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A Review of Seed Fair Operations and Impacts in Zimbabwe

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Kizito Mazvimavi, David Rohrbach, Tarisayi Pedzisa
and Tawedzegwa Musitini

ICRISAT
International Crops Research Institute for the Semi-Arid Tropics
Box 776, Bulawayo, Zimbabwe

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About the authors

Kizito Mazvimavi	Regional Scientist (Economics), ICRISAT, PO Box 776, Bulawayo, Zimbabwe
David Rohrbach	World Bank, Malawi Country Office, Lilongwe, Malawi
Tarisayi Pedzisa	Scientific Officer, ICRISAT, PO Box 776, Bulawayo, Zimbabwe
Tawedzegwa Musitini	Scientific Officer, ICRISAT, PO Box 776, Bulawayo, Zimbabwe

Introduction

Seed fairs linked with vouchers are more commonly being implemented as an alternative to direct, free seed distribution under relief and recovery programs in Zimbabwe. This model was first introduced by Catholic Relief Services (CRS) in 2002, following the successful application of such programs in eastern Africa. Interest in this strategy has grown amidst the annual implementation of humanitarian assistance programs. By the 2005/06 summer planting season, 10 non-governmental organizations (NGOs) were organizing more than 100 seed fairs distributed across 23 districts in the country. More than 36,000 farmers received vouchers allowing them to purchase seed at these fairs.

The growing number of seed fairs, and increasing investment in their implementation, justifies a closer assessment of their impacts. Are seed fairs more effective than directly distributing relief seed to farmers? What are the advantages and disadvantages of seed fairs relative to direct seed distribution? How can the seed fair model be improved?

The Seed Fair and Voucher Model

This study examines a specific sort of seed fair model encompassing the organization of an informal seed market for the purposes of supplying seed in exchange for vouchers. The supply of seed may be derived from local farmers, local traders, input dealers and seed companies. The demand for seed is linked with the distribution of vouchers to households determined to be in need. Needy farmers exchange their vouchers for seed of their choice. And at the end of the fair, seed sellers redeem the vouchers they have collected in exchange for cash.

Seed fairs were first introduced in Zimbabwe by the Community Technology Development Trust (CTDT) in the mid-1990s simply as a means to promote trade of traditional varieties between neighboring households. No vouchers were involved. Seed companies generally did not attend these fairs. Rather, the intention was to encourage the use and preservation of traditional varieties.

Vouchers have been used in the country both as means to ration scarce commodities and as inducements to purchase certain goods and services. In the context of relief programs, vouchers were first commonly applied in 1999 as a means to wean farmers from several years of free seed distribution under drought and flood relief programs. Under this government program, groups of farmers were provided vouchers to offset part of the transport costs incurred when making bulk purchases of seed and fertilizer. This was meant to facilitate purchases from distant wholesalers offering more favorable prices.

In recent years, CARE has employed vouchers to facilitate seed and fertilizer purchases at rural retail shops. Shop owners were provided training in business practices and originally linked with seed and fertilizer companies willing to provide agricultural inputs. High rates of inflation and the growing risk of default have discouraged the direct provision of inputs and during the last few years CARE has purchased the seed and fertilizer to be distributed through these programs.

The standard seed fairs and voucher model, developed by CRS and the International Crops Research Institute for the Semi-Arid Tropics (ICRISAT) in East Africa, is outlined in Table 1. This has been modified in a number of ways by various NGOs in Zimbabwe. The level of community responsibility for the organization and operation of the seed fair has varied. The range of participating traders has sometimes been restricted. At least one NGO has limited the type of seed on offer – in this case restricting sales of maize seed in drought-prone environments. In some cases, vouchers were redeemable for additional agricultural inputs such as fertilizer. In most fairs, seed prices were set prior to the initiation of the market. In one case, the seed fair involved a simple exchange of a voucher for a packet of seed – though many would not call this a seed fair *per se*.

Table 1. Common steps underlying the implementation of a seed fair with vouchers

Activity	Actions
Assessment of need	• Identify district/ward/villages in need • Characterize availability and need for seed • Identify number of beneficiaries • Calculate seed requirements
Planning	• Determine voucher value, design and organize printing • Meet with local authorities to plan seed fair • Meet with target communities to explain seed fair • Beneficiary selection and registration • Select seed fair date and venue • Identify local organizing committee • Mobilize external seed sources such as seed companies and agro-dealers
Implementation	• Clarify the rules • Register sellers, seed crops, varieties and quantities • Conduct a seed quality inspection • Distribute vouchers • Exchange vouchers for seed • Reconcile vouchers and pay sellers
Evaluation	• Conduct a debriefing session of buyers and sellers • Conduct a post-fair evaluation

Source: Adapted from CRS, ODI and ICRISAT 2002.

Seed fairs were originally developed in eastern Africa to cope with problems of the limited availability of seed of well-adapted varieties for distribution under humanitarian relief programs. Formal markets only provided access to limited quantities of seed or a limited range of varieties. To make matters worse, some of the varieties being provided were not suited for production in the drought-prone environments where such distribution programs were being implemented. CRS realized, however, that seed losses in the event of drought (or flooding or civil conflict) were rarely complete. In many instances, some community members had been able to produce a limited crop or retained seed that could be sold to their neighbors. In addition, stocks of surplus seed were often available from neighboring communities. The fairs originally allowed the recipients of aid to choose to purchase seed from companies or from their neighbors. The fact of choice improved the chances the seed would be planted and that a harvest would result.

If seed is locally available in informal village markets, questions arise about why an external intervention is needed. The existence of this seed belies the common assumption that farmers generally lose or consume their seed in the event of drought, floods and civil conflict. The justification for the intervention then rests on the assumption that poorer or more vulnerable households remain with an access constraint. While seed may be available in the community, it is not widely accessible either because of a lack of purchasing power or because market constraints limit information about seed availability, or limit the likelihood of a transaction between farmers with extra seed and those in need of stocks. The seed fair and voucher program resolves these access constraints by providing purchasing power to needy households in the form of a voucher. Also, organization of the fair improves communication about seed stocks and facilitates links between a wider range of sellers and buyers. In effect, the seed fair resolves a market failure while improving the welfare of poorer or vulnerable households.

Impact Assessment Criteria

The assessment of the impact of the seed fairs should be based on a clearly defined set of impact criteria. In this case, we are interested in comparing the impacts of seed fairs with the impacts of direct seed distribution to needy households. This is essentially the decision facing NGOs and donors. What are the advantages and disadvantages of distributing seed directly or through seed fairs? And which strategy for seed distribution is more cost effective?

Table 2 summarizes some of the advantages and disadvantages commonly cited for implementing seed fairs versus direct seed distribution. Unfortunately, there is limited evaluative data underlying these perceptions. While some of these criteria appear true virtually by definition – for example, the breadth of choice of varieties at seed fairs – others likely depend on how each of the two distribution strategies are implemented. A more detailed analysis of seed fair operations in Zimbabwe allows the collection of quantitative information necessary to assess these claims. Such an analysis also provides evidence of how each methodology may be improved.

Table 2. Advantages and disadvantages of seed fairs and direct seed distribution

Seed fairs	Direct seed distribution
Advantages	Advantages
• Wider choice of seed crops and varieties	• Easier to implement
• Chosen seed is more likely to be planted	• Cheaper to implement
• Farmers have access to traditional varieties	• Greater assurance that seed is available for those most in need
• Agro-biodiversity enhanced	
• Encourages local seed production	• Improves access to new varieties
• Seed is cheaper	• Quality of seed provided is more assured
• Money retained in community	
• Strengthens rural seed markets	
Disadvantages	Disadvantages
• More time and labor required to implement	• Seed may not be adapted to environment
• Additional training required	• Farmers may received seed crops of little interest
• Access to new varieties may be restricted	• Undermines rural markets
• More expensive to implement	• Seed is more expensive

Source: Adapted from Leonardo (ed.) 2003.

Research Methodology

The research plan for this review study encompassed two main surveys. A reconnaissance survey was conducted during the course of the seed fairs themselves. This allowed observation of the methods of implementation of a cross section of seed fairs. Semi-formal interviews were conducted with a cross section of seed fair participants including farmers buying seed, farmers selling seed, seed traders, community leaders and NGO representatives.

A second set of more formal surveys were conducted during the post-planting period. This covered a cross section of seed recipients from both seed fairs and from direct distribution programs, as well as a cross section of seed sellers from both programs.

Supplementary interviews were conducted with seed companies and NGOs to clarify issues of implementation and gather information for the cost effectiveness analysis.

Implementation Surveys

The field visits were carried out between mid-September and early November 2005. A list of all NGOs known to be implementing seed fairs with vouchers targeting vulnerable households was first compiled. This proved difficult because NGO plans were still changing during the period of initial seed fair operations. Ultimately, it was determined that 10 NGOs were planning seed fairs in 23 different districts in the country. More than 36,000 farmers were targeted to receive vouchers (FAO 2006).

Some NGOs were still learning how best to implement seed fairs. Those entering their first year of implementation were excluded from the sample. This helped assure a fairer representation of more skilled implementation efforts.

One of the key questions underlying the implementation strategies chosen by various NGOs was ensuring a sufficient quantity of seed to support the redemption of all available vouchers. Questions had arisen about the availability of seed, and thus the viability of the standard seed fair model, in the drier regions of the country. Therefore, all districts were sorted by Natural Regions and classified according to whether they were largely based in the wetter (Natural Regions I, II and II) or drier regions (Natural Regions IV and V).

The implementation surveys sought to encompass as many NGOs as possible in both wetter and drier regions. Ultimately, the sample encompassed eight different NGOs coordinating seed fairs in 15 districts of the country. These eight NGOs worked under funding obtained from four lead partners (Table 3). The survey team sought to witness seed fairs in two wards in each district – though this ultimately proved difficult due to scheduling problems. Multiple seed fairs were running on the same days and long distances had to be covered. The survey schedule was further complicated by the fact that NGOs sometimes changed the date of the seed fair with limited notice. On occasion, the sample team arrived in a location only to be told that the seed fair had been postponed. These field visits were conducted between mid-September and early November 2005.

Table 3. Sample of NGOs and districts for the seed fair study

NGOs funding seed fairs	NGOs implementing seed fair	District where seed fair was implemented	Number of seed fair sites visited per district during implementation
Oxfam GB	Oxfam GB	Zvishavane	2
		Chirumhanzu	2
	RUDO	Gutu	2
		Masvingo	1
CRS	CTDT	Chiredzi	2
		Mutoko	2
		Murehwa	2
		Tsholotsho	2
	NFN	Chipinge	2
	FACHIG	Guruve	2
		Muzarabani	1
		Rushinga	2
CAFOD	ZWP	Chivi	1
	CADEC Mutare	Nyanga	2
SCF (UK)	SCF (UK)	Binga	1

Post-Planting Surveys

Three formal post-planting surveys were conducted. The first encompassed a random sample of farmers purchasing seed (in exchange for vouchers) at the fairs. The second survey targeted a random selection of households in neighboring wards who had received seed by means of direct distribution. The third survey targeted a random cross section of local seed sellers – principally farmers who had sold seed to other farmers at the fairs.

