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AGRICULTURAL INPUT VOUCHERS IN SOUTHERN AFRICA: SYNTHESIS OF RESEARCH FINDINGS FROM MALAWI, MOZAMBIQUE AND ZAMBIA

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TABLE OF CONTENTS

LIST OF TABLES

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ACRONYMS

AISAM	Agricultural Input Suppliers Association of Malawi
CPAR	Canadian Physicians for Aid and Relief
CRS	Catholic Relief Services
FAO	Food and Agriculture Organisation of the United Nations
ITF	input trade fair
MVs	modern varieties
NGO	non-governmental organisation
OPV	open-pollinated variety
PAM	Programme on Malnutrition
SPLIFA	Sustaining Productive Livelihoods through Inputs for Assets
TIP	Targeted Inputs Programme

EXECUTIVE SUMMARY

This paper synthesises the findings of research undertaken in Malawi, Mozambique and Zambia on the different ways in which relief seed and seed vouchers are programmed, and seeks to identify how such interventions can potentially best benefit both farmers and commercial seed markets. However, the review of the seed interventions in the three case study countries reveals that it is difficult to distinguish relief interventions from the supply of subsidized inputs or social protection and longer-term developmental interventions. This blurring of relief and developmental objectives is due to chronic vulnerability and recurrent drought in the region.

Two main programming mechanisms are used in providing seed and other inputs to vulnerable farmers: direct seed distribution and voucher-based programming. The fundamental differences between direct distribution and voucher-based programming are that: (i) for direct distribution, seeds must be procured in bulk; (ii) beneficiaries have no choice of inputs received through direct distribution, but are able to choose their inputs with vouchers; and (iii) the procurement procedures for direct seed distribution tend to allow only for the provision of improved crop varieties rather than local varieties. In Malawi, direct distribution has been used in conjunction with vouchers or chits, which are used to identify beneficiaries who must present their chit to receive their input package. This should not be confused with the voucher-based programming approach that allows beneficiaries a choice of inputs.

What emerges from the review is the broad range of ways in which direct distribution has been implemented in the three countries, and the limited ways in which voucher-based programming has been used. Variations on direct distribution interventions include the use of commercial agro-dealers as distributing agents, various forms of beneficiary contributions or payments, and the establishment of various secondary structures, such as revolving funds, nurseries and seed banks, and public works infrastructure.

Due to the limited experience with vouchers in the three countries, literature for other countries was drawn from to allow for a more complete analysis. There are two main approaches to programming with vouchers: (i) an approach in which vouchers are redeemable at specified retail shops or distribution outlets, or through designated traders (implemented in Ethiopia); and (ii) an approach known as seed vouchers and fairs (implemented in Mozambique and Malawi). The effectiveness of these approaches does not relate so much to the specific voucher mechanism used as to the finer details of how each programme is designed and implemented. For both approaches, it is important to involve enough vendors to allow for a greater choice of seed types and competitive pricing. However, experiences in the case study countries suggest that commercial seed companies are sometimes reluctant to take part in seed fair programmes.

Although the starting point for the research assumed that voucher-based approaches are a more 'market-friendly' mechanism than direct seed distribution for providing seed and other inputs to vulnerable farmers, the findings suggest that this assumption is misplaced. In Mozambique, the available evidence suggests that the use of vouchers has supported commercialization in the informal seed sector more than in the formal seed sector. On the other hand, evidence from Malawi suggests that direct seed distribution approaches that involve agro-dealers in the distribution of seed can support the commercial seed sector through enhancing the capacity of private agro-dealers.

Although such interventions have the potential to *support* commercial seed markets, they are unlikely to *promote, strengthen or develop* commercial seed markets. The weak level of development of the seed sectors in the countries studied suggests that seed interventions (whether direct distribution or vouchers) will have little impact in developing commercial seed markets without considerable

institutional, developmental and capacity-building interventions explicitly aimed at the various components of the seed sectors.

Based on the case study findings, the following recommendations are made:

- In view of the chronic nature of the problems affecting farmers in the region and the blurring of seed relief with longer-term agricultural development interventions, it is essential that seed interventions are designed to address clearly articulated objectives that are understood by those implementing the project;
- Whether a seed intervention is based on direct distribution or voucher-based approaches, it should be designed, not only according to the problem to be addressed, but also according to the level of capacity that exists within the seed sectors;
- Direct seed distribution or voucher-based approaches alone cannot be expected to strengthen commercial seed markets. Other measures must also be implemented, e.g. to promote the capacity of agro-dealers, to ensure seed quality standards are upheld, to enhance the infrastructure and retail networks through which seed is marketed, and to educate farmers about the seed types available, etc.;
- The extent to which small-scale, poor farmers rely on informal grain markets for the purchase of planting material should be recognized, particularly in Zambia, where current seed legislation does not allow for the sale of non-certified seed; and
- Whether or not seed interventions effectively support farmers, agro-dealers and commercial seed markets does not depend on whether they are based on direct distribution or on voucher-based programming, but on the finer details of the ways in which the intervention is designed and managed. Interventions should therefore be carefully designed and managed.

Where vouchers are used, there is sufficient documented experience available to allow for interventions to be both innovative and well-designed.

1. INTRODUCTION

In recent years there have been several changes in the ways in which agencies provide seed and agricultural inputs to farmers affected by disaster. Conventional approaches to emergency seed provisioning – also known as 'direct seed distribution' – have been modified, and there has been increasing use of voucher-based programming mechanisms. These changes stem from the limited impact of conventional approaches, combined with the chronic nature of many disasters. In the case of southern Africa, the disasters tend to be related to recurrent drought, chronic poverty (often related to HIV/AIDS), and market failures. In the agricultural sector, responses to disasters are not only designed to provide planting materials to farmers in the short term but also to promote longer-term development aims, such as crop diversification, improved nutrition, improved soil fertility, higher yields, and the adoption of practices relating to conservation agriculture. It is this need to fulfil longer-term developmental objectives, together with the problems associated with conventional direct seed distribution, that has promoted the emergence of various alternative programming approaches to seed provisioning.

