



INPUT VOUCHER STUDY IN MALAWI, MOZAMBIQUE AND ZAMBIA

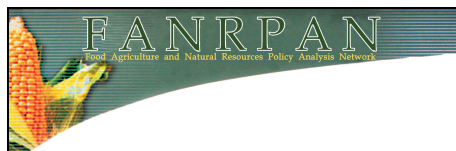
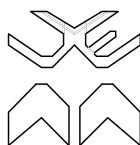
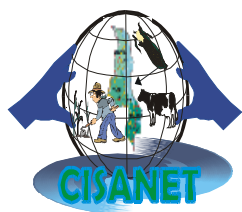
Final Synthesis Report

By

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The Food, Agriculture and Natural Resources Policy Analysis Network (FANRPAN) is an autonomous regional stakeholder driven policy research, analysis and implementation network that was formally established in the Southern Africa Development Community (SADC) in 1997. FANRPAN was borne out of the need by SADC governments who felt that comprehensive policies and strategies were required to resuscitate agriculture. FANRPAN is mandated to work in all SADC countries and currently has activities in 12 SADC countries namely Angola, Botswana, Lesotho, Malawi, Mauritius, Mozambique, Namibia, South Africa, Swaziland, Tanzania, Zambia and Zimbabwe.

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ABBREVIATIONS AND ACRONYMS

ADD	Agricultural Development Division
ADMARC	Agricultural Development and Marketing Corporation
ADRA	Adventist Development Relief Agency
CAN	Calcium Ammonium Nitrate
CF	Conservation Farming
CPT	Community Project Teams
CRS	Catholic Relief Services
DSD	Direct Seed Distribution
EU	European Union
FAO	Food and Agriculture Organization
FANRPAN	Food, Agriculture and Natural Resources Policy Analysis Network
FSP	Food Security Pack
FSP	Fertilizer Support Program
HA	Hectare
HIV/AIDS	Human Immuno-Deficiency Virus/Acquired Immune Deficiency Syndrome
MT	Metric Tone
NGO	Non-Governmental Organization
NASFAM	National Smallholder Farmers Association of Malawi
OPV	Open Pollinated Variety
PAM	Program Against Malnutrition
PESU	Emergency Program for Seed and Tools
PRA	Participatory Research Methods
SADC	Southern Africa Development Community
SFFRFM	Smallholder Farmers Fertilizer Revolving Fund of Malawi
SPS	Starter Pack Scheme
SV&F	Seed Vouchers and Fairs
TA	Traditional Authority

TIP	Targeted Input Program
VDC	Village Development Committee

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ABSTRACT

The input voucher study aimed to test the potential benefits of using a voucher system to integrate the commercial and non-commercial agricultural production input distribution channels while also providing targeted support to poor smallholder farmers. Another dimension of the study was to demonstrate the potential impact of implementing a full cycle of policy research, analysis and engagement using the case of seed and fertilizer input vouchers. The studies were carried out in Malawi, Mozambique and Zambia. The first phase of the study focused on reviewing voucher-related literature and updating previous studies done on the subject. The second phase involved rapid field research consultations with stakeholders in Malawi and Zambia, and further mining of existing survey data in Mozambique.

The first phase has revealed that a number of interventions are used in Malawi, Mozambique and Zambia to assist households facing chronic food insecurity to increase their productivity and improve their food security. These include direct input distribution to target households, seed vouchers and fairs, starter packs, and vouchers of different types. The Zambian Government uses direct input distribution through the Fertilizer Support Program and Program Against Malnutrition's Food Security Pack. NGOs and international organizations in Zambia and Malawi also use direct input distribution. There are also pockets of seed vouchers and fairs being used by NGOs and donors in all the three countries.

The starter pack scheme and targeted input program were used in Malawi from 1998 to 2004. Currently, the Malawi Government is implementing a combination of direct input distribution and vouchers. The voucher system was first tested in Malawi in 1999 alongside the starter pack program. The results showed that flexi-vouchers are the most economically enhancing tool for smallholder farmers, especially the poorest. Distribution of flexi-vouchers allowed households to have freedom in the selection of goods. The Malawi study and other international literature reveal a number of likely outcomes from use of vouchers. First, utilization of local retail outlets for distribution instead of distribution of pre-packaged inputs increases availability of desired goods such as fertilizer at retail level. Second, direct input distribution such as the starter packs has minimal impact on enhancement of household discretionary cash and maize production. Third, direct input distribution does not allow the private sector to expand its retail distribution networks countrywide into the rural areas, as is apparent in Mozambique and Zambia where the private sector normally operates only in urban and peri-urban

areas. Fourth, direct input distribution is costly to government and is susceptible to pilferage and fraud compared to the voucher-based systems.

A number of key conclusions are derived from the individual second phase country reports. In Malawi, the input voucher program has improved food security at household level and increased maize surplus at national level from 0.5 million MT surplus in 2005/06 season to 1.3 million MT in 2006/07. The maize yields have increased from less than one tone to about 2.04 MT/ha. Other benefits include growth and expansion of private sector business; creation of competition among players; increased use of new technologies and increased per capita use of fertilizer and seed.

In Mozambique, the country report focused on determining smallholders' probability of buying maize seed, and the effect of seed emergency programs on smallholders' likelihood to purchase maize. The econometric study showed that smallholders who receive emergency seed are less likely to buy commercial or marketed seed. Thus, emergency seed programs are likely preventing the development of Mozambique's commercial seed market.

In Zambia, the study observed that the input voucher system, if it has to target a larger population of beneficiaries would inevitably attract, and require the public interest of government and indeed the donor community. To harness this inevitable public interest without encouraging a return to government controlled markets, it would be imperative that the general principles of a public-private partnership be involved. In this partnership one would perceive private sector (seed stockists, manufacturers, agencies, distributors) being implementers while government would retain the role of facilitator and policy guider.

The country reports further show that one way to make the vouchers or coupons more effective is for governments to consider percentile coupons. Such coupons can indicate for example that 75% of the value is for fertilizer, 10% for seed, 5% for chemicals and 10 % for labor. In this way vouchers can help a government to achieve social objectives through commercial means. Alternatively, efforts should be made to ensure that if the voucher value is less than the cost of the inputs, then farmers should be allowed to redeem the difference for cash or for other necessities. Flexi-vouchers can be redeemed for inputs or for other basic needs from shops.

Thus, the input voucher study has qualitatively and quantitatively confirmed that it is possible to use a voucher system to integrate the commercial and non-commercial input distribution systems in Malawi, Mozambique and Zambia while also targeting those most in need. This will in turn help to create employment, enable the private sector to extend its distribution network into the rural areas and reduce the burden on government budget of distributing inputs to rural poor households. However to ensure success of the program, it is important to address registration, fraud and corrupt practices, poor timing, poor quality inputs and transportation bottlenecks.

1.0 INTRODUCTION

The majority of rural small farmers in Malawi, Mozambique and Zambia use low purchased-input technologies and as a result produce low yields and face chronic food insecurity for two to five months of the year. These households are therefore in need of programs to increase their productivity and improve their food security. Smallholder subsidy programs such as starter packs to all rural households, containing small packs of hybrid maize seed, fertilizer and either groundnut or soybean seeds, have been implemented in some countries such as Malawi from 1999 to 2004 (Kachule and Chilongo, 2007; Gough, *et al.*, 2000). In Malawi, Mozambique and Zambia, governments, Non-Governmental Organizations (NGOs) and relief agencies also distribute outright relief seed and fertilizer inputs to small farmers.