Nine districts were chosen from the original list of 15 where the reconnaissance surveys were performed. These were purposefully chosen to represent districts where the original CRS–ICRISAT seed fair and voucher model (Table 1) appeared to be most consistently applied. In order to test the hypothesis that seed fairs were more successful in high potential rainfall areas (due to the better availability of seed), districts were further divided into those falling in high rainfall potential areas and low rainfall potential areas (Table 4).

Table 4. Sample for post-planting seed fair surveys, 2006

Region	District	Sample of seed fair households	Sample directly distributed households	Sample of seed sellers
High rainfall	Mutoko	33	17	5
	Murehwa	32	16	13
	Nyanga	34	15	6
	Chirumhanzu	32	15	20
	Gutu	30	15	19
Low rainfall	Tsholotsho	31	15	13
	Chiredzi	28	17	7
	Chipinge	30	15	0
	Chivi	30	15	0
Total		280	140	83

How Seed Fairs are Implemented

A standard description of seed fair implementation procedures can be found in CRS, ODI and ICRISAT (2002). The implementation procedures employed by NGOs in Zimbabwe varied from this in important ways (Mazvimavi et al. 2005). The following discussion highlights some of the implementation issues specific to Zimbabwe.

Assessing the Need for a Seed Fair

Several months before the beginning of the planting season, NGOs commonly consulted with local authorities and community leaders about the level of agricultural input assistance required in targeted areas. The choice of which communities to assist was heavily influenced by each NGO's previous levels of engagement with various communities. Most NGOs also made an effort to confirm that their activities were not duplicating the efforts of other NGOs in each district.

Seed fair practitioners commonly suggest the need to start preparations with an assessment of local seed stocks. However, in practice, this is difficult, because farmers tend to hide their harvests in anticipation of qualifying for food aid. This problem has increased as a result of the multiple years of aid provided by humanitarian agencies in the country.

In general, areas with poorer harvests were assumed to have seed shortages. Yet, in order to run a seed fair, some quantities of seed must still be locally available. The concept of the fair assumes that the

principle constraint is one of access – poorer households do not have access to seed that may be available to better endowed households because of their status in the community or simple lack of resources. The sample frame was organized to allow a test of the proposition that seed supply was a constraint to the operation of fairs in lower rainfall regions.

The use of village seed markets reduces the need to worry about whether available seed is suited to local environments and acceptable to farmers. However, most of the NGOs also sought to assure community access to commercial maize seed. This largely reflects the historical willingness of Zimbabwean farmers to purchase quality maize seed each year.

Finally, each of the NGOs sought the assistance of local community leaders in defining a list of beneficiaries. Again, whereas a number of criteria are commonly proposed to define vulnerable households, the final choice involves some negotiation with local authorities. In many cases this list was still being revised on the day of the seed fair.

Planning

The dates for each seed fair were commonly set in consultation with local stakeholders including AREX staff and community leaders. The latter were then given the task of mobilizing local seed sellers.

NGOs then ordered vouchers, equipment and other promotional materials to be used at the fairs. The NGOs printed varying numbers of vouchers. Farmers commented that the distribution of many vouchers of small denominations was more useful than the distribution of a few high-value ones. This facilitated choice. NGOs that hosted HIV/AIDS campaign groups contacted such people to be available on the day of the seed fair.

It was common for the timing of the seed fair to change late in the schedule. Changes might even be announced on the day when the fair was to be held. The rescheduling of seed fairs was said to be caused by delays in accessing seed from outside traders, the late receipt of funding, the late printing of vouchers, and scheduling conflicts in NGO programs.

Implementation

Seed fairs were implemented by a combination of stakeholders including NGO staff, AREX staff, civil and traditional leaders, and some selected farmers. The components of implementation were similar at all seed fairs visited, although details varied from one site to the next. The first stage at all sites was a public address by an implementing agency employee in the local vernacular of the area. Instructions were given on the proceedings of the day.

In all locations visited, prices were established on the day of the seed fair. In a few cases these were simply announced by the implementing NGO. But in most cases, NGO staff facilitated price negotiations between seed sellers, buyers and community leaders.

Visual seed quality examinations were conducted by AREX officers at most of the sites visited. However, there were very few cases of sellers being turned away because of the poor quality of their seed. This effectively allowed farmers to choose to buy seed of varying quality. Since seed prices were predetermined, however, these failed to reflect quality differentials.

Sellers were formally registered at all of the seed fairs, and the quantities brought were recorded. Some NGOs used scales to measure the quantities of seed brought, whereas others simply counted containers.

Several NGOs restricted the crops that could be sold at the seed fairs. For example, in certain areas, maize and sugar beans were not allowed. There were concerns that food insecure farmers might consume the sugar beans instead of planting the seed. In most cases, however, any seed crop could be sold.

At many seed fairs, farmers were encouraged to first use their vouchers to purchase commercial maize seed. After receiving their vouchers, farmers were lined up to obtain their maize seed. This practice encouraged the efforts of external traders or seed companies to supply maize seed at most of the fairs. It was clear that most farmers also placed priority on buying this seed. But in a few cases farmers complained that they would have preferred to obtain more seed of other crops such as groundnuts. The high cost of maize seed meant that the largest proportion of vouchers were redeemed for this input.

The seed fair was generally an open event to local communities. Some NGOs encouraged the participation of non-voucher beneficiaries to witness the event, and also watch HIV/AIDS education programs.

At several sites NGO staff and local leaders had to deal with disputes about the distribution of vouchers. Beneficiary lists sometimes had to be revised when there was evidence that wealthier households had been selected for the program, or that vulnerable households had been missed.

There were no specific instructions guiding the order in which vulnerable households received their vouchers. This order was important because the early recipients had first choice of the seed on offer, and did not have to wait in long queues to obtain their maize seed. Farmers who received vouchers later sometimes lost the opportunity to purchase preferred seed types, such as legume seeds.

Evaluation

Several NGOs brought in teams of enumerators to administer a quick assessment questionnaire. The questionnaire was most commonly directed to seed buyers in order to obtain their views of the seed fair procedures and pricing, and to gather suggestions for improvement. Some NGOs planned to conduct additional surveys after planting to assess the impact of seed fairs on production.

Sources of Seed Supply

The seed supplied to most seed fairs was derived from a combination of commercial and non-commercial sources. Many NGOs particularly encouraged seed supply from local farmers. This helped assure the availability of seed crops and varieties that are suited to the local agro-ecology and favored by the recipient households. Purchases of local seed are also believed to help assure the maintenance of agro-biodiversity.

However, NGOs commonly worry about the risks of not having enough seed to redeem all of the distributed vouchers. This was particularly a worry with respect to maize seed. NGOs knew farmers generally seek such seed from the commercial market, but they could not be sure that seed companies or seed traders would appear with adequate supplies. In order to reduce these risks, most NGOs sought close relationships with particular seed traders or agro-dealers supplying the dominant share of this input.

Participation of Farmers Selling Seed

Widely variable numbers of farmers participated in the various seed fairs monitored. These ranged from as few as 15 farmers to as many as 95 farmers in the various fairs (Table 5). The number of seed sellers appears to have been partly related to the level of rainfall in the targeted area. In low rainfall areas there were fewer local farmers selling seed, compared to high rainfall areas.

However, the number of local sellers was also clearly influenced by the strategies employed for gathering participation. In several seed fairs it was clear that farmers were reluctant to bring seed for sale because they thought this would disqualify them from receiving other sorts of aid in the future. In at least one ward, local officials warned farmers about this possibility. But in other areas, NGOs successfully worked with local community leaders to encourage local seed sellers to come to the fair.

Table 5. Number of seed sellers at selected seed fair sites

Region	District	Sites visited	Number of voucher beneficiaries	Local farmers	Agro-dealers	Seed companies
High rainfall	Mutoko	2	600	16	2	0
	Murehwa	2	600	17	3	0
	Nyanga	2	800	39	1	3
	Chirumhanzu	2	169	95	0	0
	Gutu	2	541	93	6	0
	Total	10	2710	260	12	3
Low rainfall	Chiredzi	2	600	28	2	0
	Tsholotsho	2	630	17	2	0
	Chipinge	2	500	20	8	2
	Chivi	1	1000	15	10	3
	Total	7	2730	80	22	5

This problem has likely been worsened by the persistence of a range of different humanitarian relief programs during the past four years. Many farmers have become accustomed to claiming they are in need and expecting assistance – in the form of seed, fertilizer, gardening advice, conservation farming advice, or food aid. If seed fairs continue, NGOs may need to consider rewarding seed sellers – possibly with access to small packets of new varieties, or with advisory assistance to help them improve their seed production.

Results from the interviews with seed sellers show that 75% of the sellers have more than five years experience in selling local seed. Most are regular sellers of seed in the informal village market. These are generally better-than-average farmers who tend to produce more than their neighbors even in the event of drought. Many are well known in their communities as seed suppliers.

Participation of Seed Companies

The larger national seed companies were generally reluctant to become involved in seed fairs. Region a l representatives of these companies only participated in three out of the nine districts covered by this study.

Companies commonly state that their participation in these seed fairs is not profitable. The costs of transporting seed are high, as are the risks of failing to sell what is offered. Furthermore, most seed companies believed they could earn more money selling most of their stocks in response to larger tenders to the government or to free seed distribution programs run by various NGOs. Why pursue an uncertain retail market when most seed could be sold in large lots from the company's warehouse?

Several companies sought to encourage other agro-dealers to buy their seed, and market it at the fairs. This included several small-scale traders who had never previously sold seed.

It is unlikely this situation will change as long as a large share of relief seed continues to be distributed through free, direct distribution.

Participation of Other Agro-Dealers

Two types of agro-dealers participated in most of the fairs – those identifiable as local agents for particular companies, and general traders who either started selling seed in response to the fairs, or sold seed as one of a number of commodities in general merchandise shops.

Most NGOs sought the participation of particular agro-dealers who would assure the availability of a minimum supply of maize seed. Several NGOs negotiated specific agreements with these traders before the seed fair, and maintained close communication about the levels of maize seed stocks needed at each fair in order to redeem the available vouchers.

While the NGOs did not restrict the participation of multiple agro-dealers, the numbers participating in any given seed fair were small. In several cases, only one agro-dealer showed up. By appearance, competition was not encouraged. Agro-dealers interviewed commonly stated that they did not know of the existence of many of the fairs they failed to attend. The smaller numbers of commercial seed sellers may have contributed to an increase in average selling prices for maize seed.

The procedure of first lining farmers up to purchase their maize seed helped ensure that agro-dealers who were enlisted were paid. This also reduced the risks that farmers would end up with more vouchers than the seed available.

An alternative way to resolve these risks was to separate the distribution of maize seed from the operation of the fair. One NGO directly distributed maize seed to each household, and supported the fairs as a means to supply seed of other major crops. Another NGO provided maize seed in exchange for vouchers at a local retail shop while reserving the fair for seed of any other crop.

Seed Quantities Supplied and Sold

There appear to have been no specific instructions regarding the quantities and types of seed that could be sold at the fairs. A wide range of varieties of seed crops were available. These included sorghum, pearl millet, finger millet, groundnut, cowpea, bambaranut, sunflower, soybean, and sesame seed (Table 6). Very few local farmers brought any maize seed, and generally this was in small quantities. Few also brought in vegetable seed. The reason for this remains uncertain. Some sellers thought they were supposed to bring seed of other field crops, while commercial suppliers could be expected to provide the maize. Several agro-dealers understood that vegetable seed should be reserved for winter season distribution.