1.1 Seed vouchers

This paper synthesises the findings of research undertaken by FANRPAN in Malawi, Mozambique and Zambia to examine the different ways in which relief seed and seed vouchers are programmed. There are two main ways in which vouchers are used in these countries: (i) as a way of identifying beneficiary farmers; and (ii) as a way of providing farmers with the means to purchase seed or other agricultural inputs of their choice.

Where vouchers are used to identify beneficiaries, the voucher is essentially a chit that beneficiary farmers must present to receive inputs through direct distribution. Under this first mechanism, beneficiary farmers have no choice as to the inputs they receive. In the second use of vouchers, vouchers with a specific cash value[1] are given to target farmers, who can then exchange their voucher with approved traders for the inputs of their choice. Under this second mechanism, vouchers are often programmed in conjunction with an agricultural input fair, which takes place on an agreed day at an agreed location, to which traders are invited to bring different types of seed and other agricultural inputs. Farmers can then exchange their vouchers with any of the traders for any of the inputs available at the fair.

1.2 Commercial seed markets

Based on the evidence from the case study countries, the paper seeks to identify how seed vouchers can potentially best benefit both farmers and commercial seed markets. The interest in commercial seed markets stems from a concern that direct seed distribution potentially inhibits the development of a sustainable, market-based input marketing system. Instead of responding to demand from farmers for agricultural inputs, commercial companies are reacting to the demand from those agencies that implement direct seed distributions. Thus, the link between the consumer and the private sector is interrupted by the presence of the implementing agency: the seed companies have no knowledge of farmer preferences; and the farmers have no means of recourse from the company in the event that they are dissatisfied with the seed provided. Companies find it more profitable to sell large quantities of seed to donor-funded seed relief programmes than to invest in the development of wholesale and retail marketing chains. In Zambia, it is estimated that 20% of the value of formal seed sales (based on 2005 data) is made up of relief seed provided through the Programme on Malnutrition (PAM), the Ministry of Agriculture and Cooperatives, and the FAO (Simfukwe, 2006, cited by van der Walt, 2006).

[1] In the case study countries, the total value of the vouchers given to farmers ranged from US$6.00 to $46.00. Like money, the vouchers are printed in different denominations.

In southern and eastern Africa, the frequency of relief seed programmes is such that a number of companies have emerged to provide seed almost exclusively to the relief seed market (Bramel and Remington, 2004; Rohrbach, Mashingaidze and Mudhara, 2005).

The use of agricultural input vouchers is thought to be able to promote the development of commercial seed markets by increasing the purchasing power of farmers and by allowing farmers to acquire seed directly from private suppliers. Box 1 lists the indicators of commercial seed sector development and can be applied to development of commercial markets in both the informal seed sector and the formal seed sector[2]. Where vouchers can be exchanged for modern varieties (MVs), voucher programmes can make MVs more widely available in remote rural areas than would otherwise be the case with the existing distribution mechanisms of the formal seed sector, and farmers become aware of the MVs available. Vouchers can enable farmers to acquire small quantities of these varieties to test on their farms, which they might then purchase for themselves in subsequent seasons. Thus, the effective demand for MVs available through commercial seed markets is potentially increased through voucher-based seed programmes. The extent to which such aspects of commercial seed sector development are actually taking place in the case study countries is one of the issues addressed by this paper.

Box 1. Indicators of commercial seed sector development

- Better quality seed;
- Greater diversity of crops/varieties available;
- Increased seed sales/exchanges (in terms of quantity of seed purchased);
- Increased seed sales/exchanges (in terms of number of sales);
- Increased number of seed sellers/providers;
- Increased number of sales outlets;
- Retail networks developed;
- Reduced transaction costs;
- Lower price of seed;
- Increased levels of trust in seed quality; and
- Increased demand for commercial seed.

[2] Commercial players within the **formal seed sector** include the seed companies, seed retailers and/or stockists who supply modern varieties according to the legislation and regulatory mechanisms that control the formal seed sector. Commercial players within the **informal seed sector** include the farmers and petty traders who sell seed (or grain that can be planted as seed) of locally adapted varieties. As we shall see, the distinction between formal and informal seed sectors is often blurred.

2. THE CASE STUDY FINDINGS

Case study reports for Malawi and Zambia were based on interviews with key individuals involved in relief seed programmes, together with a review of available reports and literature. In Mozambique, the case study built on existing research through the collection of primary data from farmers, seed traders and those involved in facilitating agricultural input trade fairs. Preliminary research findings from each country were presented at an in-country stakeholder meeting, at which additional insights were noted.

2.1 Malawi

There has been a plethora of relief seed interventions in Malawi in recent years, as illustrated by Table 1, which summarises the projects detailed in the case study report. Different mechanisms have been used in implementing these programmes, including direct distribution and the use of seed vouchers.

2.1.1 Direct distribution

The government's inputs relief programmes started in 1998 with the Starter Pack Scheme (later renamed the Targeted Inputs Programme [TIP]) and used direct distribution to provide seed and fertilizer to between 1.0 and 2.8 million beneficiaries each year up to 2003. In 2002, the TIP used vouchers or chits in conjunction with direct distribution as a means of identifying the beneficiary. A similar approach was adopted for the government's Subsidy Programme and the Inputs for Assets Programme.

Seed quality was an issue in relation to the Starter Pack and Targeted Inputs Programmes, and this related partly to the government's decision to promote open-pollinated varieties (OPVs) of maize as opposed to hybrid maize varieties. Not only is the promotion of OPVs regarded by many as contrary to broader agricultural development aims, but there is only one commercial company in Malawi that produces OPV maize seed, so it is supplied by various individuals, contract farmers and farmers' associations, making quality control very difficult. Starter Pack and TIP were also criticised for the late delivery of seed.