The distributed relief seeds and fertilizers lead to the creation of two parallel markets; one involving the non-commercial or relief market, and the other the formal commercial market utilized by private companies. The problem with relief markets is that they crowd out private sector development, which is a serious deterrent to the long-term development of a country. Thus, it is imperative to determine feasible and practical ways of integrating the two distribution channels so that the private sector is a major player in all marketing and distribution activities.

Using the voucher system, governments, relief agencies and NGOs can provide purchasing power to rural communities or specific needy categories of people. Through an appropriate partnership with banks and private companies, the resources normally available to relief agencies, governments and NGOs for seed and fertilizer procurement can be distributed to small farmers via vouchers and let the private companies chase after this purchasing power by expanding their retail distribution networks into the rural areas countrywide. This process would ensure that the non-commercial seed and fertilizer distribution resources are channelled to the development of the commercial seed and fertilizer marketing and distribution

sectors (Simfukwe, 2006). For these reasons, the input voucher study aimed to seek answers to the following questions. What is the feasibility of using a voucher-based system as a means of integrating the commercial and non-commercial input distribution channels? What would be the mode of implementation of such a system? Can a full cycle of policy research, analysis and engagement be successfully implemented in Malawi, Mozambique and Zambia using the case of fertilizer and seed input vouchers? How should the cycle be organized?

2.0 LITERATURE REVIEW

In most African countries, agricultural input interventions have largely been in the form of seeds and agricultural tools directly distributed to the affected communities (Bramel *et al.*, 2004). Among the major agricultural input distribution mechanisms (direct seed distribution, use of coupons and vouchers and distribution of cash for farmers to purchase inputs), the voucher system has been widely used by many NGOs (Bramel *et al.*, eds. 2004).

The effectiveness of direct input distribution has been questioned by a number of stakeholders including governments, donors and seed practitioners. The question “what to do?” if not “seed and tools” has not been fully addressed. Some schools of thought have suggested that if the seed or agricultural input security problem is one of access and not availability or quality, then perhaps vouchers would be more effective than the direct input distribution approach. This thinking has contributed to the increasing use of Seed Vouchers and Fairs (SV&F) as an approach to ensuring access by the affected communities to seeds and other agricultural inputs and putting farmers at the centre of the recovery process (Bramel *et al.*, eds. 2004). Use of improved technologies such as seed can bring about increases in agricultural production. However, Longley *et al.* (2005) observed that farmers might not use commercial seed if its quality is poor and not well adapted to local conditions. This shows that governments need to review their seed certification processes and enforce high standards of quality.

Gaye and Jawo (2004) noted that transaction costs in Gambia were lower in the SV&F than in direct seed intervention. The majority of sellers was from the fair area, and would invest money in their community. Given the sellers' mobility, the seed fair made it possible for seed to be moved from areas with abundant supply to seed deficit areas. Beneficiaries were allowed a choice in type and quantities available and women farmers were able to access new and improved rice varieties disseminated through research stations.

In Mozambique the formal seed sector is not well developed because of several reasons including poor road infrastructure. Thirty seven percent of the 128 districts in the country do not have any seed shop and 34 percent have only one shop. Even where there is more than one shop per district, the ratio of agricultural producer to seed shop is more than 40,000 (Rohrbach, *et al.*, 2001; Tostão, 2007). Transportation costs are also very high in Mozambique. For example, the cost of shipping a container from Nacala to Maputo (US\$2,500) is the same as the cost of shipping a container from Dubai to Maputo and is about three times the cost of shipping a container from Maputo to Dar es Salaam (US\$845) (Coughlin, 2006, citing Global Development Solutions). Longley (2006) observed that for SV&F to be successfully implemented there is need for well-developed markets and good road infrastructure.

Remington (2004), quoting Tripp (2001), noted that development is not judged by whether farmers grow traditional varieties or varieties that are the products of formal plant breeding, but rather by the range of productive choices that are at their disposal. The SV&F offers a level playing field on which the commercial seed sector and the farmer seed sector can compete. Furthermore, they offer the beneficiaries a choice of inputs, and also allow input dealers from the local area to participate. Longley *et al.* (2005) observed that the Agricultural Input Trade Fairs and Vouchers in Mozambique encouraged commercial activity and the potential for market development at local level. Remington *et al.* (2002) however noted that the playing field can easily be tilted in favour of one or other of these players by influencing the

way in which beneficiaries use vouchers. An example is that of Mozambique where there has been a lot of pressure from the seed companies and agents to tilt the field through various mechanisms in favour of the formal seed sector (Longley *et al.*, 2004).

Sebhatleab and Norman (2002) noted that vendors in Eritrea were skeptical of the voucher system as it created confusion and uncertainty among them. This problem was addressed by explaining the voucher system on-site with the local vendors and administration and by setting up an immediate redemption mechanism of the vouchers. Tripp (2001) reported that formal seed systems are more complex, linear and less integrated than farmer seed systems where most activities take place at one farm location. Remington (2004) noted that the farmer, formal and informal seed systems are poorly integrated at present. He observed that the current strategy of the formal seed system is to manage the entire process from varietal development through multiplication and certification to marketing through commercial outlets to farmer-consumers.

One other question on the implementation of agricultural input supply programs is whether the system is free of fraud and corrupt practices. Various strategies aimed at minimizing fraud and corruption have been used in the implementation of the SV&F. For example, the use of posters, which clearly identified the colour and value of each voucher and brochures in three of the Ethiopian languages, was seen to be necessary in the implementation of the SV&F. In addition, each Seed Fair Committee member received a brightly coloured T-shirt identifying him or her. Partners also conducted personal visits to seed traders and local sellers to explain the process, pre-register them and ensure that a minimum of seed and sufficient varieties would be available during each seed fair (Latimer, 2004). Participatory self-targeting in the Gambia, which among other benefits empowered the community, also ensured some form of transparency by those implementing the program (Gaye and Jawo, 2004).

Thus the reviewed literature clearly shows that vouchers have mostly been used by NGOs to distribute relief inputs and other supplies. Where seed and other agricultural input security problem is one of access and not availability or quality then perhaps vouchers would be more effective than direct input distribution. Because the main problem in much of Africa is that of access to inputs, use of SV&F has assured farmers access to inputs and facilitated their recovery process from droughts and other calamities. Vouchers reduce transaction costs and beneficiaries are given a choice in the type and quantity available of any input. At the same time vouchers allow participation of the private sector and have potential for market development at local level. However, for effectiveness of the system, it is important to ensure that the system is free from fraud and corrupt practices. These positive attributes of the input vouchers motivated the implementation of the voucher study.

3.0 PURPOSE OF THE STUDY

Four studies were previously implemented by the Food, Agriculture and Natural Resource Policy Analysis Network (FANRPAN) in Malawi, Mozambique, South Africa and Zambia, to assess the importance and share of relief seeds in the overall national and regional trade (Kananji and Phiri, 2006; Simfukwe, 2006). The studies also analyzed opportunities for improving the contribution of relief seed programs to commercial seed market development. Seed market development is a broader objective for improving agricultural input and output markets. It is also a way of unleashing improvements in agricultural production and growth of the region. The four studies were motivated by the need for governments to recognize the growing importance of relief seed in national and regional markets. The main findings of the studies confirmed the importance of relief seeds in countries such as Malawi and Zambia, where they accounted for close to 50% of the total annual company seed sales (Simfukwe, 2006; Kananji and Phiri, 2006). In Mozambique, emergency seed is distributed every year and has been the main source of commercial seed over the past 15 years including 75 per cent of all maize seed and 95 percent of sorghum, pearl millet, and groundnut seed distributed to producers in the country (Rohrbach,

et al., 2001; Tostão, 2007). It is therefore in the interest of governments to take advantage of the relief seed programs in order to promote private sector development.