Table 6. Quantities of seed sold by different sellers at seed fairs (kg)

District		Hybrid maize	OPV maize	Sorghum	Pearl millet	Finger millet	Groundnut	Bamb-aranut	Cowpea	Other
High High rainfall (2710 buyers)	Seed company	9670	0	0	0	0	0	0	0	0
	Agro-dealer	850	9800	0	0	0	0	0	0	0
	Local farmer	0	20	205	457	190	933	490	32	522
	Total	10520	9820	205	457	190	933	490	32	522
Low rainfall (2730 buyers)	Seed company	12400	0	0	0	0	0	0	0	0
	Agro-dealer	2980	4630	0	0	0	196	0	113	0
	Local farmer	0	60	1265	70	30	195	137	80	69
	Total	15380	4690	1265	70	30	391	137	193	69

Due to the nature of the relationship between NGOs and a few agro-dealers, most fairs were dominated by the supply of either a single variety of open pollinated maize seed (generally ZM 521), or a single variety of hybrid maize seed. In effect, most farmers did not have a choice of what type of maize seed to purchase. In those fairs where both open pollinated maize and hybrid maize seed were available, the majority of farmers appear to have preferred the hybrid selection. Many complaints were received about the ZM 521 open pollinated maize seed on offer, with farmers stating that it had performed poorly in previous years. But a few complaints were also received about the poor performance of hybrid maize seed – particularly from one company. Farmers commonly suggested the need for more choice.

Maize seed accounted for almost 80% of the total quantity of seed sold at seed fairs from the nine districts surveyed. This high volume and amount partly reflects the links between NGOs and agro-dealers described above. But in addition, it appears that the majority of buyers placed priority on the purchase of maize seed. Most of Zimbabwe's farmers are well accustomed to purchasing hybrid maize seed each season. While open pollinated varieties have been introduced as an option allowing farmers to save money on seed by not purchasing fresh seed each season, most farmers seem to recognize the yield advantages offered by hybrids. Most are willing to continue to pay for this seed each year; though if an NGO is willing to provide this seed for free (perhaps through a voucher) farmers are even happier. Farmers recognize they can generally find seed for other open pollinated crops from their own stocks or the village market.

Local seed traders in high rainfall regions had larger quantities of more different types of seed to sell, than the local traders in drier areas (Figure 1). In high rainfall areas, groundnut, bambaranut, pearl millet and other crops such as sunflower seed dominated local sales. In low rainfall zones, sorghum was the predominant seed crop sold, though farmers commonly complained about the lack of adequate quantities of seed of various legume crops. Also, the costs of legume seed were perceived to be expensive, particularly given that the largest share of vouchers had to be redeemed first for maize.

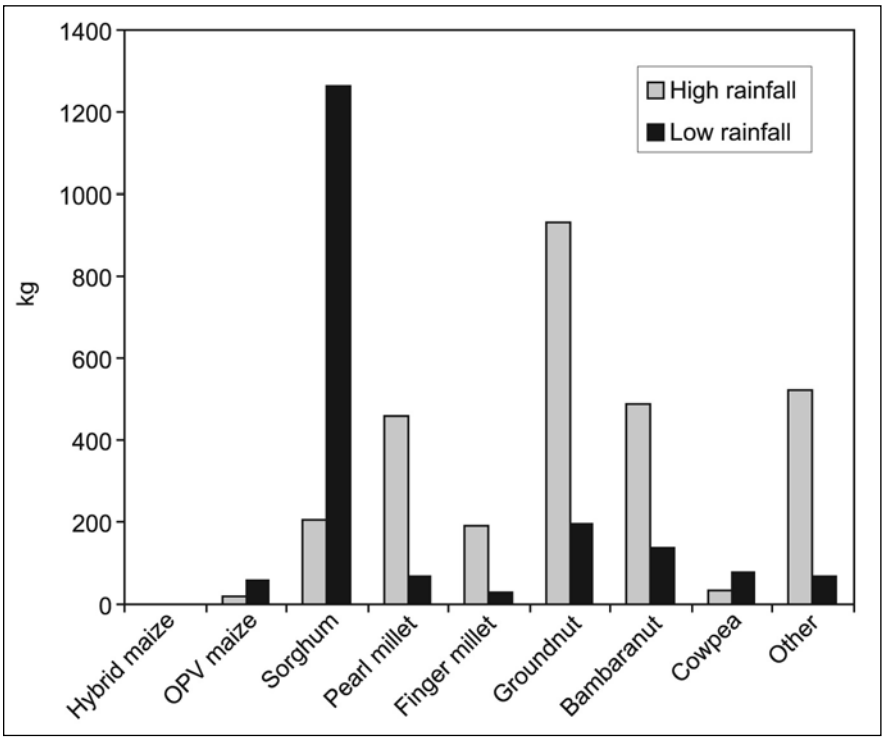

Figure 1. Quantities of seed sold by local farmers by rainfall region.

Figures 2 and 3 show the distribution of seed sales in fairs dominated either by the availability of open pollinated maize seed or hybrid maize seed – often as a result of the dominance of a particular agro-dealer. In the districts where hybrid maize seed was available, this accounted for 87% of the total quantity of seed sold. In districts were open pollinated maize seed was available, this accounted for 78% of the seed sold, and the combination of hybrid and open pollinated maize seed accounted for almost 90% of total sales.

Correspondingly, sales of maize seed accounted for more than 90% of the total value of seed sold at the fairs. By inference, the vast majority of seed investment left the local community and ended up in the hands of urban-based agro-dealers and seed companies.

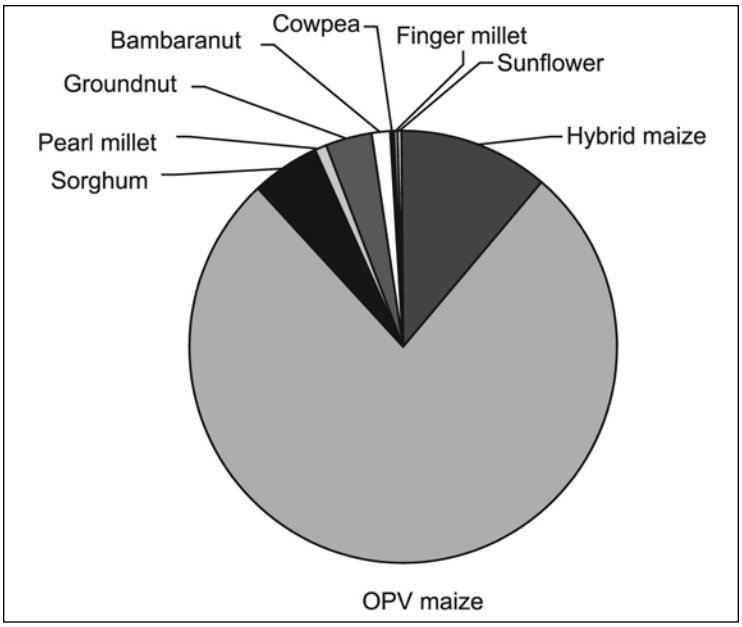

Figure 2. Distribution of seed sales at seed fairs dominated by open pollinated varieties.

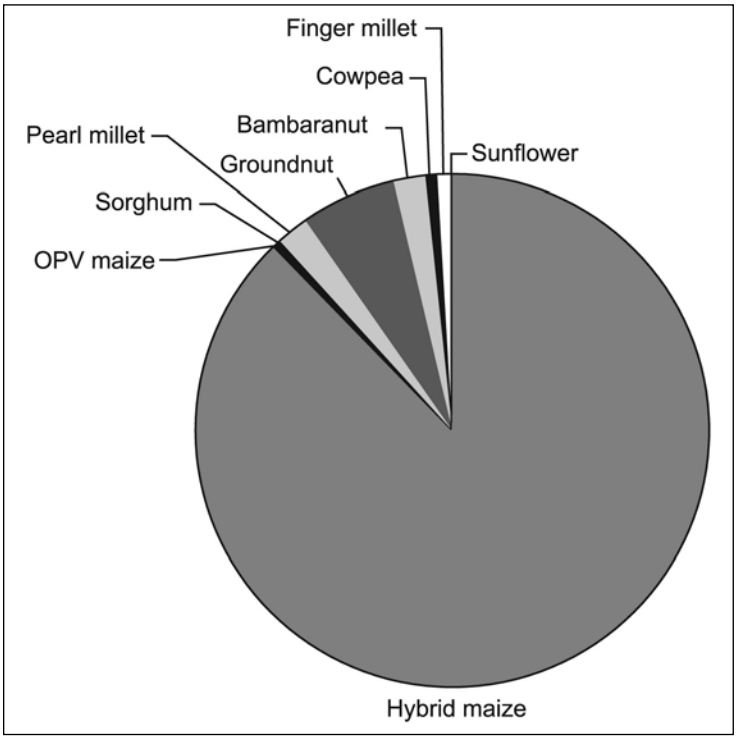

Figure 3. Distribution of seed sales at seed fairs dominated by hybrid maize.

Seed Fair Pricing

NGOs and seed sellers fixed prices for all transactions at every fair. Often this was done in consultation with local community leaders on the day of the fair. However, the similarity of prices at many fairs suggests that NGO staff had a strong role in these discussions. This contrasts with the common practice at seed fairs in other countries. In east Africa and neighboring Mozambique, buyers and sellers at seed fairs were individually allowed to negotiate prices for each transaction. Price competition between sellers was encouraged.

The decision to set prices in Zimbabwe has been pursued as a means to reduce risks at the fairs. This is said to reduce the chances that seed traders may exploit seed buyers. In addition, it speeds the process of transactions. Pre-knowledge of the maize price also helps NGOs set the value of vouchers on offer.

Agro-dealers invited to bring larger quantities of maize seed from Harare sometimes negotiated their prices with the NGO in advance. This agreement might still be subject to confirmation at the fair itself. But each company sought an assurance that it could cover its transport costs, accommodation costs and labor costs before it would agree to travel to the designated fairs.

Generally, seed fair prices were higher than local seed prices for all the major crops sold. Open pollinated maize seed provided by agro-dealers generally sold for Z$35,000 to Z$40,000 per kilogram depending on the location of the fair. The prices of hybrid maize seed were generally a bit higher than this.

Unexpectedly, the hybrid maize seed offered at many fairs was more expensive than that offered in local retail shops (Figure 4). In two districts, this seed was as much as 60% more costly in the fairs. The justification for this is unclear. Local retail shops would be expected to have higher prices to account for local overheads, and the costs of stocking seed over a longer period. Seed company agents selling at the fairs should have had particularly favorable prices given their access to wholesale pricing. These circumstances suggest that NGOs, and farmers, were forced to accept higher seed prices from the companies and agro-dealers in order to assure adequate stocks were available to redeem all distributed vouchers.