2.1.2 Seed fairs and vouchers

In the Sustaining Productive Livelihoods through Inputs for Assets (SPLIFA) project, vouchers were used as chits to identify beneficiaries, and agro-dealers were also involved in the distribution of inputs in an effort to enhance the capacity of small-scale agricultural input retailers. In the Canadian Physicians for Aid and Relief (CPAR) and Catholic Relief Services/Cadecom projects, vouchers were programmed in conjunction with seed fairs, allowing the beneficiaries to choose the inputs that they received.

Although seed quality was raised as a concern in relation to the seed fair and voucher approach used by the CPAR programme (which relied on physical appearance rather than germination tests), farmers expressed satisfaction with the quality of the seed acquired. The timing of the fairs (late October) was also criticised for not giving farmers sufficient time to prepare for the season, and there were complaints that traders arrived several hours late for some of the fairs. The vouchers themselves were poor quality and poorly designed, allowing some beneficiaries to transfer vouchers from one fair to another. Some of the commercial seed sellers at the fairs ran out of seed, thus limiting the choices available to beneficiaries.

Despite these logistical problems, those in the seed industry in Malawi expressed a preference for vouchers and seed fairs over direct distribution. The SPLIFA project was also very well received, partly because it was well-managed and did not suffer unduly from problems relating to seed quality and

timeliness of delivery, but also because of the innovative use of small-scale retailers in the distribution of inputs.

Comparisons between the different programming approaches in relation to the commercial seed sector will be explored further in Section 5, Commercial seed sector development.

Table 1: Summary of Malawi relief seed interventions reviewed

Project	Programming mechanism	Scale	Inputs distributed	Aims *Additional information*
1998 Starter Pack Scheme	Direct distribution	2.8 million beneficiaries	5 kg basal dressing fertilizer, 5 kg urea, 2 kg OPV maize seed and 1 kg of an appropriate legume	To increase access to improved maize seed and fertilizer technology; To encourage diversification of the cropping system through the adoption of locally suitable combinations with grain legumes; To improve household food security in Malawi.
2002 Targeted Inputs Programme	Direct distribution with chits to identify beneficiaries	2.0 million beneficiaries	5 kg basal dressing fertilizer, 5 kg urea, 2 kg OPV maize seed and 1 kg of an appropriate legume	To increase access to improved maize seed and fertilizer technology; To encourage diversification of the cropping system through the adoption of locally suitable combinations with grain legumes; To improve household food security in Malawi.
Government Subsidy Programme	Beneficiaries given two chits, which entitled them to two bags of fertilizer	2.8 million smallholder farmers	50 kg fertilizer and 2 kg of OPV maize seed	To ensure that smallholder farmers throughout the country have access to inputs, especially improved maize seed and fertilizer. *The problem with the programme is that it does not benefit the poorest smallholder farmers and escalating costs could force government to withdraw the programme.*
Inputs for Assets Programme	Direct distribution, with chits to identify beneficiaries. Recipients provided labour in return.	43,700 beneficiaries, of which at least 20% must be female-headed households	Cash (MK2,000)	To strengthen the input distribution network of the country. *Facilitates rehabilitation/construction of identified rural infrastructure, such as roads, irrigation channels and schools, and increasing agricultural productivity through the provision of farm inputs to farmers as vouchers for wages earned on public works*

Project	Programming mechanism	Scale	Inputs distributed	Aims *Additional information*
CPAR Support to Local Seed Systems	Seed fairs and vouchers	3,555 beneficiaries	Voucher worth MK750 (equivalent to US$9) used to buy inputs on a designated market day (seed fair)	To strengthen community-based seed production systems so as to provide a wide range of suitable planting materials (grain, legumes and vegetables, etc.) to small-scale farmers and ensure seed access by the most needy farmers.
CRS*/ CADECOM Programme	Seed fairs and vouchers	37,500 beneficiaries	Vouchers worth MK500 (equivalent to US$6) used to buy inputs on a designated market day (seed fair)	To improve household food security and access to improved seed. *The main challenges faced by the programme were that due to low literacy levels some people were confused in converting voucher values to kg of seed. The seed fairs were also off track in terms of timing.*
SPLIFA Project	Direct distribution using chits redeemable at participating agro-dealers	100,000 smallholder farming families	Vouchers specifying the amounts of seed and fertilizer each beneficiary is entitled to (50 kg urea and 10 kg maize seed in the first cycle, 25 kg urea and 5 kg seed in the second cycle).	To enhance the food security status of marginal farmers in selected areas of Malawi, including generating marketable surpluses, increasing household food security, and helping the intended beneficiaries grow out of poverty; To create community assets such as roads, which contribute towards easy market access and reduced marketing costs, thereby expanding agro-dealer business and trade in agricultural input and outputs
World Vision Seed Multiplication Programme	Inputs provided on loan basis through direct distribution	3,000 beneficiaries	ZM621, Msundwe and Masika, groundnuts (CG7), chickpeas, beans, cowpeas, sorghum, pearl millet and sunflower	To increase household crop production, productivity and diversification in order to improve food security; To improve soil fertility and seed security for smallholder farmers.

2.2 Mozambique

In Mozambique, agricultural input trade fairs (ITFs) and vouchers have been the preferred mechanism for responding to emergency needs within the agricultural sector since 2002. Prior to this time, seed packs were provided through direct distribution, but problems relating to the late delivery of packs, and concerns over the appropriateness of the varieties provided, prompted a shift in programming approaches. The actual number of ITFs that are organized each year depends mainly on the level of funding allocated, and has shown a considerable increase since the initial pilot fairs were held in 2001 (Table 2).

In terms of objectives, there has been a shift away from the relief goals that the approach was originally designed to meet towards more developmental aims, but there is an overall lack of

* Catholic Relief Services

consensus on what the objective of ITFs should be (Longley, Dominguez and Devji, 2005). Some regard ITFs as a way of promoting markets (for all products) in rural areas, others see it as a way of promoting local seed production. Support to local seed producers is being provided in some areas on a pilot level and this is linked to the sale of seed at ITFs.

Table 2. Input trade fairs implemented in Mozambique (2001-2004)

Year	No. of input trade fairs	Value of inputs (US$)	Number of beneficiaries
2001	10	51,829	4,375
2002	31	57,000	7,050
2003	101	389,323	37,420
2004	96	365,615	47,200

Source: Adapted from Longley et al, 2005: 12.