Another key finding of the studies was that there are two parallel input distribution channels in the case study countries. The channels are the non-commercial (government, NGOs, relief agencies) and the commercial (seed companies/private sector) distribution networks. Such parallel markets are currently not well integrated. It is therefore critical to find ways to integrate the two markets, and input vouchers are seen as one such potential mechanism. The results of the recent studies done in Malawi, Mozambique, South Africa and Zambia on developing input markets helped to leverage the input voucher study. It is possible to design voucher programs so that all non-commercial distribution is carried out using the commercial sector.

Subsidies are known to distort the market and private sector development. Most business ventures view vouchers as less distorting because, unlike subsidies, vouchers are like real money. They are like certificates by which smallholder farmers are given the ability to pay for inputs such as fertilizer and seeds at a registered shop of their choice. If designed correctly, vouchers can promote free market competition among sellers, providing them an incentive to improve their services. Vouchers also allow for greater economic diversity by offering small farmers opportunities to purchase inputs which were previously unaffordable. Thus, vouchers would also help to shift small farmers' mindset to focusing attention on how to get as much value as possible from their vouchers. In other words, small farmers will start to demand that sellers be efficient. For example, in Malawi smallholder farmers are demanding high quality inputs delivered in a timely fashion (Kachule and Chilongo, 2007).

A properly designed voucher system would not only provide some immediate relief from current agricultural emergencies but it also could steadily move the region

away from state involvement. Vouchers are analogous to starting a business to compete with another business, but doing it with taxpayer or relief funds while respecting the ideals of a free market system. **We therefore hypothesized that a well-designed input voucher program can be used to enhance the purchasing power of the poor, and the commercial sector can redeem these vouchers and expand its distribution networks.**

Through this research we also planned to demonstrate the value of implementing a full cycle of policy research, analysis, and engagement to achieve positive policy impacts. In Zambia, Simfukwe (2006) reported that there was lack of information regarding experiences on vouchers in the distribution of seed and fertilizers. This lack of information and experience made it difficult to convince decision makers in government to advocate an input voucher policy as an incentive for seed and fertilizer companies to establish retail outlets in remote areas. It was also observed that there was serious concern among government officials and other leaders that vouchers would be forged. Thus, the input voucher study determined anti-fraud measures so that the system was not abused. The Zambia study was very forthcoming on recommending a study on voucher system so that through policy dialogue, awareness can be created among the government officials, relief agencies and NGOs about the significance of the system in input distribution.

4.0 OBJECTIVES OF THE STUDY

The specific objectives of the study were:

1. To test the potential benefits of using voucher systems to integrate the commercial and non-commercial input distribution channels.
2. To demonstrate the potential impact of implementing a full cycle of policy research, analysis and engagement, using the case of seed and fertilizer input vouchers.

3. To bring about policy changes for enhancing input supplies to small farmers.
4. To conduct training of policy analysts and policy engagements at national level.

5.0 APPROACHES TO THE STUDY

The study had five main components: (1) analysis of potential benefits of using voucher systems to integrate the commercial and non-commercial input distribution channels; (2) demonstration of the potential impact of implementing a full cycle of policy research, analysis and engagement, using the case of seed and fertilizer input vouchers; (3) conducting a combined training workshop for policy analysts at FANRPAN's national node in Lilongwe, Malawi; (4) national workshops to discuss results from the study; and (5) presentation of research findings at a regional workshop in Lusaka, Zambia.

5.1 Study Sites and Data Collection

The study was carried out in Malawi, Mozambique and Zambia. Several steps were followed in implementing the studies. First, the Malawi and Zambia teams carried out literature reviews and updated the country studies on the Relief Seed Trade previously conducted. Literature reviews extended to reviewing relevant Acts, government marketing policies and strategies as well as any other input marketing studies carried out in the two countries. This helped to identify shortcomings/gaps and inconsistencies in the marketing of seed and fertilizers that need to be addressed (Kachule and Chilongo, 2007; Kalinda and Simfukwe, 2007). Mozambique commissioned a paper using existing survey data to provide econometric evidence of the potential of using an input voucher system to integrate the commercial and non-commercial input distribution systems (Tostão, 2007).

Second, at the training workshop in Lilongwe, Malawi, researchers focused on policy research and reaching agreements on next steps for the studies, especially on what additional questions to include in further discussions with stakeholders. This culminated in the development of questionnaires and PRA field guides for the Malawi and Zambia studies.

6.0 ANALYSIS OF INPUT DISTRIBUTION APPROACHES SCREENED FROM FIRST PHASE

A number of approaches or interventions are used in Malawi, Mozambique and Zambia to assist households facing chronic food insecurity to increase their productivity and improve their food security. These include direct input distribution to the target households, seed vouchers and fairs, starter packs, and vouchers of different types.

6.1 Direct Input Distribution

Direct input distribution to households is practiced in Zambia and Mozambique. The Government of Zambia is investing substantial resources in this approach through the Fertilizer Support Program and the Program Against Malnutrition's Food Security Pack. Other programs on direct seed distribution in Zambia are the FAO Food Security Pack and the FAO Emergency Input Program (Table 1). A number of NGOs such as Catholic Relief Services (CRS), World Vision, Adventist Development Relief Agency (ADRA), Red Cross, Africare and CARE International are also involved in direct input distribution in Zambia and Malawi. The NGOs have advocated direct seed distribution in response to droughts. Tools for land preparation and other crop-husbandry operations often accompany such distribution. The stated purpose of direct seed distribution in this case is to restore the production capacity of farmers for both crops and seed for subsequent seasons. This is based on the assumption that people have no more seed which is not

always the case as literature shows (Kachule and Chilongo, 2007; Kalinda and Simfukwe, 2007; Tostão, 2007).

Implementation of the direct seed distribution approach involves government or organizations requesting registered seed companies for quotations to supply seed. The successful bidders then transport the seed to implementing agencies in the affected districts for subsequent distribution to beneficiaries.

Emergency seed is distributed almost every year in Mozambique, and has been the main source of commercial seed over the last 15 years including 75 percent of all maize seed and 95 percent of sorghum, pearl millet and groundnut seed distributed to producers in Mozambique (Rohrbach *et al.*, 2001; Tostão, 2007). From 1987 to 1997 relief seed was distributed freely to 1.2 million producers via the Emergency Program for Seeds and Tools (PESU), which was a resettlement program following the civil war (Howard *et al.*, 2001).

Although emergency programs have been the main source of seed, a national database on quantities and quality of seed being distributed is not known to exist in Mozambique (Rohrbach *et al.*, 2001). This is a serious information gap considering that Mozambique is planning its own green revolution. Another limitation of emergency seed distribution is that seed companies seem content to sell seed to a handful of large buyers for emergency distribution rather than investing in retail seed markets that serve smallholder producers (Tostão, 2007).

Table 1: Summary of Zambia Input Distribution Interventions

Project	Programming mechanism	Scale	Inputs distributed	Aims and additional information
Fertilizer Support Program (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 smallholder farmers to inputs, and 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 targeted vulnerable but viable households to be self sustaining through improved productivity and household food security, thereby contributing to poverty reduction. Pack components include crop diversification, market entrepreneurship and seed /cereal bank development, alternative livelihoods, and soil conservation.
Project	Programming	Scale	Inputs distributed	Aims and additional information

	mechanism			
FAO Food Security Pack (2002 – 2003)	Direct distribution with partial repayment in kind aimed to establish community – based revolving funds	59,500 farmers	Cereal and legume seed sufficient for 0.25 ha (valued at \$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 suction, Zamwipes (herbicide weeder), and shaka hoes.	Establishment of 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 Program (2001- 2006)	Direct distribution in 2001-2002, then vouchers and fairs	10,000 – 12,000 farmers per year	Voucher worth US \$46 provided in 2005/6	Improve food security; strengthen local coping mechanisms through crop diversification; and promote Conservation Farming (CF) techniques in order to sustain agricultural production.