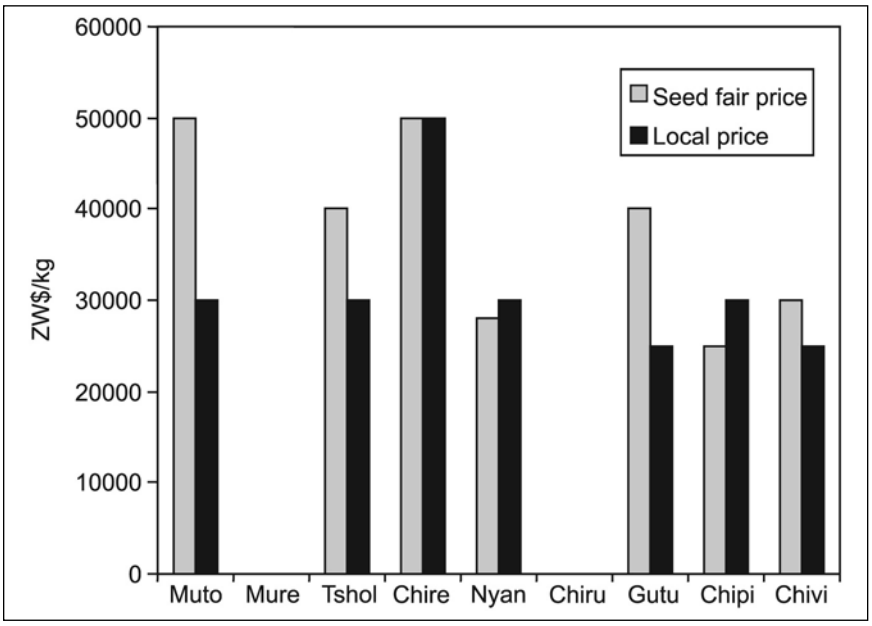

Figure 4. Hybrid maize seed prices at seed fairs and local retail markets.

Designated sorghum seed prices at the fairs were consistently double the prices of sorghum grain, the main alternative source of sorghum seed, in local village markets (Figure 5). In several areas the seed prices at the fairs were more than five times these grain prices. This difference may be partly explained by efforts of seed sellers to clean their grain to a higher quality for sale at the fair. But it is also apparent that this sorghum seed was overpriced relative to the local market value. In practice, it appears that sorghum seed prices at the fairs were set in coordination with the prices for open pollinated maize seed, even though the latter was commercially produced and treated seed.

Groundnut seed at the fairs was also commonly priced at double the levels recorded in local grain markets for shelled product (Figure 6). For unknown reasons, the price of groundnut seed was particularly high in

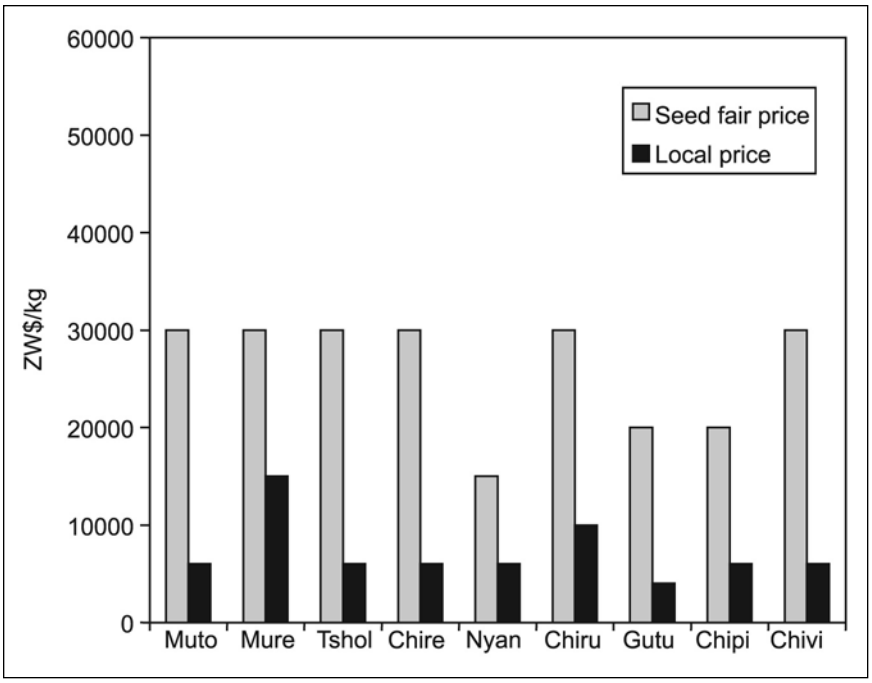

Figure 5. Sorghum seed prices at seed fairs and local grain markets.

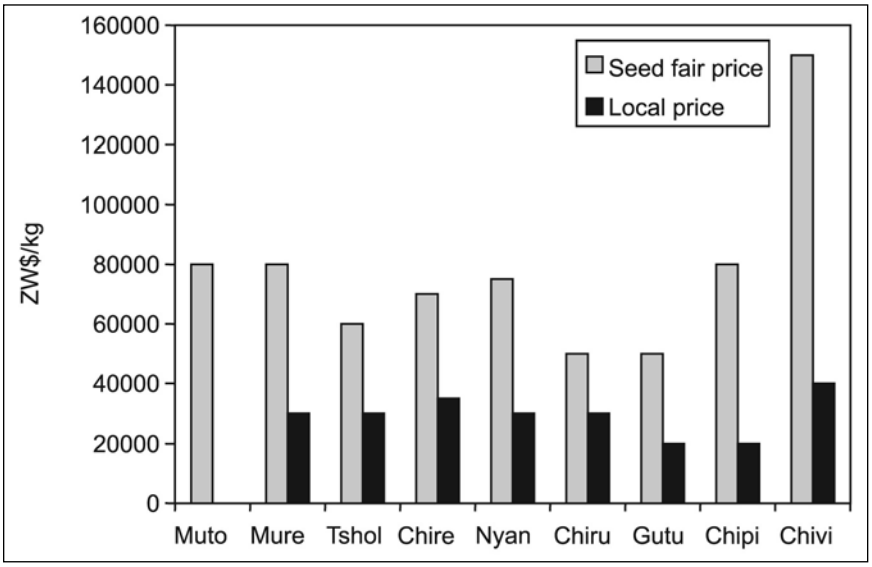

Figure 6. Groundnut seed prices at seed fairs and local grain markets.

the seed fairs operated in Chivi. Here the fair price was almost four times higher than the local market price for grain. Farmers complained about such high prices – suggesting that the value of their remaining vouchers, after purchasing maize, allowed them to obtain very little legume seed.

Bambaranut seed was generally priced at the same rate as groundnut, although local bambaranut prices tend to be cheaper than groundnut at local village markets. Cowpea prices were generally cheaper than groundnut seed prices across the districts, although some implementing NGOs established a common price for all legumes.

Complaints by farmers raised concerns about the possibility that the establishment of very high seed prices at the fairs may contribute to the inflation of seed prices in the local, informal market. Some farmers noted it was more difficult to obtain seed from their neighbors before the fair, and that the fairs were increasing local prices even after the market. However, the evidence for this was ambiguous. As indicated in the figures above, the prices of seed at the fairs was substantially higher than prices for related grain in local markets. Unexpectedly, given the national grain shortages and hyperinflationary environment, grain prices during the February hunger season were still commonly less than the seed prices set during the fairs scheduled four to five months earlier (Table 7).

Table 7. Comparison of seed prices before, during and after the seed fair

	Sorghum (ZW$/kg)			Groundnut (ZW$/kg)		
Districts	Before (Oct. 05)	During (Oct. 05)	After (Feb. 06)	Before (Oct. 05)	During (Oct. 05)	After (Feb. 06)
Mutoko	6000	30000	20000	30000	80000	50000
Murehwa	15000	30000	50000	30000	80000	70000
Chiredzi	6000	30000	10000	35000	80000	40000
Tsholotsho	6000	30000	20000	30000	60000	65000
Nyanga	6000	15000	-	30000	75000	80000
Chirumhanzu	10000	30000	25000	30000	50000	75000
Gutu	4000	20000	40000	20000	50000	31000
Chipinge[\a]	6000	20000	-	20000	80000	-
Chivi[\a]	6000	30000	-	40000	150000	-

[\a] There were no seller respondents in Chipinge and Chivi during the post-planting surveys.

Impacts of Seed Fairs

The impacts of seed fairs can be measured in several different ways. Did the seed fairs provide farmers with greater choice and did the recipients make use of this choice? Was seed chosen at the fairs more likely to be planted? Did this contribute to the maintenance or expansion of agro-biodiversity? Did seed fairs contribute significantly to community incomes, and how was this income used? Did the seed fairs, correspondingly, stimulate an expansion of local seed production? Have they improved the operations of village seed markets?

Seed Choices in Seed Fairs and Direct Distribution

Proponents of using seed fairs to facilitate the distribution of relief seed have argued that the method provides farmers with a wider choice of seed types – including many traditional crops and varieties produced by local farmers. This proposition is a straightforward product of how the two strategies are implemented.

In each of the nine districts covered, at least five different crop types were available for purchase at the seed fairs (Table 8). There were also multiple varieties of each crop sold. In comparison, only one seed crop was provided through direct distribution in four of the nine districts sampled. Others offered two, three or four seed types. Five seed types were distributed in only one district – but not to individual farmers. Some farmers received some of these seeds, and others received a different selection.

Table 8. Crop types and varieties delivered at seed fairs and direct distribution

	Seed fair		Direct distribution	
District	Number of crops sold	Number of varieties sold	Number of crops delivered	Number of varieties delivered
Mutoko	7	12	2	2
Murehwa	9	13	1	1
Chiredzi	8	18	4	4
Tsholotsho	7	11	4	4
Nyanga	9	18	4	4
Chirumhanzu	5	15	1	1
Gutu	6	12	1	1
Chipinge	10	11	1	1
Chivi	16	8	5	5

Unexpectedly, virtually no maize seed was brought into the fairs for sale. Open pollinated maize had been distributed free to large numbers of farmers in the previous three years. This was assumed to be a major benefit, because farmers could replant seed from their previous season's harvest, and would not have to purchase maize seed each season. Farmers short of seed could readily obtain it from their neighbors. In practice, however, this trade did not occur in the fairs. And questions were raised about the preferences of farmers for open pollinated seed versus hybrid varieties.

The failure of farmers to bring maize seed for sale may partly have resulted from their continuing confusion about the difference between hybrid seed and open pollinated varieties. Many farmers may have thought the open pollinated varieties distributed in earlier years were, in fact, hybrids. The reluctance to sell this seed may also have resulted from unhappiness with the performance of open pollinated varieties previously distributed. And some farmers appear to have been discouraged from bringing maize seed for sale, because they were told in advance that outside companies would bring this input. Yet given a choice, the field evidence suggests that most farmers prefer to obtain their maize seed from companies, rather than from neighboring farmers. This helps assure seed quality, and potentially provides access to new varieties.

Likelihood that Relief Seed is Planted

Though farmers had access to more seed crops and varieties at the fairs, the dominance of maize in most fairs limited the selection of seed actually made. Overall, farmers selected more different types of seed than were obtained through the direct distribution programs. But most obtained only three seed types – commonly two cereal grains (maize and one other) and one legume. The limited number of seed selections resulted, in large part, from the high costs of maize seed, and the limited value of the vouchers available after this purchase was completed.