An ITF is held on a specific day and in a particular location at which beneficiaries pay a small contribution (about US$1.00) to receive vouchers worth approximately US$8.00, which they then exchange for seed or other inputs of their choosing.

2.2.1 Grain traders and seed distributors

There are two main types of seed providers or vendors at the ITFs – grain traders and seed distributors. Grain traders buy grain from farmers or from other traders and sell it as seed. Seed distributors (or agro-dealers) buy seeds from seed companies or their representatives and sell them to farmers. A small number of vendors sell both grain and seed from seed companies, leading to a third category – grain traders/distributors.

2.2.2 Seed quality

Competition surrounding the sale of grain and formal sector seed by the two main types of vendor has led to the introduction of tighter regulations on who can take part in the fairs, and procedures aimed at ensuring that the seed sold at the fairs is of good quality. Although these regulations have led to improved seed selection and storage practices among the grain traders, the National Seed Service still lacks the capacity needed to ensure good quality seed within the formal seed sector. Given the fact that formal sector seed is five or even six times more expensive than grain, it is unlikely that small-scale farmers will choose to purchase formal sector seed if its quality cannot be guaranteed. Indeed, the results of the Mozambique study suggest that the distributors selling formal sector seed appear to be losing their market share to grain traders. This is further discussed in Section 5.

Table 3 summarises the strengths, weaknesses, threats and opportunities of the ITF approach, as it is implemented in Mozambique. One of the constraints worth noting is that the cost of seed company participation at the fairs (due to transportation costs, especially on bad roads in remote areas) reduces their involvement.

Table 3. Strengths, opportunities, weaknesses and threats of input trade fairs and vouchers

Strengths	Weaknesses
• Seed fairs have had ample coverage in areas where they have been done; • The quantity of seeds available at ITFs is usually sufficient to meet farmers requirements; • Seed multiplication plots are now being developed and managed by private individuals and associations; • Diverse seed varieties are available at the fairs; • Good-quality, drought-tolerant seeds of new varieties are being distributed; • Beneficiaries are able to choose from the seeds available; • Information related to HIV/AIDS is disseminated at some seed fairs.	• Seed companies complain of unfair competition due to logistic considerations; • Some low quality seeds are appearing at the fairs; • The end use of seeds is not easily verifiable – some beneficiaries are eating their seeds; • Seed prices are high; • There are delays in the execution of fairs and in seed distribution; • There is undue focus on seeds at the cost of other farming inputs; • The high cost to seed companies leads to attrition in company participation; • Poor information regarding the needs and wants of local farmers weakens companies' response to the needs of farmers; • It is difficult to test and assure seed quality at the fairs.
Opportunities	**Threats**
• Rural based markets for local and improved seed varieties can be created; • There is untapped potential for increasing knowledge of improved cultivation techniques among rural population via small training sessions around the ITFs; • A variety of farming inputs aside from seeds has been distributed; • More information regarding rural populations needs can be made available to seed suppliers.	• There is no monitoring to verify the end use of the seeds purchased; • The cost of formal sector seeds is high; • Seed companies reduce participation due to high costs; • There are transportation costs to and from seed fairs in terms of time and money; The supply of poorly adapted varieties through • ITFs is a disincentive to the adoption of improved varieties by farmers; • The lack of information regarding appropriate seeds for the area increases the transaction costs of seed suppliers.

Source: Longley et al (2005), based on Austral Lda (2004: 78).

2.3 Zambia

The major input distribution programmes in Zambia are the Government Fertilizer Support Programme, the PAM's Food Security Packs, the FAO's Food Security Packs, and the FAO Emergency Input Programme. All of these programmes are based on direct distribution. Various NGOs also use direct distribution in their emergency agricultural interventions.

Catholic Relief Services (CRS), however, have used seed vouchers and fairs to implement their Agricultural Recovery Programme, and the FAO is now interested in testing a voucher-based approach.

Table 4 lists the input distribution projects reviewed by the Zambia case study.

Table 4: Summary of Zambia seed interventions reviewed

Project	Programming mechanism	Scale	Inputs distributed	Aims *Additional information*
Fertilizer Support Programme (2002 – 2006)	Direct distribution	115,000 – 150,000 beneficiaries per year	8 bags fertilizer (basal and top dressing) 20 kg maize seed	To improve access of small holder farmers to inputs; To enhance the participation and competitiveness of the private sector in the supply and distribution of agricultural inputs in timely and adequate amounts.
PAM Food Security Pack (2000 – 2005)	Direct distribution on loan basis with in-kind repayment	45,000 – 150,000 beneficiaries per year	Seeds of cereals, legumes, a root/tuber crop, and other crops, with fertilizer and/or lime as appropriate. Packs to promote alternative livelihoods (fish farming, small livestock, etc) provided according to comparative advantage.	To empower the targeted vulnerable but viable households to be self sustaining though improved productivity and household food security and thereby contribute to poverty reduction. *The components of the pack include crop diversification, market entrepreneurship and seed/cereal bank development, alternative livelihoods, and soil conservation.*
FAO Food Security Pack (2002-2003)	Direct distribution with partial repayment in kind aimed to establish community-based revolving funds	59,500	Cereal and legume seed sufficient for 0.25 ha (valued at US$50 per pack). Hoes and rippers provided for selected Lead Farmers.	*An emergency response to assist households to re-establish their food production-base through the provision of food security pack inputs and the adoption of conservation farming.*
FAO Input Project (2004-2005)	Direct distribution for establishment of cassava nurseries to serve farmers in the vicinity	89 farmers, with an estimated 8,000 secondary beneficiaries	D Compound, urea, lime, cassava cuttings, treadle pumps and associated pipes and suctions, *Zamwipes* (herbicide weeder), and *shaka* hoes.	To establish cassava nurseries for the purpose of enhancing food security and providing an alternative crop for vulnerable households otherwise relying on maize as the main source of food.
CRS Agricultural Recovery Programme (2001-2006)	Direct distribution in 2001-2, then vouchers and fairs	10,000 – 12,000 farmers per year	Voucher worth US$46 provided in 2005/6	To improve seed security; strengthen local coping mechanisms through crop diversification; and promote conservation farming (CF) techniques in order to sustain agricultural production

The objectives of the interventions reviewed clearly show that each project has a longer-term developmental objective in addition to responding to the effects of drought. Several projects are designed to promote conservation farming techniques and crop diversification, whereas the Fertiliser Support Programme was established to support private sector engagement in the provision of agricultural inputs, in line with the policy of agricultural market liberalization. The Programme Against Malnutrition (PAM) Food Security Pack, on the other hand, was designed as a social safety net to

support farmers affected by recurrent drought and the negative impacts of Structural Adjustment reforms.