Source: Kalinda and Sikwibele (2006), Longley *et al.* (2006)

As a result, smallholders' seed needs and preferences are not usually passed to the commercial seed sector (Longley et al., 2005; Longley, *et al.*, 2006). But, without a strong demand from smallholders, the commercial seed sector will likely remain underdeveloped. An additional limitation is lack of policy clarity, which leads to dispersion of resources in the country (Tostão, 2007).

6.2 Seed Vouchers and Fairs

In Zambia, Mozambique and Malawi, some NGOs such as the CRS have used SV&F. This approach involves one-day markets or fairs organized for farmers to which seed stockists and companies are invited to bring certified seed for sale. Seed-needy farmers are identified and issued with vouchers of a given monetary value, which they exchange for seed of their choice. At the end of the fairs the seed sellers redeem the vouchers for cash. However, although input vouchers and fairs take place twice every year in Mozambique, nobody in the country seems to know what the objective of the input vouchers and fairs is (Longley *et al.*, 2005).

Kalinda and Sikwibele (2006) noted that there are strengths in both the direct input distribution and SV&F approaches that could be built on to enhance the capacity of interventions to strengthen local seed systems. For this to be achieved, the interventions need to take a long-term perspective, based on a good understanding of the local agricultural and market systems. Evidence available to date suggests that SV&F offers opportunities for substantial increases in the distribution networks and sales of formal sector seed, provided that the formal seed sector is able to provide seed of appropriate varieties (i.e., adapted to local ecologies and farmer preferences), at an acceptable quality and at a price that is affordable to farmers. SV&F should therefore be seen and utilized by the commercial seed companies as a means to increase their market outreach. Through local seed agents at fairs, the seed companies have great

opportunities to reach more farmers and thus increase their sale of seeds and fertilizers.

The economic benefits of SV&F have been widely researched. The Kirundo seed fairs in Burundi (Bramel, 2004) showed considerable knock on effects of SV&F approach to local farming economies. With a total of nearly US\$160,000 injected into the Kirundo economy over three successive agricultural seasons, the preliminary results indicated that this money was turned over several times within the local economy and used for critical needs such as investment in agriculture and health care. Bramel, *et al.* (2003), in reference to Ethiopia, noted that there was no need to limit the number of vendors or the types of inputs or services that can be purchased at a fair, adding that cash can also be used to purchase goods from neighbors, small-scale traders, or larger traders, pay for school fees or meet health costs, hire labor, pay off debts, or invest in social networks or capital assets such as livestock.

6.3 Starter Pack Scheme, Targeted Input and Voucher Programs in Malawi

In 1998/99 the Ministry of Agriculture in Malawi launched a free input program called Starter Pack Scheme (SPS). The purpose of the SPS was to increase fertilizer and other input accessibility to resource-poor farmers. About 2.86 million smallholder farm families benefited from this initiative. The SPS involved free inputs consisting of sufficient fertilizer and seeds (cereals and legumes) to plant 0.1 hectare. Total production in each year of SPS was 2.5 million tons, representing almost 0.5 million tons increase in production. Two years later, the SPS was changed to the Targeted Input Program (TIP). The TIP was implemented until the 2004/05 agricultural season. The Malawi Government, the United Kingdom, the European Union and the World Bank supported the two initiatives.

In 2005/06 the Malawi Government introduced and continues to implement a fertilizer subsidy program using the voucher (coupon) system where eligible poor households are issued input coupons to purchase seed packs and fertilizer, mostly for maize production (Urea and 23:21:0+4S) and tobacco production (CAN and D-compound). This program has allowed the participation of the private sector because the coupons are redeemable at eligible shops.

The voucher system in Malawi was first tested in 1999 alongside the starter pack program. The pilot voucher project distributed two different types of vouchers in a test to see whether a voucher distribution system was more effective than distribution of a bulky package of free inputs, and if so, which kind of vouchers is more effective. Thus, the study evaluated the differences between three distribution systems, i.e., the starter pack, starter pack voucher, and flexi vouchers, in order to determine which was the most effective tool for improving food security among Malawian smallholder farmers. The analysis also looked at how the three alternative grant distribution systems impacted rural households and whether the impacts depended on particular household characteristics such as gender and marital status (Gough *et al.*, 2002). The results showed that the most economically enhancing tool for smallholder farmers, especially the poorest, were flexi vouchers. Distribution of flexi-vouchers or similar tools allowed households to have freedom in the selection of goods. Furthermore, flexi-vouchers increased cooperation from retailers in order to increase smallholder farmers' access to fertilizers.

The Malawi study and other international literature (Bramel, *et al.*, 2003 and 2005; Longley, *et al.*, 2006) in Ethiopia and Mozambique also revealed a number of likely outcomes from use of vouchers. First, utilization of local retail outlet goods for distribution instead of distribution of prepackaged inputs increased availability of desired goods such as fertilizer at retail level. Second, direct input distribution such as the starter packs had minimal impact on enhancement of household discretionary cash and maize production. Most households exhibited

minimal increases in discretionary cash or total maize production after receiving inputs for five-year duration. Third, direct input distribution does not allow the private sector firms to expand their retail distribution networks countrywide into the rural areas as is apparent in Zambia, where the private sector normally operates only in urban and peri-urban areas (Kalinda and Sikwibele, 2006). Fourth, direct input distribution is costly to government and is susceptible to pilferage and fraud compared to voucher-based systems.

7.0 GAPS IN KNOWLEDGE LEADING TO RESEARCH QUESTIONS FOR PHASE 2

Rapid field research and discussions in Phase 2 with key stakeholders such as farmers, private seed companies, government officials, relief agencies and donors were carried out to fill gaps in knowledge. Phase 2 focused on finding answers to the following questions:

- What commitments, knowledge and skills gaps on voucher systems are present?
- What distortions are visible to stakeholders with regard to relief input markets?
- What are the stakeholders' perceptions of an input voucher system?
- How should vouchers be issued to small farmers and who should be issuing them?
- What should be the specific criteria for the voucher holders when he/she buys inputs from the supplier of her/his choice at any point throughout the country?
- Who are the key private companies, agro-dealers and NGOs in the input supply chain?
- How should registration of competent agro-input suppliers, dealers and small farmers in the relief program be carried out to conform to the tenets of a free marketing system?

- Who should be registering the small farmers?
- Who are the potential rural agro-dealers who can link up with private input (seed and fertilizer) companies?
- What anti-fraud measures should be put in place?
- Where would the holder of the voucher redeem the voucher (at wholesale, retail, etc?)
- What system should be used for the input retailer to en-cash vouchers to ensure prompt payment and to control irregularities?
- What market-friendly relief seed marketing model do stakeholders recommend?
- How should such a marketing model be implemented?
- What should be the roles of government, private companies, agencies, NGOs, farmers, etc. in an input voucher system?
- What are their fears and concerns about an input voucher system?