Farmers who obtained seed from seed fairs tended to plant a higher proportion of this than farmers who received their seed through free, direct distribution. Seed fair participants planted at least 80% of the total quantity of seed purchased with vouchers at the fairs (Figure 7). Farmers in neighboring wards without seed fairs planted an average of only 70% of the seed they received through direct distribution programs. This difference was particularly marked in the case of maize seed. Seed fair recipients planted 90% of the maize seed they received whereas direct seed recipients planted only 55% of this seed. The justification for a differential of this size is unclear. Virtually all of the seed fair derived pearl millet, finger millet and groundnut were planted. In contrast, only about 70% of the groundnut handed out directly to farmers was planted.

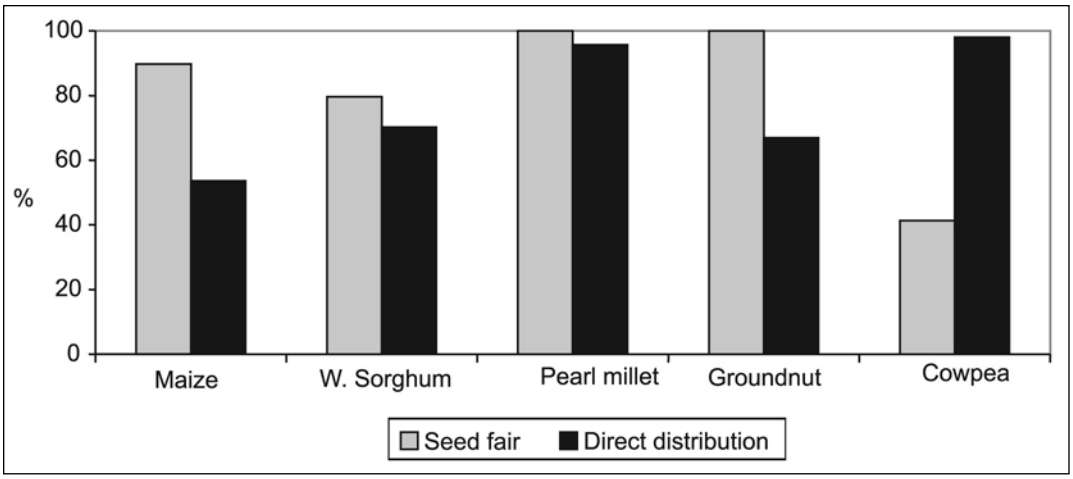

Figure 7. Proportion of seed planted in 2005.

Unexpectedly, the majority of cowpea seed obtained from the fairs was not planted, whereas most of the cowpea seed directly distributed was planted. This is because farmers were inclined to consume the cowpea seed from the fairs, whereas they would not consume the treated seed obtained from the commercial market – and distributed by NGOs.

Impact on the Diversity of Crops and Varieties Planted

One of the advantages cited for seed fairs is that they preserve agro-biodiversity in local farming systems. Seed sellers are encouraged to bring a wide range of seed crops and crop varieties including traditional varieties that are no longer widely grown. Sellers are encouraged to teach buyers about the varying characteristics of the range of these varieties still available. The fact that seed of a wider range of crops and varieties is available is assumed to contribute to agro-biodiversity.

The seed fairs clearly offered a wider range of crops and varieties to recipient farmers than the direct distribution programs. The question remains, however, did these contribute to the production of a wider range of crops and varieties? It is possible that farmers receiving seed through direct distribution could obtain the same wider set of seed crops and varieties from the informal village market without a seed fair, although the fairs were expected to improve seed access to poorer, more vulnerable households.

Table 9 compares the number of crops and varieties planted for beneficiaries of seed fairs and beneficiaries of direct free seed distribution. Contrary to expectations, farmers obtaining seed through free, direct distribution were marginally more likely to plant more crops and more varieties than farmers obtaining seed through the seed fairs. These relationships hold true irrespective of the rainfall zone or the district. Even in drier regions where farmers are assumed to lose more seed, the fairs do not appear to have contributed to agro-biodiversity.

Table 9. Crop types and varieties planted by beneficiaries of seed fairs and direct distribution programs

		Seed fair		Direct distribution	
	District	Number of crops	Number of varieties	Number of crops	Number of varieties
High rainfall	Mutoko	3.8	4.3	3.3	4.6
	Murehwa	4.2	5.4	3.3	4.6
	Nyanga	4.8	5.5	6.1	7.5
	Chirumhanzu	4.1	5.3	3.9	5.0
	Gutu	4.4	5.3	5.5	7.5
	Mean	4.3	5.2	4.4	5.8
Low rainfall	Chiredzi	3.3	3.9	3.8	4.9
	Tsholotsho	4.6	5.6	4.3	4.9
	Chipinge	2.9	3.6	3.5	3.7
	Chivi	3.7	4.5	5.9	6.9
	Mean	3.7	4.4	4.4	5.1

The limited contribution of the fairs to agro-biodiversity could, in part, be a product of the dominance of maize seed sales in the fairs. But this may as well be an indication that village seed markets work reasonably well without the fairs. In effect, the seed fairs complement the range of other seed sources available to farmers in these environments.

Community Seed Preferences

Farmers were asked what seed crops and varieties they wanted, but could not obtain at the seed fairs. The results are shown in Figure 8. The most sought after seed types were groundnut, bambaranut and cowpea. Although agro-dealers and seed companies provided large quantities of maize seed in most seed fairs, 14% of the respondents claimed they did not have access to their preferred variety.

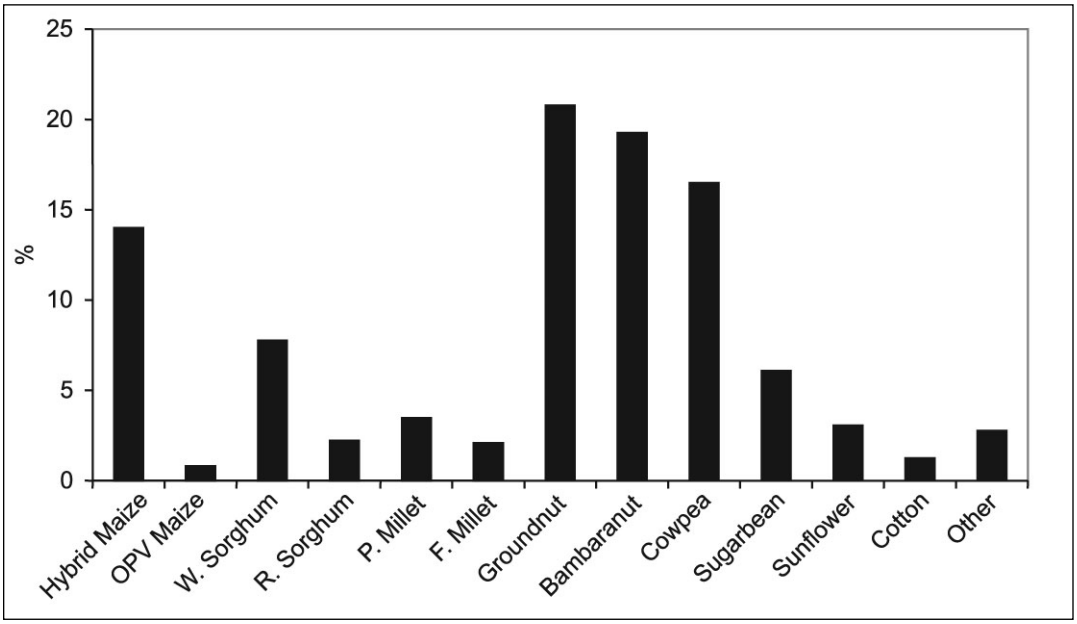

Figure 8. Crop types preferred but not available for purchase at seed fairs.

The failure to obtain preferred seed crops resulted from several factors. First, since much of the voucher resource was allocated to maize, farmers had less resources than they had hoped to purchase seed of other crops – particularly the legume crops.

Second, farmers complained that if they were near the end of the queue to collect their maize seed, preferred seed crops and varieties were sold out. Again, this was more likely in the event of legume crops than for the cereal grains.

Third, although many farmers preferred to purchase hybrid maize seed, most agro- dealers delivered OPV maize seed. Therefore, even though farmers received maize seed, some were unhappy with the variety. Ninety percent of the farmers stating a preference for alternative maize varieties at the seed fairs claimed they wanted hybrids instead of open pollinated varieties.

Farmers attending seed fairs and obtaining seed through direct distribution were also directly asked about their preferences for hybrids versus open pollinated maize. Figure 9 summarizes what varieties were commonly obtained by farmers through the two strategies. Almost 80% of the maize seed distributed through direct distribution programs in the sample areas was open pollinated. Yet, as seen in Figure 10, only 10% of these farmers preferred these open pollinated maize seed offerings. In the seed fairs, approximately one-half of the seed distributed was of open pollinated varieties. Yet less than 5% of the recipients expressed a preference for this seed.

These results are surprising given that the open pollinated maize varieties on offer have been widely tested in on-farm trials. Farmers participating in these trials have expressed interest in these varieties. It is possible that many farmers wrongly assumed that what they were testing was hybrid seed. And many may be confused about the differences between open pollinated and hybrid seed. However, the history of hybrid maize seed usage in the country testifies to the widespread acceptance of these varieties. By 1985, more than 90% of farmers in the country were regularly buying hybrid maize seed. New purchases have declined in recent years because of the high costs of seed, and its limited availability on rural markets. But it is possible that most farmers still recognize the value of hybrid vigor and, given the choice, prefer this trait.

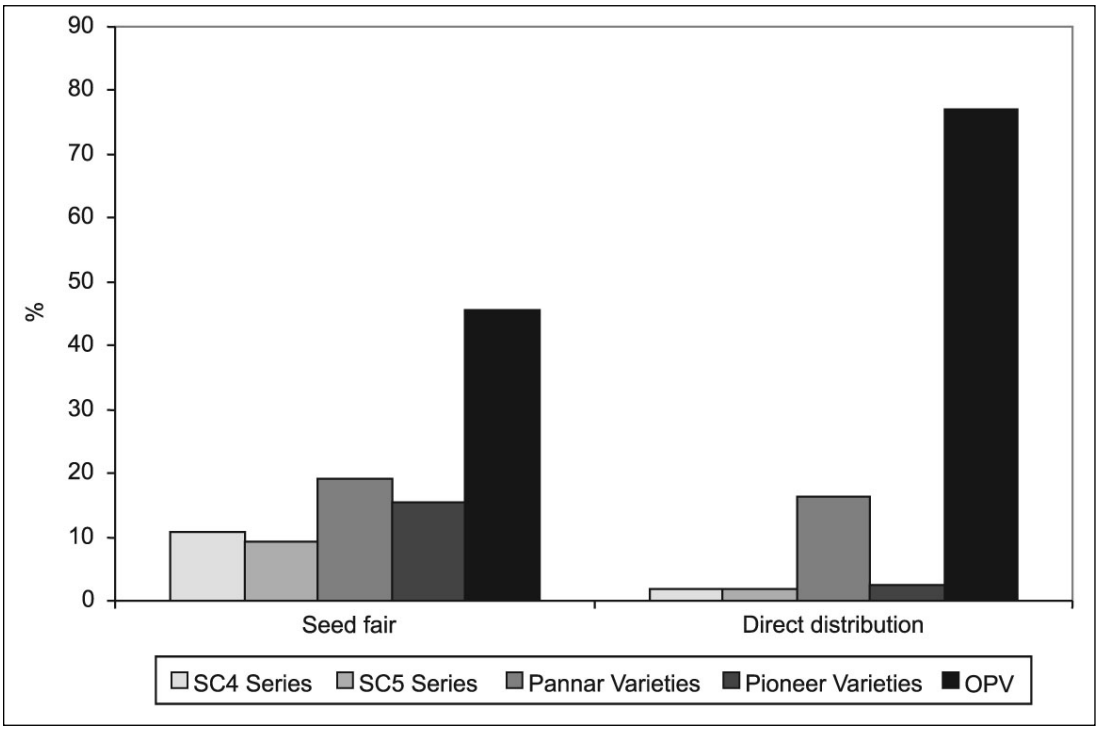

Figure 9. Types of maize varieties received through seed fairs and direct distribution.