2.3.1 Direct distribution

Direct distribution in Zambia is implemented through existing structures which are easily mobilized for seed distribution and is thus considered to be capable of covering a wide geographical area within a short time period, provided that seeds are available with seed companies and transport logistics are in place. The availability of adequate and adaptable varieties of given crop species is subject to the stocking policies of the seed companies, whose operations are independent of the priorities established by those planning emergency interventions. Seed companies tend to stock improved crop varieties which may limit the number of suitable crops/varieties that are distributed to farmers, who have no option but to accept the seed brought to them. Direct distribution involves a lengthy and bureaucratic tendering process which is very time-consuming, and often the seed reaches the beneficiaries long after the onset of rains.

2.3.2 Seed vouchers and fairs

Bureaucratic tendering processes are avoided in the implementation of seed vouchers and fairs, which provide an opportunity for seed sellers to reach some very remote areas of Zambia and trade their commodities directly with the farmers, who are also able to access a diverse variety of seeds of their choice. However, a lot of commercial seed companies declined the offers from CRS-Zambia to sell their seed through the seed fair process because they preferred to supply seed to NGOs using direct distribution. The supply of legumes at the seed fairs was erratic due to limited stocks available.

It was not possible for local farmers to participate in the seed fairs as seed sellers due to the seed policy in Zambia, which does not allow the sale and/or the promotion of sale of uncertified seed.

3. VARIATIONS IN SEED INTERVENTION MECHANISMS

It is clear from the case studies that it is difficult to distinguish relief interventions from the supply of subsidized inputs or social protection and longer-term developmental interventions.

3.1 Emergency responses

In each of the three countries, institutional systems for emergency response are in place to monitor food insecurity, identify vulnerable populations, and coordinate the distribution of food aid, agricultural inputs, and other items in the event of an emergency such as drought or floods. Task forces, working groups and committees also exist in each country to provide recommendations and policy advice, particularly in responding to chronic vulnerability and food insecurity caused by recurrent drought, chronic poverty, weak markets, and the impacts of HIV/AIDS. Agricultural interventions are regarded both as a way of responding to emergencies and as longer-term approach to promoting food security.

In Malawi, the provision of subsidised agricultural inputs appears to be given high priority in responding to both acute and chronic vulnerability. In Mozambique, emergency agricultural interventions are not well integrated within the national system for early warning or in the existing structures designed to address vulnerability and food security, and considerable confusion exists among those in the agricultural sector as to whether the interventions fulfil primarily relief or developmental objectives. In Zambia, the design of emergency agricultural interventions appears to be strongly influenced by longer-term developmental objectives relating to conservation farming, crop diversification, and the promotion of private sector service providers. Given the chronic nature of vulnerability and recurrent drought in the region, this blurring of relief and developmental objectives is thought to be largely appropriate, provided that it does not result in poor programming due to confusion over objectives.

3.2 Programming of distribution mechanisms

Table 5 compares direct distribution and voucher-based distribution mechanisms in terms of the ways in which they have been programmed in the case study countries.

Table 5. Programming variations for direct distribution and voucher-based mechanisms in the case study countries

Distribution mechanism	Input provider or intermediary agent	Beneficiary contribution or payment	Secondary structures promoted
Direct distribution with bulk procurement (with or without chits)	Government agent; NGO agent; Private agro-dealers.	Public works labour to receive input; Cash contribution on receipt of input; In-kind repayment after harvest.	Revolving funds; Nurseries; Seed banks; Public works infrastructure.
Vouchers that allow choice of inputs	Private agro-dealers; Grain traders; Farmers.	Cash contribution on receipt of voucher.	Seed producer groups

Regardless of whether or not chits are used as a way of identifying beneficiaries, what emerges is the broad range of different ways in which direct distribution has been implemented, particularly in terms of the contributions made by beneficiaries and the secondary structures that have been promoted. It is

also worth highlighting the innovative way in which the SPLIFA project in Malawi used direct distribution in conjunction with private agro-dealers to distribute inputs.

Three fundamental differences between direct distribution and voucher-based programming are that: (i) seeds must be procured in bulk for direct distribution; (ii) beneficiaries have no choice of inputs received through direct distribution, but are able to choose their inputs with vouchers; and (iii) the procurement procedures for direct seed distribution tend to allow only for the provision of improved crop varieties rather than local varieties.

As we have seen from the Zambia case, whether or not local varieties can be provided though voucher-based systems depends on national seed laws and regulations.

The next section examines voucher-based mechanisms in more detail.

4. CHARACTERISATION OF VOUCHER APPROACHES

As explained in the introduction, there are essentially two ways in which vouchers have been used in the supply of agricultural inputs in the case study countries: (i) as chits that provide a means of identifying beneficiaries (in conjunction with direct distribution mechanisms); and (ii) as a distribution mechanism that allows beneficiaries a choice of inputs received directly from suppliers.

Our interest here lies in the latter type of voucher. As can be seen from Table 5 above, vouchers have been programmed in a limited number of ways in the case study countries. This is most likely because the use of vouchers is still a relatively recent programming approach when compared to direct distribution, and implementing agencies are reluctant to experiment with it for fear of corruption and the misuse of vouchers.