Although germane to the study, the following questions were not addressed in this study:

- How can agrodealers be persuaded to extend their market network into rural areas?
- Which categories of farmers should use flexi-vouchers and for what?
- Are percentile coupons or vouchers more feasible?
- How should the percentages in the value of the coupon or voucher be determined?
- How can the Zambian Government be persuaded to consider shifting to a voucher-based system?

8.0 DISCUSSION OF PHASE 1 RESULTS

Considering the massive cost of the direct input distribution program, estimated at 5.8% of the total domestic expenditure in Malawi in 2004/05 (Whitworth, 2007),

and the extensive amounts of planning, labor, and cooperation required, the flexi-voucher is preferred over the distribution of prepackaged inputs. Providing the option to obtain either agricultural inputs or goods with immediate cash value allows for the greatest potential increase in household cash income. Assigning inputs appropriate to the needs of the targeted households can potentially reduce misuse of inputs, i.e., selling or trading, and simplify the input distribution. Thus, utilization of flexi-vouchers holds potential benefits as a productivity-enhancing tool if redemption procedures allow smallholders access to those resources they themselves deem beneficial to improving food security.

Experience with vouchers in Malawi, Mozambique, Zambia and other countries show that vouchers have helped to promote crop and varietal diversity (Gough, *et al.*, 2002). In Mozambique, input vouchers have been used to market agricultural inputs particularly seed. More than 100, 000 smallholder farmers received seed worth about USD 950,000 via SV&F over the last six years (Longley, 2006). Use of vouchers and seed/input fairs also helps to give farmers greater choice and to patronize retailers and companies that have a good reputation for high quality inputs and service. This has the potential to strengthen local seed/fertilizer systems and increase resilience to drought and other disasters. The voucher approach also has the potential to promote the growth of the seed and fertilizer sectors as long as it is based on an accurate understanding of farmers' seed preferences and requirements. On the other hand, the government and some NGOs' non-market distribution channels take these choices away from farmers. Such non-market distribution cannot operate without subsidies, which distort the market (Grant, 2000). Another problem with prepackaged inputs is leakage. In Malawi, there is some leakage of fertilizer from Malawi to neighboring countries as well as from smallholder farmers to estates. Sometimes leakage is fueled by nonlabeling of the fertilizer to match this differentiated market (market and price discrimination). This problem can be avoided through linkage of the subsidy/pack programs to other cash transfer programs such as flexi-vouchers. In Mozambique the use of SV&F may not have provided the needed incentive for

the development of the formal seed sector due to high transportation costs and also because government continued to provide seed during droughts, floods, and chronic poverty situations (Tostão, 2007). This tended to create a parallel seed network that inhibits private investment in the commercial seed system, which would supply seed in subsequent emergencies. But, a counter to this argument is that if there is shortage in seed supply for whatever reason, then government intervention is justified to correct for market failure.

Efficiency in the fertilizer subsidy program in Malawi and Zambia has been marred by logistical difficulties. Late importation of fertilizer leads to delayed distribution to farmers throughout the country; in some cases the fertilizer arrives after the application stages of the crop. Tobacco coupons are not different from maize coupons in Malawi. As a result, some tobacco farmers have tended to use maize fertilizer on tobacco, a cash crop. The reality of coupons or vouchers for seed and fertilizer in Zambia is different from Malawi. In Zambia tobacco seed is given free to farmers but unlike in Malawi there is no subsidy on tobacco fertilizer. Only credit is extended to the tobacco farmers.

In general, vouchers are not a priority of the government programs in Zambia. The issue of whether vouchers should be used is still in the corridors of the policy makers of the country. Zambia can therefore benefit from the voucher experience in Malawi. The Zambian Government has a fertilizer administration system that is based on government policy and political influence. The percentage of the subsidy on the fertilizer is announced in advance before the growing season to the farmers. This system has been quite steady for the past 5 years. To date, the subsidy has been increased to 60 percent where farmers are paying only 40 percent of the market price of fertilizer. The voucher system has not taken root in the country although there are pockets of donor and NGO interventions based on the voucher system (Kalinda and Simfukwe, 2007).

Since the voucher approach is a new intervention in most countries in the region including Zambia, Mozambique and even Malawi, there is therefore a need to monitor and evaluate such mechanisms to generate adequate data over time as a basis for evaluating the efficacies of the direct input distribution system and the voucher approaches.

While the benefits of the voucher system outweigh those of the direct seed distribution systems, vested interests in Zambia may torpedo any attempts to introduce it. Jayne, *et al.* (2007) noted that high transaction costs and risk are a deterrent to market development in developing countries such as Zambia. Such transaction costs and risk are to a large extent endogenous because they are influenced by government spending and policy choices made in agriculture. As a result, there is a direct link between food and price instability problems with high transportation costs. Thus, more public investment in transportation and communication can help reduce price fluctuations. Govereh, *et al.* (2006) observed that 10 percent of the Government of Zambia's budget is allocated to the agricultural sector but over 60 percent of this is spent on fertilizer subsidies and maize price stabilization. Lopez (2003) used a political economy framework to show that there is imperfect competition in the political lobby market, resulting in biased allocation toward input subsidies that are captured by politically influential groups. Such allocations are often against provision of public goods and investment that can improve market performance and public goods for the benefit of the poor. Thus, the low investment in public goods can be attributed to the high food marketing costs and risks (Jayne, *et al.*, 2007). For this reason, a voucher program that is well targeted can save money while helping the really poor, leaving more funds for investment. That is why the study on the input voucher system took the approach of following a full cycle of policy research, analysis and engagement: engagement of all the key stakeholders can help overcome fears, prejudices and misinformation on vouchers.

9.0 DISCUSSION OF PHASE 2 RESULTS

9.1 Objective

The objective of this paper is to assess the potential of using an input voucher system to integrate the commercial and non-commercial input distribution systems in Malawi, Mozambique and Zambia. To carry out this assessment three studies were carried out in Malawi, Mozambique and Zambia. The studies done in Malawi and Zambia involved literature review, focus group and key informant interviews, and rapid survey of smallholder farmers who participated in input voucher programs (Kachule and Chilongo, 2007; Kalinda and Simfukwe, 2007). The Mozambican study was slightly different in the sense that it focused only on secondary data to estimate the effects of the input vouchers using econometric techniques (Tostão, 2007).

There are a number of caveats on the study. First, because of limited resources the study focused on two to three local areas in Malawi and Zambia. Second, the quick field surveys only dealt with up to 25 farmers in each country. This narrowed the possibility of generalizing the results to the entire nation. In Mozambique the analysis was limited by reliance on secondary data. Sometimes secondary data in developing countries is poorly collected which can affect the interpretation and conclusions drawn from its analysis. However, considering that the quick survey methods were combined with other data generating processes such as PRA with the major stakeholders, it is hoped that the results drawn from the studies are relevant to the countries.

9.2 Knowledge about the Input Voucher/coupon and Registration System

Field research work showed that stakeholders in the agricultural sector in Malawi and in the Western Province of Zambia portrayed good knowledge of the input voucher/coupon program. The Malawi Government is currently implementing the

program. The main input in the voucher program in Zambia was certified seed while the inputs involved in the Malawi program are fertilizer and seed. The fertilizer in Malawi is the one used on maize (urea and 23:21:0 + 4S) and on tobacco (D compound and CAN). Although hybrid varieties of maize seeds are distributed, farmers prefer open pollinated varieties (OPVs) because they are able to recycle the seed but also because OPVs have some resistance to weevils. In Mozambique, the program is similar to the Zambian program in the sense that donors and NGOs used SV&F.