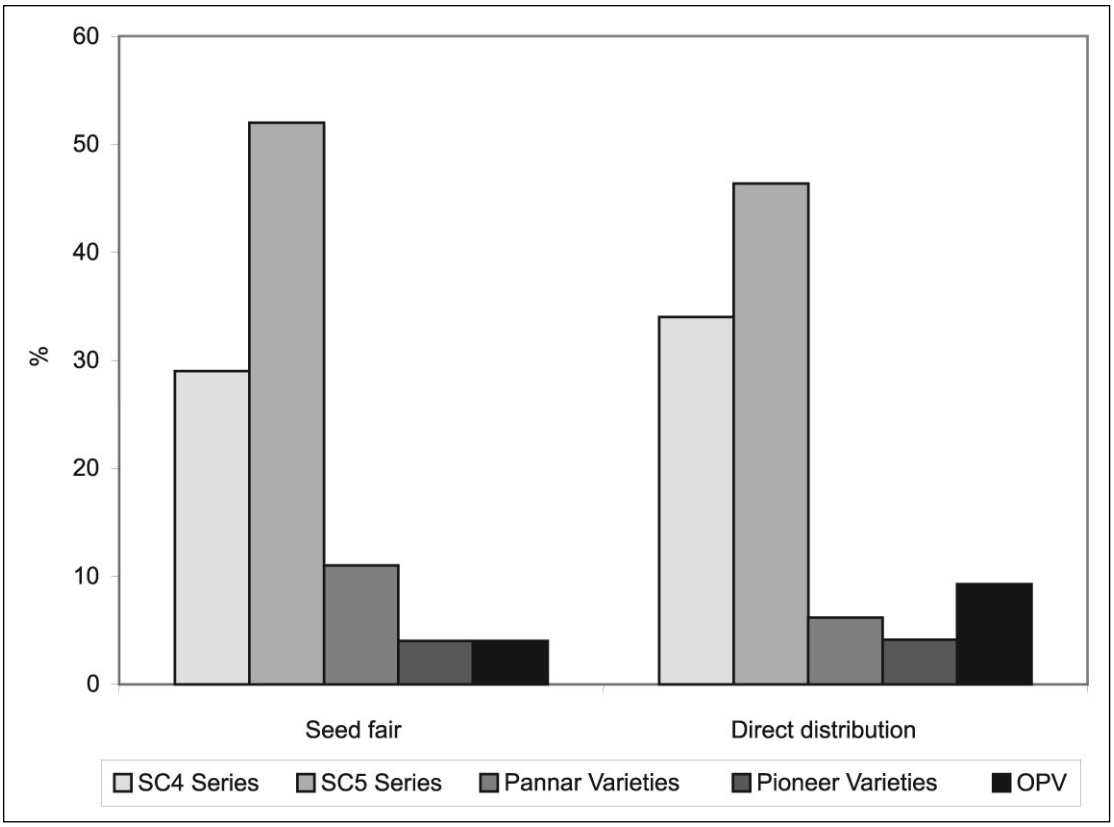

Figure 10. Types of maize varieties preferred by farmers who received OPV maize seed.

Community Income from Seed Sales

Proponents of seed fairs also argue that these are better than direct seed distribution because they stimulate the development of local seed markets. They encourage farmers involved in seed trade to produce more seed for their neighbors. Money paid to local seed producers offers multiplied gains to the local community – adding employment and income. However, overall, more than 85% of the income derived from the seed sales went to external commercial retailers – mostly for maize seed (Figures 11 and 12). Less than 15% of the income earned through the seed fairs remained in the hands of local farmers. Therefore, the multiplier effects of seed fairs were much smaller than anticipated.

The impact of the seed fairs on the area planted remains ambiguous. Two-thirds of the local farmer seed sellers interviewed during the post-planting survey claimed they had increased the area of land they planted during the 2005/06 cropping season (Table 10). The largest gains were said to have occurred in the planting of legume crops such as cowpea, bambaranut and groundnut – varieties sought from local traders in the fairs. However, much of this gain appears to have been linked with the better-than-average rainfall experienced this year. Only one third of the seed sellers claimed they were expanding their plantings in order to sell more seed at future seed fairs.

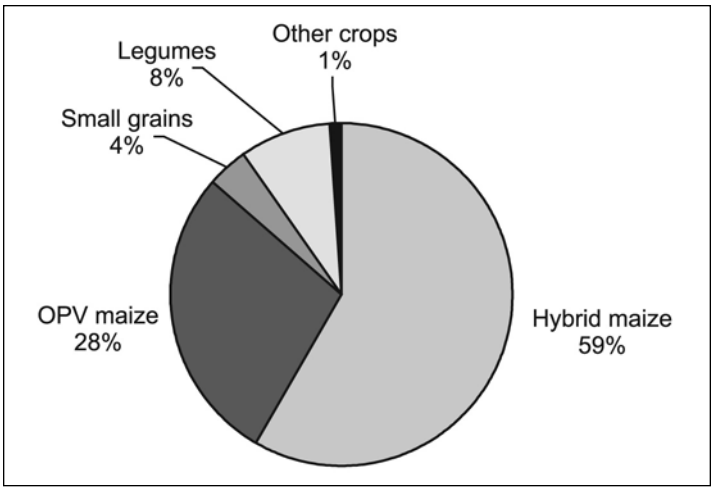

Figure 11. Proportional value of different seed crops sold at seed fairs, 2005

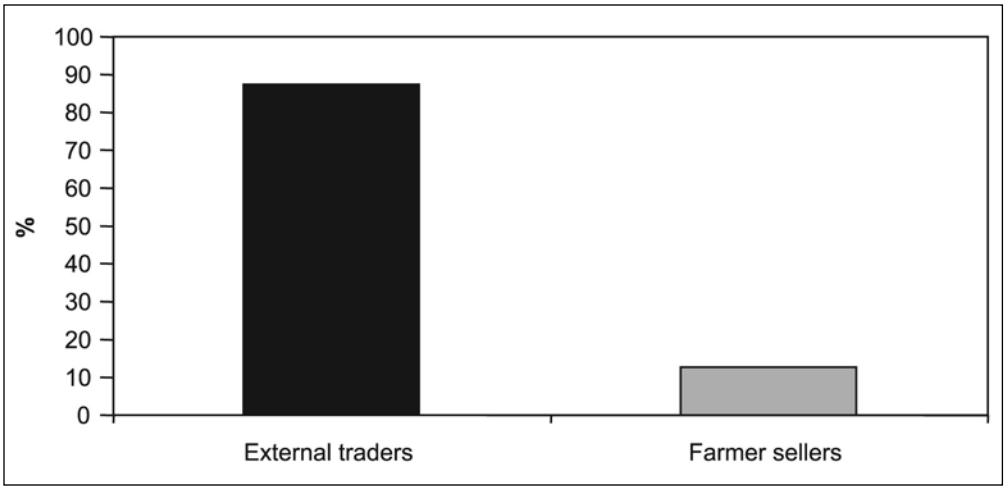

Figure 12. Proportion of total income earned by external traders versus local farmer sellers.

Table 10. Proportion of seed sellers changing the area planted after participating in seed fairs

	Change in area planted (%)				
	Large decline	Small decline	No change	Small increase	Large increase
White sorghum	3.8	15.4	15.4	19.2	46.2
Pearl millet	6.7	13.3	13.3	33.3	33.3
Groundnut	3.8	17.0	11.3	13.2	54.7
Cowpea	8.3	8.3	8.3	8.3	66.7
Bambaranut	8.6	2.9	14.3	14.3	60.0

Investment of Cash Earned by Seed Sellers

A review of what local seed traders did with the income they earned from the fairs revealed that only one-third of these traders claimed to be using this income to purchase crop inputs (Figure 13). Two-thirds of the respondents allocated this income primarily to other non-farm goods such as food and groceries and educational expenses.

This result may partly reflect the nature of the local seed market. Much of the seed sold in this market is simply extra seed or grain produced by better-than-average households. Very few farmers set out to produce a seed crop for sale to their neighbors – even among those known in local communities to be likely sources of seed. In the few communities where seed may be produced on contract for a company, or an external organization, this commodity is simply viewed as another cash crop with higher quality requirements.

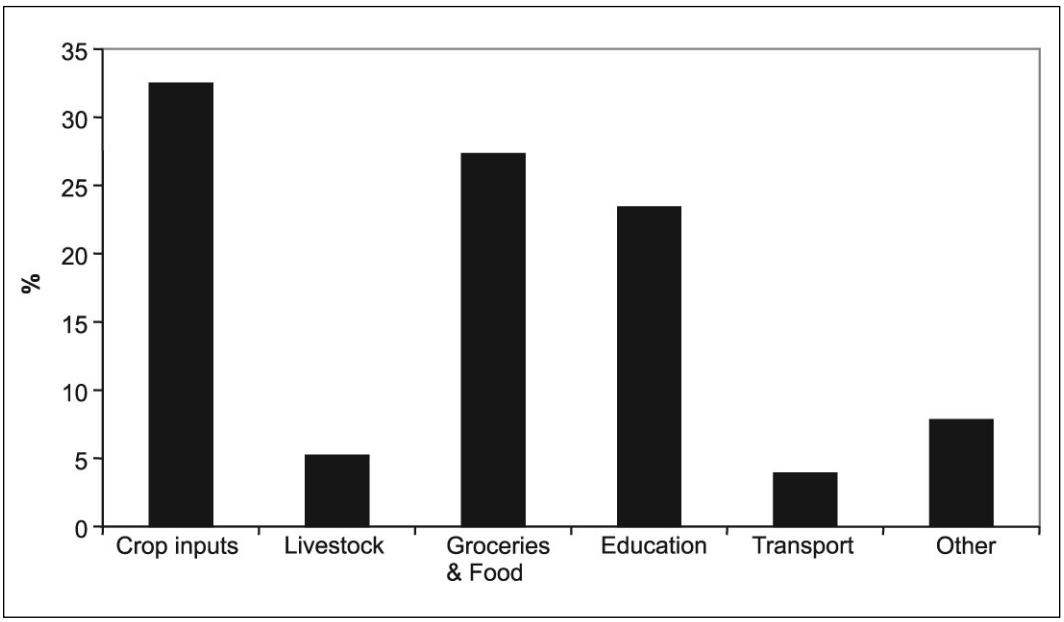

Figure 13. Proportion of respondents citing use of income earned from seed sales

Impact on Local Seed Markets

Seed fairs are commonly perceived to enhance the operations of the informal village seed market. However, the impacts identified by both seed sellers and seed buyers were ambiguous, at best.

