices. The danger here is not only that under such circumstances it becomes very difficult to sell the “actual” certified seed at competitive prices, but also it creates problems of brand loyalty. When the performance of the supposed “seed” fails to meet the expectations of the farmers, their loyalty to the given company’s seed may be affected. That is, affected farmers lose confidence in the brand they probably knew and trusted. Another brand loyalty abuse observed is when an unpopular and unscrupulous seed company (or producer) exploits the illiteracy of farmers by using packaging similar to those of a company farmers know and trust. This type of problem has been observed to be on the increase with the advent of seed fairs.

Farmers' confidence in a given variety may also be compromised when NGOs organizing seed production adopt the principle of repayment in kind and revolve the repayment. Usually the first generation of farmers is given actual foundation seed to produce certified seed and is expected to pay back in the output, in this case seed. This is then given to the next generation of farmers as if it was foundation seed and are also expected to produce seed. But in fact what they produce is grain. They also in turn pay back in the output to be revolved and the process continues. By so doing the communities end up with a mixture of actual seed and grains of various levels of recycling being sold as seed as well.

Non-uniform seed laws: One other important factor influencing profitability of the seed sector in the region is the relaxed seed laws in some countries, for example in South Africa, compared with others within the region. This gives seed companies in such countries unfair competitive advantage over those with stiffer seed laws but trading in the same markets (since they can easily undercut prices).

Negative mindset of farmers: In some parts of the region, farmers have a negative mindset that seeds should be distributed free of charge through some program and hence do not see the need to purchase seed which obviously affects the profitability of seed companies. Companies are forced to cut prices in order to market their products.

Undeveloped grain markets: Farmers face undeveloped or controlled grain markets that do not allow farmers to exploit competitive market conditions to benefit from adopting improved high yielding maize seed. Consequently farmers are reluctant to invest in seed as such companies are forced to reduce seed prices to sell thereby compromising on their profit margins.

5.2 Supply side constraints affecting seed production and distribution across the target countries

The companies and individuals interviewed identified various supply side factors constraining the provision of seed at the farm level some of which are summarized below.

Limited foreign exchange: It was generally agreed that lack of foreign exchange constitutes a limiting factor to the provision of seed since it is sometimes necessary to import production inputs such as fertilizer and other agro-chemicals. In some parts of the region, there has not been foreign exchange to import raw materials for the production of needed inputs adversely affecting seed supply.

Security concerns: Recent land reforms in some parts of the region have created a feeling of insecurity on the part of some seed producers. Consequently they are reluctant to invest in seed production.

Shift in grower base With many large scale farmers reluctant to grow seed due to insecurity, companies are compelled to contract inexperienced, small scale resource poor farmers to grow seed. Given their unfavourable resource conditions, the seed sector is greatly affected. Companies have to cut back on the volume of production to reduce cost of supervision of small scattered fields.

Diversion of seed to alternative uses: In some cases, contracted smallholder farmers divert some seed (especially OPV) to alternative uses that offer them relatively higher returns. This thus affects the volume of seed produced and marketed.

Inadequate breeder and foundation seed: Companies relying on secondary sources of breeder and foundation seeds sometimes fail to get adequate quantities. Additionally, they lack flexibility in their choice of variety to grow or quantity to plant.

Planning problems: Companies using NGOs to distribute seed complain about the difficulty in making decisive plans on production targets. NGOs are unable to take any firm decisions on the type and quantities of seed they require partly because they (NGOs) rely on donors for financial support for given activities. So until they get funds or are assured of funding, they are unable to make any firm commitments. Accordingly, there are times the NGOs make their decisions at inappropriate time for planning.

Poor infrastructure: One biggest bottleneck to seed delivery, especially at the farm level is the poor road infrastructure in most parts of the region. Some farming communities are unreachable during the rainy season when roads become unmotorable.

Limited manpower: At the company level, limited trained manpower hampers operations.