A study carried out in Western Province of Zambia revealed that 60 percent of the smallholder farmers preferred that the local committee be involved in the voucher- beneficiary registration process compared to 44 percent who felt that the beneficiaries themselves should be involved. The lowest proportion (24%) of the respondents proposed that local leaders should be involved in the registration (Figure 1).

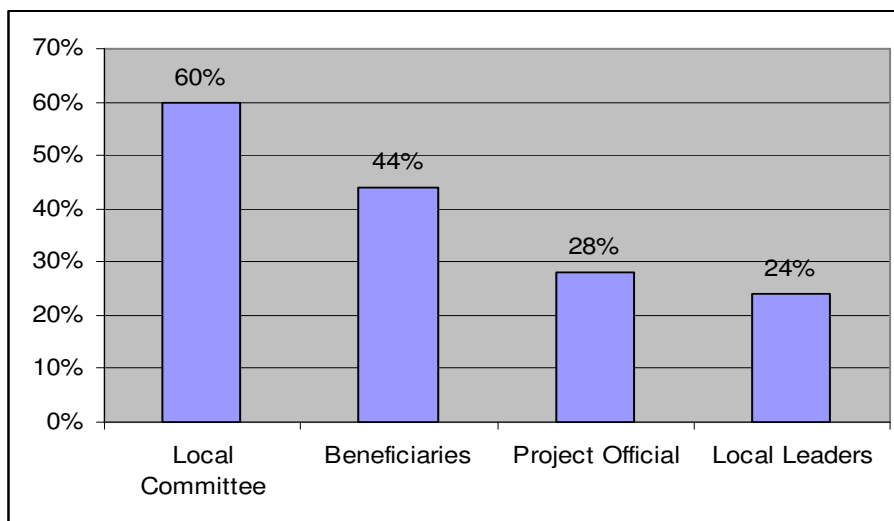


Figure 1: Preferred members for the registration of vouchers in Zambia

Source: Kalinda and Simfukwe, 2007.

The low preference for local leaders in Zambia is consistent with the experience with chiefs and village headmen in Malawi. Some village headmen in Malawi were accused of favoritism and other corrupt practices when issuing the vouchers. Thus, it appears that local leaders, NGOs and donors should only play a supportive role in the registration exercise.

Although the various stakeholders noted that registration of both beneficiaries and input distributors is carried out, there was no systematic procedure for the voucher-beneficiary registration exercise in Malawi. In certain cases, village chiefs carried out the registration with his/her village development committee (VDC) while in other cases a village subsidy monitoring committee was responsible.

Furthermore, although the target recipients are resource-poor households, orphans, the aged, the chronically ill or those affected by HIV/AIDS, the village chiefs in Malawi often registered every member of the village. This tendency also had to do with the conflicting messages that were coming from the government and the media especially the radio, where it was stipulated that all households were eligible for the program. The government sent coupons to the District Commissioner who in turn distributed the coupons to traditional authorities (TAs) for further distribution to village headmen/women for eventual distribution to beneficiaries.

In Zambia, on the other hand, the beneficiaries were identified following criteria developed jointly by Community Project Teams (CPTs) and the communities. The CPT consisted of civil authorities, agricultural extension agents, church/parish representatives and community leaders. This selection was based on needs using the criteria agreed upon. Some of the issues considered when setting the criteria, included vulnerable groups such as female-headed households without adequate food or assets to generate income, adolescent-headed households, orphan-guardian families particularly those affected by

HIV/AIDS; widows and the elderly. The criteria for beneficiary identification and selection would ideally allow needy and vulnerable households to be selected (Kalinda and Simfukwe, 2007). However, as was the case in Malawi, it was not possible to strictly adhere to a given set of criteria.

One major problem in Malawi was poor coordination between Government, seed companies and the village headmen. This poor coordination led to either more coupons than inputs (seed and fertilizer) being distributed or vice versa. As a result, some corrupt and fraudulent activities emerged. In situations where less fertilizer was distributed than coupons, fertilizer prices rose above the set price of MK 950 (about US\$6.80) per 50 kg-bag. In certain cases, chiefs issued coupons to only households that could afford the MK 950 or to their relatives. This compelled some households to join hands to raise the MK 950 and later share the 50 kg of fertilizer. In urban and peri-urban areas, the business community bought all the fertilizer and sold it elsewhere at over MK 3, 000 per 50 kg bag (Kachule and Chilongo, 2007).

Thus, for proper registration, identification of beneficiaries and coordination, results in both Malawi and Zambia point to the need for involvement of all key stakeholders. These should include farmers or their associations, Government, private sector, local leaders, NGOs and donors. Selection of the beneficiaries should then be based on set criteria that are community-based. This will ensure fairness and effectiveness in the targeting of input vouchers because of inclusion of local understanding of what entails being vulnerable.

9.3 Flexi-vouchers

Farmers in Malawi expressed the need to extend the coupons to other crop seeds such as groundnuts, and horticultural crops and to chemicals such as pesticides. Farmers also noted that flexi-vouchers would be beneficial to them because they could easily purchase what they needed the most. For example,

some farmers complained of being given coupons meant for tobacco fertilizer when they were not tobacco farmers. Sometimes the farmers were issued coupons for fertilizers that were not available. In other instances, traders cheated farmers by offering poor quality inputs (Kachule and Chilongo, 2007). Similarly, farmers in Zambia indicated that they preferred seed, fertilizer and chemicals because they had limited access to them. In terms of priority ranking, seed was the highest priority (96% of the respondents) seconded by fertilizer (88 percent of the respondents). Other types of seeds farmers in Zambia wanted included in the input voucher program were beans, groundnuts, soybeans, and vegetables. Vouchers can also be used to support the purchase of equipment like treadle pumps. Some preferred getting cash (Kalinda and Simfukwe, 2007).

9.4 Beneficiary Contribution to the Voucher Value

Beneficiaries vary in their desired level of contribution to the voucher value. In the relief programs of Malawi, Mozambique and Zambia, beneficiaries often do not contribute anything toward the cost of the seed or fertilizer delivered to them. In Western Province of Zambia, 60 percent of the respondents indicated that they should be contributing nothing to the value of the vouchers while 28 percent noted that they were willing to contribute less than 50 percent. Only 4 percent indicated that they were willing to contribute more than 50 percent (Table 2).

Table 2: Preferred contribution to input voucher value in Zambia

Percent Contribution	Western Province		Luapula Province	
	Frequency	Percent	Frequency	Percent
>50	1	4	9	45
<50	7	28	3	15
0	17	68	8	40
Total	25	100	20	100

Source: Kalinda and Simfukwe, 2007

On the other hand, in Luapula Province the majority indicated that they would be willing to contribute more than 50 percent toward the input voucher value.

However in Malawi, there is beneficiary contribution in the sense that people top up 25% of the cost of the input to use the voucher or coupon.