Seed fairs encouraged a subset of sellers to invest in crop inputs and expand their crop area in order to sell more seed in the future. However, this appears to have been a small minority of the participating households – less than one-third. Most sellers simply view the fairs as an opportunity to sell surplus crop if it is available.

A number of seed 'buyers' raised concerns about the impacts of the seed fairs on local markets. While 45% claimed that seed fairs increased the availability of seed by making village stocks more accessible, one third reported greater difficulty in obtaining seed from their neighbors (Table 11). Apparently, once the fair is announced, some seed sellers hold back seed from the village market in the hope of obtaining higher prices in the NGO mediated fair.

Table 11. Perceived impacts of seed fairs on local markets

	Impact (%)		
Market parameters	Increases	No impact	Decreases
Availability of seed	45	21	34
Price of seed	60	10	30
Willingness to provide seed to neighbors	45	36	19

Correspondingly, two thirds of the vulnerable recipient households reported that seed fairs increase the price of seed at the local market. Many expressed fear that the fairs have undermined traditional seed exchange in the village. Historically, farmers would help one another with seed gifts or provide seed in exchange for labor. The fairs are encouraging farmers with surplus to demand higher cash payments. More farmers are willing to provide seed to their neighbors, but these transactions are increasingly in exchange for cash. This could reduce the seed security of the most vulnerable households in the medium term.

Cost Effectiveness of Seed Fairs versus Direct Distribution

Although seed fairs are becoming more common, some NGOs and donors continue to be concerned about the cost effectiveness of these operations. The main objective of relief seed programs is to get the largest quantity of seed to the largest number of vulnerable households within a limited budget. Some argue that seed fairs are more expensive than direct distribution because of the additional costs of organizing and implementing the markets. As a result, fewer farmers may benefit from the humanitarian funds available.

The following analysis of the cost effectiveness of seed fair operations is based on a case study of two NGOs conducting both seed fairs and direct distribution. The analysis of costs is based on a program to provide each of 1700 households in one district with a package of seed inputs comprising 10 kg of hybrid maize seed, 5 kg of sorghum seed, and 5 kg of groundnut seed. This package represents a common sort of seed pack used by a number of NGOs in Zimbabwe for direct seed distribution. Five possible sources of seed are considered: (a) the local farm community for seed fairs, (b) local agro-dealers at seed fairs, (c) local commercial seed company agents at seed fairs, (d) local commercial seed companies for direct distribution, and (e) imported seed for direct distribution.

Labor Requirements

Three major categories of activities were identified: the seed needs assessment, the organization of the distribution, and the implementation of seed distribution (Table 12). This analysis assumes that the staff skills required for each type of distribution program are approximately similar. This allows the labor days to be consistently valued. The travel costs cited in Table 12 are a product of the number of trips required for these operations.

During the seed needs assessment, the implementing NGO travels to the community and evaluates the need for seed and numbers of households requiring assistance. Since this process is similar, regardless of the strategy for seed supply employed, the costs (eight labor days – two persons for four days per district) are assumed to be the same.

Table 12. Labor requirements and travel costs for one district distributing seed packs to 1700 households

			Seed fairs		Direct distribution	
Item		Unit costs (US$)	Quantity	Value (US$)	Quantity	Value (US$)
Labor	Seed assessment	25/labor day	8	200	8	200
	Organization	25/labor day	8	200	4	100
	Implementation	25/labor day	40	1000	8	200
	Total labor costs			1400		500
Travel		0.25/km	1000	250	600	150
Total costs				1650		650

However, the labor demands underlying the organization of the distribution program differ. Similar efforts may be required to register beneficiaries. But since seed fairs are new, more time is needed to explain how the fair will be run. In addition, more time is needed to organize seed sellers involved in the fairs, prepare the vouchers and organize the seed inspection. The collective estimate of labor requirements required for organizing the distribution programs suggests that the fairs are approximately twice as labor demanding as direct distribution.

Implementing seed fairs also demands more labor. Direct distribution encompasses issuing inputs, and signing a beneficiary register to confirm receipt of seed. In most cases, community leaders assist in the verification of registered beneficiaries and issuing out of input packages. Seed fairs include registration of sellers, weighing of seed, inspection of seed, issuing of vouchers, checking of sales, and payment of sellers. Additional NGO personnel are required to coordinate and monitor the process. The collective estimate indicates that seed fairs are approximately five times more labor intensive to implement than the direct distribution program.

Based on the organization and implementation costs alone, the seed fairs are approximately 2.5 times more expensive to run than a direct seed distribution program.

Materials Required

Several sorts of materials are required for the implementation of these programs in addition to seed. These include the printing of vouchers, stationery, scales and promotional materials (Table 13). Again, more materials are required for the implementation of seed fairs compared with direct distribution programs. The latter, of course, require no vouchers. While seed provided through direct distribution is generally pre-packaged and weighed, the seed fair requires the hiring of scales suitable for a variable range of seed lots. Since farmers at the fair have a choice of seeds to purchase, more promotional materials tend to be prepared explaining such options.

Table 13. Costs of materials for one district distributing seed packs to 1700 households

Item	Cost for seed fairs (US$)	Cost for direct distribution (US$)
Printing of vouchers	170	0
Stationery	100	50
Hiring scales	40	0
Advertising and promotional	100	50
Total	410	100

The costs of materials were calculated assuming the distribution of 17,000 kg of maize seed, 8500 kg of sorghum seed and 8500 kg of groundnut seed to the 1700 targeted vulnerable households. Roughly estimated, the materials needed for seed fairs cost approximately four times more than the materials needed for direct distribution programs.

Seed Costs

The cost of seed depends on whether it was imported, bought from commercial seed companies, or was locally grown and delivered by farmers at seed fairs. While recognizing that farmers at seed fairs may choose any configuration of seed, for comparison purposes a standard 'pack' was assumed to include 10 kg of hybrid maize seed, 5 kg of sorghum seed, and 5 kg of groundnut seed. This approximately corresponds with the value of vouchers distributed.

Not surprisingly, the costs of imported seed (US$24/pack) were far more expensive than any other option (Table 14). In comparison, packs of seed obtained from the local community were the cheapest option at US$8.72/pack.

Table 14. Costs of seed packs by source

			Seed fair			Direct distribution	
Item		Units	Local community	Local Agro-dealer	Local commercial	Local commercial	Imported
Seed prices per unit	Maize	ZW$/kg	30 000	36 000	28 000	28 000	81 250
	Sorghum	ZW$/kg	9 000	35 000	26 000	26 000	43 750
	Groundnut	ZW$/kg	40 000	93 000	80 000	80 000	93 750
Cost of input pack	Maize	ZW$/10kg	300 000	360 000	280 000	280 000	812 500
	Sorghum	ZW$/5kg	45 000	175 000	130 000	130 000	218 750
	Groundnut	ZW$/5kg	200 000	465 000	400 000	400 000	468 750
	Total	ZW$/pack	545 000	1 000 000	810 000	810 000	1 500 000
		US$/pack[\a]	8.72	16.00	12.96	12.96	24.00
Cost of 1700 packs		US$	14 824	27 200	22 032	22 032	40 800

[\a] US$1 = ZW$62,500

The cost of buying seed through agro-dealers was more expensive (US$16/pack) than the costs of buying seed directly from the national seed companies (US$12.95/pack). This is because agro-dealers sought higher prices in order to offset their transport costs, accommodation costs and the risk of ending up with unsold inventories.

The analysis indicates that if seed was provided by seed companies, either through direct distribution or through the seed fairs, the cost would be the same. However, as noted above, seed companies were reluctant to service most seed fairs because of the uncertainty of sales and the higher profitability of selling larger lots in response to NGO tenders. By inference, the more relevant comparison is between agro-dealer sales at the fairs versus seed company deliveries for direct distribution.

Cost Summary

The most expensive component of these comparative budgets is the cost of seed. This largely determines the overall costs of each program. The most cost effective means to provide the designated seed pack

to the 1700 targeted households is through seed fairs wherein all seed is provided by local farmers (Table 15). Use of imported seed in direct seed distribution is the most expensive option. The high costs of imported seed, and added logistical expenses involved in finding this seed, obtaining appropriate clearances, and shipping and handling, push the value of imported seed to almost twice the cost of local commercial seed.

The cheapest means to distribute seed to needy households appears to be the option of using seed fairs to redistribute stocks from surplus to deficit households. This is almost 30% cheaper than the next best alternative of direct distribution of commercially supplied seed. However, this assumes that all of the seed needed is locally available.

Table 15. Total costs of distributing sorghum seed to 1700 households (US$)

	Seed fair			Direct distribution	
Item	Local community	Local agro-dealer	Local commercial	Local commercial	Imported
Labor	1400	1400	1400	500	500
Travel	250	250	250	150	150
Materials	410	410	410	100	100
Seed[\a]	14 824	27 200	22 032	22 032	40 800
Total	16 884	29 260	24 092	22 782	41 550
Cost/Household	9.93	17.21	14.17	13.40	24.44

[\a] Including shipping and handling

If NGOs and donors want commercial seed to be distributed, the most cost effective means to accomplish this is through direct distribution of stocks obtained from seed companies. The reliance on local agro-dealers to provide this seed through seed fairs is relatively expensive.

An alternative choice would be to provide some seed (eg, maize) through commercial channels and the rest of the seed (eg, sorghum, pearl millet, groundnut, cowpea) through a fair. This has the advantage of strengthening commercial sales channels while also supporting local markets.

The key question is whether or not seed is readily available in local communities for distribution. Is humanitarian assistance needed to supply seed to communities without adequate stocks? Or is the primary need to enhance the purchasing power of vulnerable farmers – for example with vouchers?

The answer to these questions may depend on the crop considered. High-quality maize seed may not be readily available in local communities, but stocks of sorghum or pearl millet seed may be adequate. This may justify the distribution of maize seed obtained from commercial companies, whereas sorghum or pearl millet seed are obtained through local markets.

Alternatively, one may find that a series of new well-adapted and well-tested sorghum or pearl millet varieties are available on the commercial market, but are not available to most small-scale farmers because of the limited development of rural seed markets. The purchase of this commercial seed may offer a primary means to promote the dissemination of these more productive offerings.

This is essentially how such well-accepted varieties as Macia sorghum and Okashana 1 pearl millet were originally disseminated. Farmers would not have obtained access to these varieties without previous relief programs.

Ultimately, the analysis of cost effectiveness must be complemented with an assessment of additional costs and benefits that are more difficult to quantify. There is little doubt but that direct distribution undermines the development of rural retail markets. Seed companies seek to sell most of their stocks in larger lots to each NGO. This contributes to a reduction of flows through national wholesale and retail distribution channels. Rural retailers have little incentive to stock seed if this may be handed out for free in neighboring communities.

Yet the development gains often attributed to seed fairs (eg, increasing community incomes, promoting local seed production and improving agro-biodiversity) appear to be overestimated. Seed fairs facilitate community seed trade. But they may be monetizing a traditional obligation to share limited seed stocks. There may be more seed on the informal community market, but its accessibility to poorer households may be diminished unless vouchers continue to be provided. The fairs appear to be inflating local seed prices and they do little to strengthen the stocking of seed in local retail shops.

While seed fairs appear to offer advantages to direct seed distribution, substantial opportunities remain for their improvement. NGOs should be encouraged to test revised strategies, while formal monitoring systems assess the relative success of the various options.