Under resourced seed certification units: In all countries visited, the seed services are under resourced in the wake of expanding seed sectors. The limited human and material resources at the disposal of the seed certification units adversely affect the timeliness and efficiency of their services with negative impacts on seed delivery.

Insecurity of germplasm: There is no security in using CIMMYT/NARS germplasm since they can't be branded for customer loyalty. This explains the reluctance on the part of some seed companies to produce and market such varieties.

Limited information on seed demand: In general, seed providers do not have clear information on the demand for various types of seed. Decisions to produce are based on company's judgement as well as those obtained from NGOs through tendering. That is, information flow among buyers and sellers is limited.

Appendix 1: Checklist for the informal seed sector study

Informal survey of key maize seed industry participants in Southern Africa

The main objective of this study is to conduct an informal survey of key seed industry participants who may be representatives of different types of maize seed organizations both private seed companies and public seed agencies to: (a) derive qualitative insights into the factors that condition the profitability of commercial seed production and distribution activities in Malawi, Mozambique, Zambia and Zimbabwe in Southern Africa, and (b) identify important supply-side constraints that will need to be overcome in order to get commercial seed to smallholders. The study will be conducted in September and October 2003 using the following checklist:

Checklist

Institutional setting

- 1) Nature of seed company or organization
- 2) Motivation for the establishment of the organization or company
- 3) Years of existence
- 4) Size of company (in terms of assets)
- 5) Distribution of infrastructure and/or operations
- 6) Jurisdiction/mandate of operations
- 7) Which regulatory institutions handle seed inspection and certification?
- 8) In what ways do they influence your activities?
- 9) What policies govern certified seed production and distribution?
- 10) If you produce certified seed commercially, who are your competitors?
- 11) What is the nature of the competition?

Supply side issues

Production of foundation seed

- 12) Source of breeder seed
- 13) Choice of source
- 14) Ease and reliability of acquisition of breeder seed
- 15) Is demand for breeder seed for each type of seed met?
- 16) Land acquisition for breeder seed production (tenancy, location and suitability)
- 17) Weather suitability – is irrigation necessary?

Production of certified seed

- 18) Types/proportions of certified seeds produced (hybrids or OPV)
- 19) What motivates the choice of proportions of seeds grown
- 20) Source of foundation seed if not produced internally
- 21) Ease and reliability of acquisition of foundation seed
- 22) Is demand for foundation seed for each type of seed met?
- 23) Seeds produced by company/organization or contracted or both

24) If both, proportions produced

Internal production

- 25) Locations or outlets of seed production in country
- 26) Land acquisition (tenancy and locations to suit isolation)
- 27) Suitability of land for seed production
- 28) Performance of the seed in terms of yields
- 29) Are production targets from company met?
- 30) Weather suitability – is irrigation necessary?

Contract production

- 31) Why contract seed production of farmers
 - 32) Who are contracted?
 - 33) Ease of contraction
 - 34) Reliability of contract farmers
 - 35) Distribution of contract farmers
 - 36) Issues related to supervision of contract farmers
 - 37) Are production targets from contract farmers met?
 - 38) Weather suitability – is irrigation necessary?
- 39) Estimated yearly production of certified maize seed
- 40) Are certified seed production targets met yearly?

Demand side issues

- 41) Category of farmers who are served types of certified seeds produced?
- 42) Reasons for choice of target group of farmers
- 43) Dynamism of target group of farmers
- 44) Problems associated with the distribution of seed to farmers
- 45) How are seeds sold?
- 46) Timeliness of sales (soon after harvest, throughout the year or at planting)
- 47) Volumes of purchase by category of farmers
- 48) Problems associated with the payment of seeds distributed to farmers

SWOT analysis

- 49) In seed production and marketing in the country, what do you consider to be your:
- a) strengths
 - b) weaknesses
 - c) opportunities
 - d) threats
-

Appendix 2: List of representative seed sector participants interviewed

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