Literature from beyond our three case study countries describes two ways to use vouchers: (i) the approach known as 'seed vouchers and fairs' that has been referred to above; and (ii) an approach in which vouchers are redeemable at specified retail shops and distribution outlets or through designated traders.

4.1 Vouchers and specified outlets

Projects that use the latter approach have been implemented in Ethiopia, Malawi, and Zimbabwe. In Ethiopia, a project implemented by CARE allowed beneficiaries to exchange their vouchers with approved traders over a period of six weeks (CARE, 2004; see Table 6 below). In Zimbabwe, various approaches have been employed, including a system in which the implementing agency purchases a limited selection of seed and inputs, which are then made available for a restricted time at retail shops (which in practice is little different from direct distribution), as well as systems in which beneficiaries are able to exchange their vouchers for a longer time and for a much wider choice of input (Rohrbach et al., 2005). In Malawi, a pilot voucher system was implemented as part of the Starter Pack Scheme in 2001-2, in which beneficiaries could exchange their vouchers at specified retail shops.

Relatively little documented experience exists on these mechanisms, though there is considerable scope for further developing and implementing them.

4.2 Seed vouchers and fairs

In contrast, there is considerable documented experience relating to seed vouchers and fairs, largely due to the efforts of CRS to promote and enhance the approach in a large number of countries. An increasing number of other relief agencies are now also implementing voucher-based approaches to agricultural input provision in both disaster relief and more developmental interventions. Despite this, however, it would appear that seed vouchers and fairs are still being implemented on a relatively small scale when compared to direct distribution.

Evidence from the case study countries presented in Tables 1, 2 and 4 shows that the largest seed voucher and fair programmes covered fewer than 50,000 farmers (in Mozambique), whereas the largest direct distribution programmes have covered 2.8 million farmers (in Malawi). However, experience in the case studies also shows that seed vouchers and fairs can be implemented to promote a range of different objectives, including strengthening farmer seed systems, diversifying crops, improving farming practices and techniques, and promoting markets in rural areas.

Table 6. Comparison of seed voucher approaches implemented in Ethiopia

	Vouchers combined with fairs (CRS)	Vouchers exchanged with traders in market centres (CARE)
Timing	Vouchers were exchanged on a single day. Time spent on registration, coupon validation and distribution limited the time available during the seed fair day for coupon exchange, affecting choices and seed prices.	Beneficiaries could choose when to exchange their vouchers within a six-week period (mid-June to end-July). Many opted to exchange their vouchers early because they were unsure whether seed would still be available later, but this initial rush led to a price rise.
Location	Farmers and traders had to travel to the fair. Most participants were satisfied with the location of the seed fair, except in some remote, sparsely populated areas.	Farmers were expected to travel to market centres; traders sold seed from centres where they were possibly already well-established. The plan was for each beneficiary to have a choice of two market centres nearby, but there is no evaluation data on this point.
Beneficiaries	Targeting was reported to be open and transparent. Thirty-eight per cent of voucher recipients were female. The ratio of vendors to farmer beneficiaries was 1:17.	Minor targeting problems were reported. There was no data on gender breakdown. The ratio of vendors to farmer beneficiaries was estimated to be 1:1,024.
Vendors	There were small-scale local traders, commercial seed sellers and farmers with varying degrees of experience of selling seed. Eighteen per cent of vendors were women.	They were mostly large-scale traders, both from within the project area and from outside. Some traders withdrew from the project due to inability to provide local seed. The report does not record gender; presumably all were male.
Voucher values	The total value of vouchers was determined by local partners and varied widely from fair to fair, depending on the calculated cost of seed for the target cropping system. There were voucher denominations of 10, 5 and 1 Birr.	There were three 20 Birr[3] vouchers per beneficiary. Farmers were not happy with this denomination: 5 Birr, 1 Birr and 50 cent denominations would have been more useful.
Seed types	There were 15 different crop types and a diverse number of varieties per crop type available at fairs. A high proportion of local seed was supplied by both farmer vendors' own production and local purchase by trader vendors.	There were between 7 and 16 different types of seed in each market centre. Forty-two percent of seed was reported to be from local sources.
Seed quality	Germination was generally good but there were very rare exceptions for specific crops in certain locations. Eighty percent of survey farmers rated the seed as physically clean.	Germination rates were from 78.1% to 100%. Low germination rates were reported for maize and sorghum.
Seed price	Seed prices were reported to be 8–10% higher than normal market prices.	Actual seed prices were not reported. Seed prices were high in the first week of operations due to an initial rush to exchange vouchers.
Voucher redemption	No problems were reported.	Complicated voucher redemption procedures resulted in payment delays.

Source: Longley, 2006: 32.

[3] The exchange rate at the time was roughly 8.51 Birr to 1 US dollar. Total value of vouchers per beneficiary was approximately US $ 7.00.

Table 6 above compares two approaches to voucher-based programming in Ethiopia – a CRS seed vouchers and fairs project, and a CARE project that used vouchers redeemable through designated traders. As can be seen, both approaches offered a range of crop and varietal types, mostly of good quality seed. There were differences in timing and location: seed fairs took place on a single day and both farmers and vendors had to travel to the site, whereas CARE's approach using market traders took place over a longer time period and only the farmers had to travel. Vendors were mostly small-scale traders at the seed fairs, and large-scale traders in the CARE approach.

Perhaps the most startling difference between the two approaches pertains to the ratio of vendors to farmer beneficiaries: This was calculated to be 1:17 for the CRS approach using seed fairs[4], and 1:1,024 for the CARE approach using designated traders. There would appear to be no reason why CARE's approach could not have involved more traders, so the following comparisons do not necessarily relate so much to the voucher mechanism used as to the finer details of how each programme was implemented, and the importance of involving more vendors. A higher number of vendors would theoretically lead to a greater range of choice of seed types. One would also expect the number of vendors in comparison to beneficiaries to impact on the price of the seed sold: with more vendors, there would be more competition between them, leading to lower prices. Finally, the relatively small number of vendors involved in the CARE programme would have meant that the profits accrued by each would be considerably higher than in the CRS seed fair approach. The gross income per vendor was calculated to be approximately US$7,218 for the CARE approach and US$121 for the CRS seed fair approach, based on exchange rates of the time (Longley, 2006).