9.5. Distribution Network

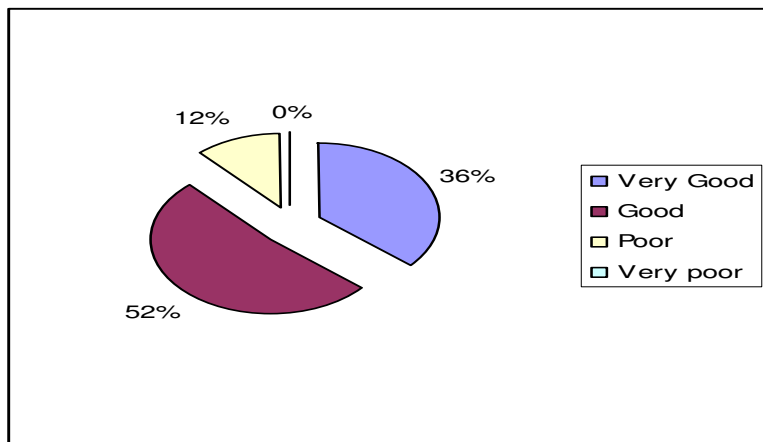
In Malawi, the main fertilizer and seed traders involved were the Agricultural Development and Marketing Corporation (ADMARC), the Smallholder Farmers Fertilizer Revolving Fund of Malawi (SFFRFM), Farmers World, Kulima Gold, Chipiku Stores, National Smallholder Farmers Association (NASFAM) and some individual smallscale agrodealers. The supplier provided fertilizers and seeds at convenient locations where eligible farmers could exchange for the coupons. The major problem was lack of clear guidelines regarding which input dealer to register for the program. Some input dealers felt that tenders were open to some companies and individuals that were not officially registered or who did not have sufficient investment in the seed or fertilizer industry to guarantee quality. As a result, some bogus suppliers who got registered supplied grain instead of seed to the farmers. Furthermore, there was lack of coordination between government and input companies in terms of logistics of the coupon program. That is why unavailability of coupons in certain locations forced companies to take back inputs already delivered to the rural outlets to their warehouses, often located in urban or peri-urban areas. This was costly for the companies.

In Mozambique enforcement of seed standards is a problem. Some commercial seed sold had a lower than expected germination rate and was not adapted to local growing conditions (Longley *et al.*, 2005). Poor enforcement of seed standards leads to asymmetric information about seed quality, which is a market failure (Rohrbach *et al.*, 2001; Tostão, 2007).

In Zambia of all the respondents interviewed in Western Province who had been associated with input vouchers, 44 percent cited the problem of late delivery of

inputs, 20 percent complained about the problem of insufficient amounts of inputs, while 20 percent noted that there were no logistical problems.

In Zambia, stakeholders' perception of the quality of seed supplied using the SV&F was generally good to very good (Figure 2). Respondents in Zambia felt that penalties for delivering poor quality inputs should include suspension of violators (60%); confiscation of inputs (20%); and payment of a fine (16%).



** Data based on Western Province only.*

Source: Kalinda and Simfukwe, 2007

Figure 2: Satisfaction with seed quality in Zambia

In the Western Province of Zambia, input suppliers were identified through a tendering process and the successful bidders who demonstrated capacity to supply the inputs in the quantities and quality desired were selected. In this scheme only suppliers of certified seed were allowed to participate in the input voucher (SV&F) program. This approach had a huge limitation as it precluded getting suppliers to respond to farmers' demands and instead they continued to respond to the donors and NGOs.

The Government of Malawi does not tender on seed, which means the seed distribution is exclusively done by the private sector. Beneficiaries are given coupons and are free to obtain any type of seed they want from a seed supplier

of their choice. For fertilizer distribution, the Government of Malawi places a tender for companies or individuals willing to participate in the voucher system. Those awarded the tender distribute directly to the farmers or sell directly to government. However, those not awarded the tender still participate in the program through sale of the fertilizer on retail. Beneficiaries use the coupons to buy from any vendor of their choice (Luhanga and Sungani, 2007).

9.6 Fraud/Corrupt Practices

Fraud and corrupt practices in Malawi ranged from lack of transparency in the selection of input dealers, bias of village chiefs in the selection of beneficiaries, bribes and ghost names registered at village level. In certain cases, chiefs sold the coupons or issued them to their close relatives. Other cases of fraud included coupons found with foreigners. No case of forgery of the coupons was reported but stakeholders felt that the type of coupons used can easily be forged. In Zambia 72 percent of the respondents interviewed in Western Province felt that the voucher system was generally transparent compared to only 16 percent who felt that it was not. However, fraud and corrupt practices experienced in Zambia by some respondents included favoritism in selecting beneficiaries, selling of vouchers and selling of inputs acquired through vouchers (Table 3).

Table 3: Fraud and corrupt practices in administration of vouchers in Western Province of Zambia

Fraud/corrupt practice	Frequency	Percent
Favoritism in Selecting Beneficiaries	13	52
Selling Vouchers	1	4
Selling Inputs by Beneficiaries	4	16
No Fraud Experienced	3	12
No Response	4	16
Total	25	100

Source: Kalinda and Simfukwe, 2007

9.7. Potential Impact of the Voucher System

9.7.1 Impact on smallholder farmers

In Malawi, the two years the input voucher program has been implemented have led to an increase in maize production at both the household and national level, leading to a national maize surplus of 5000MT in 2005/2006 and of over 1.2 million MT in 2006/2007 season. This has helped save foreign exchange previously used to import maize often of lower and non-preferred quality. For the first time in Malawi, there has been a progressive increase in yield from less than 1.0MT to 2.04MT/ha. This has been attributed to the timely delivery of inputs through the private sector, which in turn allowed smallholder farmers to apply the inputs in a more timely fashion than was the case in the pre-voucher system years. There is also increased use of new technologies such as hybrid seed among the smallholder farmers. This is so because the voucher recipients have joined the smallholder farmers who were already able to use cash (Luhanga and Sungani, 2007). A 2007 Monitoring Survey revealed that between 2005 and 2006 the number of people below the poverty line in Malawi declined from 50% to 45%. This is attributed to the increase in fertilizer application from 17% in 2005 to 30% in 2006 of the households. Removing the impact of good rainfall, it is estimated that the fertilizer subsidy led to an increase in maize production of about 25% (Whitworth, 2007).

Stakeholders in Zambia and Mozambique felt that the voucher system had the potential to promote development of farmers' seed systems and to allow quicker transactions between seed sellers and farmers.

9.7.2 Impact on commercial marketing

The input voucher program has increased sales volumes of input companies by up to 50%. For example, in Malawi seed sales of the private sector rose from 4000 MT in 2005/2006 season to 6700 MT in 2006/2007. As already stated, this is because the voucher holders have joined those who were able to use cash. The program has provided an assured market and brought a substantial number of poor smallholder farmers into the cash economy. The input voucher program has also strengthened the operational base of input dealers and created employment through reopening of additional markets that were previously closed to business. There is also considerable involvement of the private sector, which implies that there is less involvement of relief agencies. This has led to an improvement in the monetization of the input distribution economy. The program has also created competition among players in the private sector, which has helped to improve efficiency of services and delivery of inputs to the smallholder farmers. Involvement of the private sector, which has funds, is credited for the timely distribution of inputs.

In Zambia stakeholders noted that the voucher approach would improve the operation of the overall input market, as it would allow more inputs sellers to reach outlying markets now seldom reached, expanding the size of their markets. In areas where input vouchers were implemented in Zambia, farmers had more interaction with stockists or agrodealers, who offered farmers some advice on the use of the inputs, than in a government program. On the basis of the analysis, there is therefore room for a voucher program in Zambia. In Mozambique, results from a logit model showed that emergency seed distribution is associated with a 3-22 percent decrease in producers' probability of buying commercial seed (Table 4).

Table 4. Marginal effect of emergency seed on producers' probabilities of buying maize seed by province in Mozambique

Province	Probability of buying seed	Marginal effect of emergency seed on producers' probability of buying seed
Niassa	0.124	-
Cabo delgado	0.209	-0.055
Nampula	0.216	-0.044
Zambezia	0.190	-0.126
Tete	0.380	-0.083
Manica	0.235	-0.051
Sofala	0.382	-0.192
Inhambane	0.568	-0.211
Gaza	0.583	-0.032
Maputo	0.578	-0.224

Source, Tostão, 2007

The strong negative association between emergency seed and the chance of buying maize was consistent across all ten provinces and increased from north to south of Mozambique. The results suggest that emergency seed programs may be reducing demand for commercial seed, which precludes the development of seed markets in Mozambique. Thus, in all countries sellers, in places input vouchers were implemented, have been allowed to expand their network into the rural areas and this has saved government, NGOs and donors the cost of distributing the inputs.