Possible Improvements in Seed Fair Strategies

Seed fairs are being implemented differently in Zimbabwe than in eastern Africa or neighboring Mozambique. These differences may be justified by disparities in national market conditions or seed supply. If farmers like commercially available varieties, and prioritize better access to this seed, there may be less justification for investing in the facilitation of informal, village seed markets. In a hyper-inflationary environment there may be stronger justification for setting specific seed prices. If there is substantial uncertainty about the supply of specific seed crops, there may be a justification for setting prices at premium levels. Regardless, experimentation with alternative strategies for improving seed fair operations should be encouraged. The analysis provides a series of clues about opportunities for this experimentation in Zimbabwe.

1. Commercial versus Farm Saved Seed

Seed fairs started in eastern Africa in large part as a response to questions about the suitability of varieties available on the commercial market for many drought-prone regions. While questions have been raised about the productivity and acceptability of several of the varieties available on Zimbabwe's commercial market, most of the seed varieties on offer have been well tested and broadly accepted in the smallholder community – even in highly drought-prone regions. In fact, farmers have historically looked to relief programs as a means to obtain fresh seed of well-known commercial varieties, or access to new varieties.

The main difficulty with this strategy is the lack of high-quality commercial seed stocks for crops other than maize. Seed companies tend to limit their production of seed for sorghum, pearl millet, groundnut, cowpea or bambaranut because they do not believe they can sell this seed when the relief programs end. They argue that farmers will simply replant seed obtained from their previous season's harvest.

This problem is reinforced by the sale of lower cost, poor quality seed in response to NGO tenders. Companies with higher quality seed stocks sometimes lose tenders to companies offering grain cleaned to seed specification. The proclivity of NGOs to purchase low-quality seed is reinforced by the opportunity this creates to provide more seed to more farmers. Few recognize the risks involved.

Insofar as one of the objectives of these programs is to improve the productivity and food security of smallholder cropping systems, stronger efforts are needed to assure supply of the best new varieties. This implies closer planning with seed companies to assure these stocks are available, and possibly a joint investment in the establishment of seed security stocks of the best new varieties (to supplement common investments in grain security stocks). NGOs need to learn about the suitability of the range of varieties available on the national market, and encourage seed companies to produce and supply the best possible options. In seed fairs, farmers should be given a clear choice of whether to purchase a range of products from the commercial companies, or to purchase this seed from their neighbors.

2. Maize Hybrids versus Open Pollinated Varieties

The survey evidence questions the common assumption that small-scale farmers prefer open pollinated maize varieties. In fact, when provided a clear choice, many chose maize hybrids. This reflects the fact that Zimbabwe's farmers almost universally planted maize hybrids in the years after independence. Given a free choice, most appear inclined to continue planting hybrids.

However, there are several sources of ambiguity in this evidence. First, many farmers seem to remain uncertain about whether the varieties on offer are in fact hybrids or open pollinated. Correspondingly, the choices being made may reflect preferences for specific varieties rather than preferences for hybrid versus open pollinated varieties *per se*.

Second, farmers recognize the high-quality standards of maize seed offered by several larger commercial seed companies. The apparent preference for hybrids may also reflect greater trust in the offerings of the more established seed companies as opposed to their smaller rivals.

The main objective here should be to help farmers make a more informed choice. NGOs seem to have had difficulties communicating the distinctions between hybrid and open pollinated varieties. This information needs to be better presented. But, in addition, farmers may be provided with more seed choices, and encouraged to experiment with different options. Rather than providing a single variety in a 10 kg packet, farmers may benefit from a choice of varieties in 2 or 5 kg packets.

3. Choice of Delivery Systems

As several NGOs have shown, the choice of distribution strategy is not a simple either–or selection. Some seed may best be distributed through commercial channels, whereas other seed may be distributed via seed fairs. Again, the choice of strategy may depend on the differing market circumstances for different crops.

Zimbabwe has long had a well-developed wholesale and retail distribution system for hybrid maize. But this has been undermined by the consistency and magnitude of the recent relief seed programs. Companies have little incentive to market their seed through commercial distribution channels as long as they can sell most of it from the warehouse through competitive tenders. This preference has been reinforced by market uncertainties associated with hyper-inflation and with government interventions in both seed sales and seed pricing.

Yet the maintenance of strong wholesale and retail distribution channels remains essential both to improve longer term seed security and to maintain productivity growth in the larger agricultural sector. NGO programs should endeavor to support the maintenance of these markets, while extending seed availability to remoter regions. One way to achieve this is to assure that all maize seed flows through commercial channels. At a minimum, seed companies should be encouraged to participate directly in more seed fairs. Even better, vouchers should be redeemable for maize seed at rural retail shops.

Similarly, the use of local agro-dealers who might continue selling seed in rural communities in future years should be encouraged. These include local agents for seed companies. But this does not necessarily include agro-dealers based in Harare. The latter appear less likely to continue marketing seed after relief programs end. These traders also tend to have less information about the commodities they are selling.

In practice, many NGOs were already implementing mixed programs. Much of the maize seed was provided by a single dominant trader, while farmers had a choice of multiple sources of seed for a wider range of varieties of other crops. The natural next step would be to allow the redemption of maize vouchers through local retailers and the support sales of other seed crops in the fairs.

4. Seed Pricing

In contrast to the free market strategies employed in seed fairs around the continent, seed prices were set at the beginning of the fair in Zimbabwe. And in practice, seed prices were set at fairly high levels in order to assure adequate quantities of seed were attracted to the market. This assumption, however, merits a challenge. It is not obvious why seed fairs in other countries work with freely negotiated prices between each individual buyer and seller, yet this will not work in Zimbabwe.

NGOs ought to test the practice of open market prices – whereby the cost of each transaction may be negotiated between buyer and seller. This allows prices to reflect quality differences and it allows premiums to be paid for preferred varieties.

NGOs can work to reduce the risks of not having enough seed to sell through several means. One is to more broadly advertise the dates and locations of seed fairs. Several traders and companies interviewed claimed they did not know of the existence of most seed fairs. Nor did they understand what seed crops could be sold.

In some communities, local seed sellers also need more information, and possibly a larger incentive to bring in their stocks. Some farmers were reluctant to bring their seed because they were afraid of being disqualified from receiving food aid. Better communication with both prospective sellers and community leaders should aim to dispel this perception. But, in addition, a positive incentive may be created by providing seed sellers with special access to small amounts of seed of new varieties, or access to specialized advice on seed production.

While NGOs sometimes express worries that inadequate quantities of seed may be available from the driest agro-ecologies, the evidence for this claim is ambiguous. It is hard to tell whether seed is not brought to the fair because it is simply not available, or because farmers are reluctant to expose their stocks. The pattern of continuing reliance on own saved seed, even in the driest regions of the country, suggests the latter explanation is more likely. But NGOs most worried about local supplies may still offset their risks by carrying at least limited stocks of seed crops (eg, legumes) most likely to be limited.

5. Strengthening Informal Community Seed Markets

Seed fairs were originally promoted by NGOs as means to strengthen seed exchange on informal community markets. The strategy sought to increase trade of traditional varieties and enhance biodiversity. The extension of this technique to support relief seed distribution with vouchers risks undermining these efforts. It also appears to be changing the character of village seed markets.

The seed trade is being monetized. Whereas seed transactions following drought traditionally took the form of gifts and exchanges for labor, these are now shifting to exchanges for cash backed vouchers. The associated impacts on seed supply and access merit closer monitoring. The fairs have undoubtedly contributed to the escalation of seed prices. While the fairs are stimulating the delivery of more seed into the NGO facilitated market, this may also be contributing to a reduction of offerings between households. Some vulnerable households have complained that farmers with a seed surplus are refusing to share their seed in the hopes of selling it in the seed fair as a cash crop.

Similarly, the impact of the fairs on local production remains limited. Approximately one third of local traders claim to be expanding their production for future seed fairs, the majority of participants are applying their profits to the purchase of other consumer goods.

Seed fairs have probably improved the welfare of vulnerable households by making it easier to obtain seed. But insofar as community seed markets worked reasonably well before the advent of this intervention, the net gain in welfare may be small. Without the fair, most of these households would still have obtained seed from their neighbors.

Much larger gains may be achieved by strengthening efforts to improve community seed production. This would improve seed availability even in years without humanitarian aid. Larger gains may also be derived from strengthening the flow of new varieties into these markets – allowing broader choice of seed varieties.

6. Implementation Procedures

Various stakeholders have offered several suggestions regarding possible improvements in the procedures for seed fair implementation. First, many buyers complained that they had to rush to select their seed and needed more time to make their choices. A number asked that seed fairs be organized on multiple days. This is difficult if close NGO monitoring is required, but not impossible. If maize seed is stocked with a local retailer, vouchers may be redeemed over a period of weeks. Local seed of a wider array of varieties can similarly be sold over an extended period at a village market place. If preferred seed is not available, the NGOs have more time to facilitate the delivery of stocks from more distant sources.

Farmers redeeming vouchers also complained about being unable to purchase seed of preferred crops or varieties if they were at the end of the queue. There may be scope for initiating the redemption process with older and weaker farmers, while stronger participants are queued later.

Finally, there is the question of choice. A number of voucher recipients complained that they were required to purchase a particular variety of maize seed. In one community, farmers were reluctant to discuss the seed fair during the post-planting period because much of the seed had been consumed. This was not to avert starvation, but because seed shortages in the community were simply not severe. Vouchers are being offered as a means to improve the choice of seed to needy households. Yet the vibrancy of local markets suggests that seed may not be the agricultural input in shortest supply. Experimentation is merited with the provision of wider choices for voucher redemption including small packs of fertilizer, plowing services and even basic food items.

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Contact Information

ICRISAT-Patancheru (Headquarters)
Patancheru 502 324
Andhra Pradesh, India
Tel +91 40 30713071
Fax +91 40 30713074
icrisat@cgiar.org

ICRISAT-Liaison Office
CG Centers Block
NASC Complex
Dev Prakash Shastri Marg
New Delhi 110 012, India
Tel +91 11 32472306 to 08
Fax +91 11 25841294

ICRISAT-Nairobi (Regional hub ESA)
PO Box 39063, Nairobi, Kenya
Tel +254 20 7224550
Fax +254 20 7224001
icrisat-nairobi@cgiar.org

ICRISAT-Niamey (Regional hub WCA)
BP 12404
Niamey, Niger (Via Paris)
Tel +227 20722529, 20722725
Fax +227 20734329
icrisatsc@cgiar.org

ICRISAT-Bamako
BP 320
Bamako, Mali
Tel +223 2223375
Fax +223 2228683
icrisat-w-mali@cgiar.org

ICRISAT-Bulawayo
Matopos Research Station
PO Box 776,
Bulawayo, Zimbabwe
Tel +263 83 8311 to 15
Fax +263 83 8253/8307
icrisatzw@cgiar.org

ICRISAT-Lilongwe
Chitedze Agricultural Research Station
PO Box 1096
Lilongwe, Malawi
Tel +265 1 707297/071/067/057
Fax +265 1 707298
icrisat-malawi@cgiar.org

ICRISAT-Maputo
c/o IIAM, Av. das FPLM No 2698
Caixa Postal 1906
Maputo, Mozambique
Tel +258 21 461657
Fax +258 21 461581
icrisatmoz@panintra.com

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