Studies are increasingly finding that voucher programmes have a tendency to benefit the vendors more than the farmer beneficiaries. In this respect, a relatively small number of vendors and the high profits earned by them is perhaps a cause for concern. Yet vendors' profits earned through voucher programmes are still small when compared to the procurement arrangements of direct distribution, in which a single supplier benefits from the sale of hundreds (or even thousands) of tonnes of seed.

[4] The optimal size of a seed fair is considered to be about 20–25 vendors and no more than 500 farmers (Bramel and Remington, 2005), representing a ratio of about 1:20 or 1:25.

5. COMMERCIAL SEED SECTOR DEVELOPMENT

Given the profits that seed companies can gain through large contracts with agencies procuring seed for direct seed distribution, as opposed to the relatively small quantities of formal sector seed that are sold through seed fairs, it is not surprising that many companies prefer to take contracts for large-scale seed distribution programmes. Indeed, it was for this reason that CRS had difficulties in attracting seed companies to take part in the seed fairs in Zambia. In Malawi, on the other hand, seed companies producing hybrid maize felt that they had been sidelined by government direct distribution programmes that promoted OPVs as opposed to hybrid maize. Malawian agro-input dealers favoured the direct distribution approach used by the SPLIFA project since they benefited, not only from supplying the input packs (for which they were paid a royalty for each pack supplied), but also from increased visibility and subsequent sales. By using agro-input dealers as the intermediary agents in the SPLIFA project, the link between the consumer and the private sector was strengthened, rather than interrupted, as in other direct distribution mechanisms that used government or NGO agents to distribute seed. These insights clearly suggest that assumptions about vouchers being more 'market-friendly' than direct distribution cannot be taken as true.

5.1 Mozambique

The case of Mozambique allows us to examine in more detail whether vouchers have promoted commercial seed sector development. In relation to the indicators of seed sector development listed in Box 1 above, the results of the case study research appear to suggest that the voucher approach implemented in Mozambique has promoted commercial development within the informal seed sector (most notably the grain markets) but not in the formal seed sector.

While the quality of seed remains low for the formal sector, the majority of farmers interviewed (46%)[5] reported that the quality of seed sourced from informal sector sources had improved in the past five years (i.e., since the introduction of seed vouchers and fairs). All of the grain traders interviewed (12) carry out at least one type of processing (selection, drying, and/or packaging) for the planting materials that they sold, and many had received training in good seed handling practices. There was no evidence of increased diversity of the crops or varieties available through either the formal or the informal sector, but it is worth noting that farmers in Mozambique tend not to distinguish varieties by name, making it difficult to gather data on this point.

In relation to the size of seed sales, formal sector seed distributors interviewed in Mozambique reported both a decrease in the size of seed transactions and a decrease in the overall number of sales in the past five years, suggesting that they were losing market share. Although informal sector traders did not report an increase in seed sales[6], the majority of farmers (46% and 43% respectively) reported an increase in the number of both commercial seed providers and outlets through which informal sector seed (mostly grain) is available.

Anecdotal evidence suggests that the increased knowledge and the networking opportunities that are afforded by the fairs has in some cases allowed vendors to realize new opportunities and expand their retail networks. In some places, for example, links between seed companies and traders established through the fairs have allowed for traders to sell seed company products. One of the seed retailers interviewed for an earlier study reported that the experience of the fairs in Maputo Province allowed him to identify pockets of unmet demand and he subsequently opened two additional shops to meet this demand (Longley et al, 2005).

[5] 10% of respondents reported a decrease in quality; 18% reported no change in quality; and 26% said they did not know.

[6] Since much of what is sold by informal sector traders is sold as grain not seed, the traders themselves cannot distinguish what is used as seed from what is used as grain, so this result is not surprising.

Despite difficulties in gathering information from farmers concerning changes in the price of seed (most farmers immediately replied that seed is expensive), the majority (61%) reported that the price of seed had increased in the past five years. It is worth noting that formal sector seed remains five or six times more expensive than informal sector seed, yet quality issues are still a major concern for formal sector seed. It is thought that the lack of progress in developing the formal seed sector in Mozambique relates to the very low starting point of the sector. For this reason, it is perhaps not surprising that voucher-based approaches appear to have had very little or no impact on promoting commercial seed sector development within the formal seed sector.

5.2 Malawi

The range of different seed interventions implemented in Malawi allows for a broader examination of their relative impacts on commercial seed sector development. However, it is also important to note that various other factors also impact on the seed sector, most notably government's promotion of OPVs over hybrids. The price at which OPV maize seed is procured for distribution programmes is relatively high compared to the price of hybrid maize, and so commercial companies find it more profitable to produce OPVs (Rusike and Longwe, 2005). Yet most OPVs are not branded or packaged for sale on the open market (*ibid.*), thus limiting their potential for commercial development.

Data collected by Rusike and Longwe (2005) from a stratified sample of 202 rural agro-dealers[7] allows for a comparison of the different seed distribution mechanisms in terms of their impact on rural agro-dealers, as summarised by Table 7.

Table 7. How business is affected by input agricultural programmes and responses among rural traders, Malawi, 2004/2005

How business is affected by input programs	Rural Trader Type			ALL
	AISAM-SPLIFA	AISAM-Non-SPLIFA	Non-AISAM	
No effect (%)	23.7	56.0	68.2	41.6
Spent money on transport/security (%)	19.4	2.7	0.0	10.5
Positively, increased working capital/sales (%)	50.5	8.0	0.0	27.9
Negatively, reduced sales due to free TIP(%)	6.5	33.3	31.8	20.0
Changes made				
None (%)	65.0	81.2	80.0	73.4
Reduced/stopped maize trade (%)	5.0	10.1	10.0	7.7
Increased inventory due to high demand (%)	28.8	4.3	5.0	16.0
Supplies on demand/sell before programmes start (%)	1.3	4.3	5.0	3.0
Investing resources to stock seed (%)	77.2	67.1	37.5	68.2
Investing resources to stock fertilizer (%)	77.4	63.5	33.3	66.3

Source: Rusike and Longwe (2005).