10.0 CONCLUSIONS

This study has shown that input vouchers have potential to integrate the commercial and non-commercial input distribution systems. The benefits accrue to smallholder farmers in form of increased and timely access to inputs; improved

agricultural crop production; and food security at household level. The private sector has benefited in terms of increased input sales and enhanced profits. Government and NGOs have benefited through foregone input distribution costs and savings in foreign exchange previously used to import food.

Prepackaged input packs are extremely expensive. They stifle private sector development, do not offer options/ choices to smallholder farmers, and have serious problems of targeting. For example, the Fertilizer Support Program in Zambia has tended to benefit high-income groups at the expense of the intended beneficiaries. In Zambia and Mozambique, government has taken up most of the smallholder market to the detriment of private sector growth and development. Only the few private companies contracting with government in Zambia to implement the subsidy program are benefiting, while those not contracted are losing out.

Policy makers in Zambia are however reluctant to implement a voucher system because in the past, promissory notes were used but the program failed because government did not honor the notes. This experience makes policy makers resist any attempts to introduce vouchers in the country. In addition, despite huge capital outlays and logistical difficulties, the 40:60 (farmer: government) Fertilizer Support Program has been deemed successful in Zambia and these entitlements are a source of political mileage in the country. Thus, the challenge in Zambia is how to reprogram the Fertilizer Support Program to a voucher-based program when the current program is deemed successful. For this reason, to advance the voucher program in Zambia, there is a need to implement it differently from Malawi. In Zambia, there is need to first establish whether, and how, the current system is having a negative impact on the private sector and government budget. Jayne *et al.* (2007) reported that in Zambia 37 percent of the agricultural budget was allocated to the fertilizer support program in 2005. It will also be important to conduct diagnostic studies/surveys prior to initiation of a voucher system. Relief programs under government and NGOs are big in Zambia. Both the Zambia

Government and NGOs need more sensitization for the voucher program to be taken on board. NGOs could help pilot it.

Field research has also shown that stakeholders have knowledge about input vouchers. The key input in Mozambique and Zambia was seed via SV&F. In Malawi the key inputs were hybrid and OPV seeds and fertilizer used on maize (urea and 23:21:0+4S) and tobacco (CAN and D compound). Smallholder farmers in Malawi prefer OPVs because OPV are resistant to weevils and their seed can be recycled for two to three years.

The registration process for beneficiaries was more transparent and systematic in Zambia than in Malawi. Evidence in both Malawi and Zambia showed that some unintended beneficiaries benefited from the program through favoritism, selling of vouchers, selling of inputs acquired through vouchers and vouchers found with foreigners.

In Malawi, poor coordination between government, input companies and other stakeholders led to more or fewer coupons being distributed. This was costly to private companies through unplanned transportation costs.

Some farmers in Malawi and Zambia expressed desire for flexi-vouchers to extend their choices. The farmers suggested that the range of inputs covered should include groundnuts, beans, and vegetables. The beneficiaries however varied in their desired level of contribution to the cost of the inputs covered under the voucher system.

Malawi and Mozambique reported that in some cases poor quality inputs were distributed but the quality of inputs was quite good in Zambia. Farmers suggested that input dealers who distribute poor quality inputs should be suspended from the program, have their inputs confiscated and have the culprit dealers pay a stiff fine. Late delivery of inputs was however common to all

countries but more serious in Mozambique due to the poor rural infrastructure and higher level of state intervention in input marketing.

11. POLICY RECOMMENDATIONS

First, to avoid crowding out the private sector, donors, NGOs, and governments in Malawi, Mozambique, Zambia and other SADC countries should consider using vouchers for all their relief or targeting programs. This will contribute to developing a vibrant private sector that creates employment, extends its distribution network into the rural areas and improves timeliness in input delivery for the benefit of smallholder farmers in the rural areas. It will also be more responsive to real as opposed to assumed needs.

Second, to make the vouchers or coupons more effective, governments can consider percentile coupons. Such coupons can indicate, for example, that 75% of the value is for fertilizer, 10% for seed, 5% for chemicals, and 10 % for labor. The coupons can be valued using the prevailing prices of the recommended inputs and recommended quantities per hectare. The coupon can be divided into portions matching the recommended inputs. If for example, a farmer has purchased fertilizer from retailer B, the retailer would remove the fertilizer portion of the coupon and redeem it for cash. In this way vouchers can help a government to achieve social objectives through commercial means.

Alternatively, efforts should be made to ensure that if the voucher value is less than the cost of the inputs, then farmers should be allowed to redeem the difference for cash or for other necessities. Flexi-vouchers can be redeemed for inputs or for other basic needs from shops. Coupons or vouchers are less costly to government than dealing with prepackaged packs of inputs. Because of the high cost of government machinery involved in the marketing and distribution of the packs, administration of a coupon or voucher system will have far lower overhead costs. Finally and perhaps most important, a coupon or voucher

system is more likely to contribute to long term development of input markets and therefore agricultural growth while providing support to resource-poor farmers.

Third, to reduce corrupt practices and to ease the registration hiccups of beneficiaries, all countries should follow the *Zambian Community Teams Model* where all stakeholders at the local level are involved in the identification and registration of beneficiaries. There is also a need for countries to define clear criteria for the selection of the beneficiaries i.e. households and crops for the voucher program. Targeting of the program should also extend to the small dealers so that they also benefit from the program. Alternatively, there is need to link up with the European Union and NGOs to experiment with “smart cards” as a way of identifying the beneficiaries. The smart card would have an electronic scan of the beneficiary’s finger print for identification. The card has the possibility of having multiple uses including purchase of specific inputs as well as savings which can be partitioned (referred to as pockets) on the card to which money value would be attached, such that one can neither exceed the printed amount nor use a particular allocation for a different purpose.

Fourth, to avoid mixing up inputs and to allow illiterate farmers to easily identify the correct inputs for their crops, countries should use different colored coupons for different inputs.

Fifth, only companies with a reputation for adherence to quality standards should participate in the program. Provisions should be made for application of stiff penalties to violators. Such penalties should also be extended to companies and individuals who abuse the program through illegal purchase or sale of inputs under the program.

Sixth, although timeliness of input delivery has improved over time in countries such as Malawi, it is important that all inputs are at the farmers’ doorstep a month or two before the beginning of the rainy season. This is about

September/October in the case study countries. This can be achieved through proper planning and collaboration between government, the private sector and other stakeholders. For instance, identification and registration of beneficiaries and tendering processes can be done by April every year.

Seventh, since poor rural infrastructure often compromises the delivery of inputs, governments should endeavor to improve roads in rural areas. Governments can also consider tax breaks or holidays for entrepreneurs who operate in rural areas with poor road infrastructure.

Eighth, the tendering process obviously crowds out small dealers. There is therefore a need to reform the tendering process, for example by requiring partnership with small rural dealers, rather like a lot of institutions do in research tenders. In addition, a program can be developed where the input companies link up with agrodealers in rural areas to help with the distribution of the inputs as retailers under the input voucher program.

Ninth, there is need for a study to quantify and assess the sustainability of the input voucher program. Since the input voucher program is a subsidy-based program supported by governments, it is most likely that the governments may not support the program forever.

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