[7] The sample included 93 members of the Agricultural Input Suppliers Association of Malawi (AISAM) who also participated in SPLIFA; 85 AISAM members who did not participate in SPLIFA; and 24 non-AISAM traders.

Those dealers involved in SPLIFA reported a positive impact due to higher working capital and additional business generated, whereas those not involved in SPLIFA reported negative impacts resulting from reduced sales due to free TIP handouts. But there were also disadvantages associated with the SPLIFA programme: Almost 20% of the agro-dealers involved reported having to spend money on transport and security and then suffered from significant delays in getting paid. Agro-dealers who were members of the Agricultural Input Suppliers Association of Malawi (AISAM) – both those who participated in SPLIFA and those who did not – reported making more investments in stocking seed and fertilizer than non-AISAM members, suggesting that the training and support they received (e.g., access to credit and assistance in forming business relationships with agricultural input supply firms) provided strong incentives to invest in improving input supply in rural areas. Clearly, it is not only through seed distribution projects that agro-dealers can be supported in promoting commercial seed sector development: In this case, the role of AISAM in training and organising its members was crucial.

Among the main advantages of the seed vouchers and fairs implemented in Malawi has been the opportunity for farmers to interact directly with seed suppliers, to exchange information about the inputs available and the constraints they face, and to decide for themselves which type of input is most appropriate to their situation. It must also be pointed out that the SPLIFA direct-distribution approach allows for the first two advantages to be realised, and is thus very similar to the CARE voucher approach described above for Ethiopia, but farmers had no choice of inputs because everything was procured centrally by the project. It is perhaps due to the low level of development within the seed sector in Malawi that SPLIFA felt it necessary to procure inputs on behalf of the agro-dealers.

Although most of the stakeholders consulted in Malawi agreed with the use of seed vouchers as the way forward in relief seed distribution, they also argued that strict monitoring and policing are required to avoid succumbing to political pressures to control or distort the system. It has also been argued that a voucher system that distributes inputs through retailers in Malawi might run into problems because, although retailers service every district in Malawi, they are thin on the ground in many areas. In areas where outlets are few, beneficiaries would have to walk distances in excess of 30 kilometres to exchange the voucher for the inputs.

Another problem that might occur (as was the case in the Dedza seed fairs), is that retailers might raise the price of the inputs in areas where designated retail outlets are few and far between. In general, seed that is exchanged for vouchers at seed fairs tends to cost between 10 and 20 percent more than normal market prices (Bramel and Remington, 2005). In CARE's voucher project in Ethiopia, seed prices were 30 percent higher than grain prices due to the relatively small number of traders and the lack of competition (Agridev Consult, 2006). Whether such price increases are deemed to be acceptable must be decided case by case.

6. CONCLUSIONS

Although the research on which this paper is based originally aimed to document 'relief seed mechanisms', it is clear from the case studies that it is very difficult to distinguish 'relief' interventions from subsidies or social protection mechanisms and those with longer-term, more developmental objectives. Given the chronic vulnerability in the region, this blurring of relief and development interventions is seen to be appropriate, provided that the specific objectives are clear to those designing and implementing the projects.

There are many variations on the way in which direct seed distribution is programmed, including the use of agro-dealers in the provision of inputs, and the use of chits through which beneficiaries are identified and can claim their inputs (not to be confused with voucher-based programming). In comparison, there is still relatively little experience in the region with voucher-based approaches to seed provision, and a lack of innovation in voucher-based programming. Although voucher-based approaches have been implemented on a comparatively smaller scale than direct seed distribution, there is no reason why they cannot be scaled up, provided that traders and seed suppliers are willing to participate. Detailed data on the comparative cost effectiveness of different approaches are lacking.

It cannot be assumed that voucher-based approaches necessarily promote commercial seed sector development. In Mozambique, the available evidence suggests that the use of vouchers has supported commercialization in the informal seed sector more than in the formal seed sector. On the other hand, evidence from Malawi suggests that direct seed distribution approaches can support the commercial seed sector through enhancing the capacity of private agro-dealers. Although such interventions have the potential to *support* commercial seed markets, they are unlikely to *promote, strengthen or develop* commercial seed markets. The weak level of development of the seed sectors in the countries studied suggests that seed interventions (whether direct distribution or vouchers) will have little impact in developing commercial seed markets without considerable institutional and capacity building interventions explicitly aimed at developing and enhancing the capacity of the various components of the seed sectors.

7. RECOMMENDATIONS

Based on the case study findings and the analysis presented above, the following recommendations are made:

- In view of the chronic nature of the problems affecting farmers in the region and the blurring of seed relief with longer-term agricultural development interventions, it is essential that seed interventions are designed to address clearly articulated objectives that are understood by those implementing the project;
- Whether a seed intervention is based on direct distribution or voucher-based approaches, it should be designed, not only according to the problem to be addressed, but also according to the level of capacity that exists within the seed sectors;
- Direct seed distribution or voucher-based approaches alone cannot be expected to strengthen commercial seed markets. Other measures must also be implemented, e.g., to promote the capacity of agro-dealers, to ensure seed quality standards are upheld, to enhance the infrastructure and retail networks through which seed is marketed, to educate farmers about the seed types available, etc.;
- The extent to which small-scale, poor farmers rely on informal grain markets for the purchase of planting material should be recognized, particularly in Zambia, where current seed legislation does not allow for the sale of non-certified seed; and
- Whether or not seed interventions effectively support farmers, agro-dealers and commercial seed markets does not depend on whether they are based on direct distribution or voucher-based programming, but on the finer details of the ways in which the intervention is designed and managed. Interventions should therefore be carefully designed and managed.

Where vouchers are used, there is sufficient documented experience available to allow for interventions to be both innovative and well-designed.

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